TOMAS GERMUNDSSON

Coastal dilemmas—landscape, planning and rising sea level in southernmost Sweden

In a judgement delivered on 17 June 2022, the Land and Environment Court of Appeal (Mark- och miljööverdomstolen vid Svea hovrätt) in Sweden judged that the municipality of Vellinge in southernmost Sweden is allowed to build protective dikes against rising sea level and extreme water levels that the municipality had planned for over two decades.[1] The dikes will be built around the towns of Skanör, Falsterbo, Höllviken and Ljunghusen on the flat Falsterbo peninsula that juts out into the Öresund a few miles south of Malmö (*Figures 1* and *2*). The verdict was preceded by decades of preparation in the form of physical planning paired with political and legal processes. The decision was greeted in different ways by the local population. While some welcomed the construction of protective dikes to preserve the current landscape and buildings in their hometown, others protested because they believe that the dikes would deteriorate the quality of the landscape in which they live. The dikes would obscure the view of the sea, and change and deface the character of the beach.[2] *Figure 3* shows a life-size model of the dike, designed to inform the public about how the coastal defence will be designed.

This depiction of the Falsterbo situation reflects two major issues concerning the present built-up coastal landscape. The first is that much of the modern coastal settlement was built on the premise that the coastline is a fixed line between land and sea. The second is that finding this to be false has led to serious disputes over the consequences.

1 Mark- och miljööverdomstolen 2022.

2 Mark- och miljööverdomstolen 2022, p. 56; Sehlin 2023.

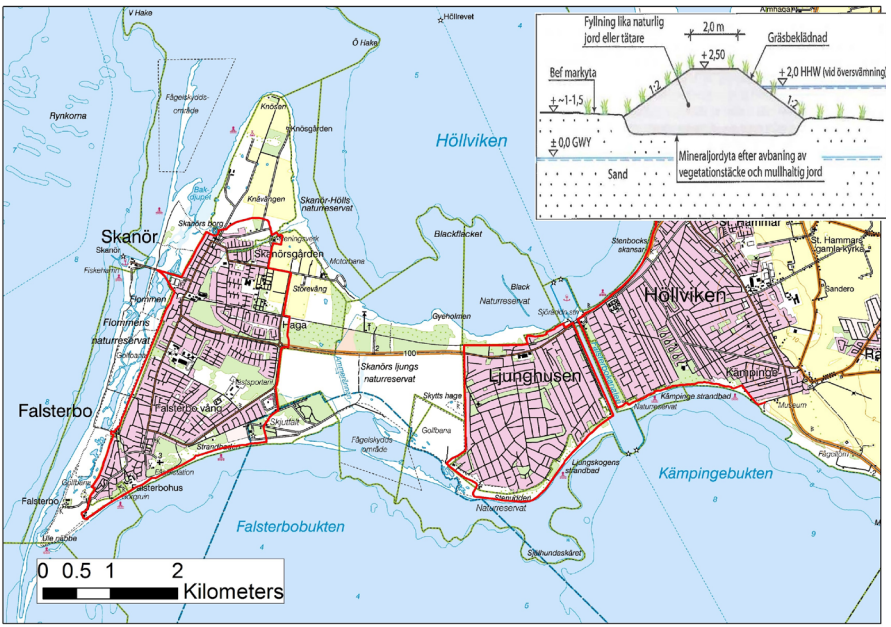

Figure 1. Plans for coastal protection in Skanör-Falsterbo and Höllviken-Ljunghusen, Vellinge municipality, Sweden. The red line shows the currently planned protection with dikes, except for the beach south of Falsterbo, which will be protected by dune restoration and beach nourishment (adding of sand on the existing beach). The inset shows technical details for a 2.5-metre-high dike in cross-section, indicating (right) a flood level 2 metres above the normal high water level. Source: Vellinge municipality. Illustration used by kind permission.

In contrast to the Falsterbo case, a second example comes from Jonstorp, a village in north-western Scania (Skåne) possessing limited resources in a peripheral location. *Figure 4* shows a second home in Jonstorp adjoining Skälderviken Bay. The woman to the left in the picture is witnessing how beach erosion is eating its way towards her house. This process will inevitably continue. It is part of the natural dynamics of a coast like this, now amplified by sea level rise. Along Scania's coast there are several examples of properties that have literally disappeared into the sea and houses that have tumbled over the cliff edge. In Jonstorp, as in many other places, there are no municipal initiatives or opportunities to protect the houses. Settlements are too few, measures of protection are considered too expensive for municipal engagement, and county and government agencies have so far not intervened in cases like this.

It is not difficult to see that the contrast between these two introductory images raises questions about landscape, law and justice: *landscape* as a living environment affected by both natural and human-influenced processes; *law* as a means of regulating

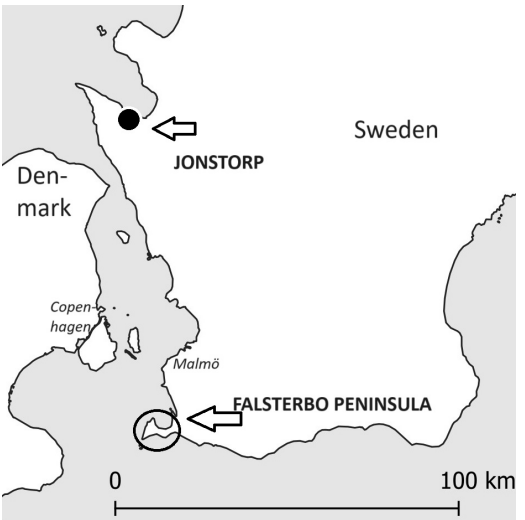

Figure 2. The province of Skåne (Scania) in southernmost Sweden and the location of the Falsterbo peninsula and Jonstorp. Map: Tomas Germundsson.

Figure 3. A full-scale model of the dikes that will be built on the Falsterbo peninsula to protect the settlements, with information board on "Nature-based dikes against flooding". Photograph: Carola Wingren. Used by kind permission.

Figure 4. Beach erosion in Jonstorp, Höganäs municipality, Sweden. Photograph: Tomas Germundsson.

people's interaction with the landscape; and *justice* in the form of different prerequisites for amending the living conditions in people's landscape.

The landscape concept is, however, very sparsely used in the formal language of Swedish planning and legislation, and when so, usually only in general descriptions of the visual landscape. It is both possible and there are good reasons to introduce a holistic understanding of "landscape" in planning and legislation. Since time immemorial, the landscape has been connected to law and justice, expressed for instance in the medieval Nordic landscape laws. The planning of a dynamic coastal landscape would benefit from an explicit integration of landscape, law and justice as a means of bringing to the fore issues of change and the right to the landscape. Such reasoning accords with O'Donnell's concept of "Coastal Lawscape", which, based on examples of coastal planning in Australia, asserts the necessity of understanding the interconnectedness of legal, political and cultural normative systems for advancing coastal climate change adaption policy.[3]

3 O'Donnell 2021.

The present chapter identifies and discusses some of the pressing problems that the planning of the coastal landscape in Scania faces in the light of climate change, as well as discussing measures to increase preparedness for future challenges. I place the phenomenon of "rising sea level" in a relational perspective and introduce a research project that during 2012–2016 examined the preparedness of municipal planning for rising sea level in some of Scania's coastal municipalities. I address the question of how the planning and exploitation of the coastal landscape in the 20th century has conditioned its present management. I discuss why the dynamics of the coastal landscape have been largely ignored by modern planning and what effects this has had. One of the issues is the division of power between planning authorities and nature protection agencies. The chapter ends with a discussion on how awareness of the dynamics of the coastal landscape can be communicated to the public and planners, for example, through alternative forms of representation of the changeability of the coastal landscape.

RISING SEA LEVEL

In the latest report of the IPCC (Intergovernmental Panel on Climate Change), it is projected that sea level rise at the end of the 21st century will be higher than at present in all of the panel's scenarios, including even those achieving the long-term goals set out in the Paris Agreement. According to the "worst case scenario", global mean sea level by the year 2100 will be 0.6–1.1 metres higher than today.[4] The effects in low-lying and densely populated coastal areas all over the world are expected to be enormous. And no coastal landscape will remain unaffected.

"Rising sea level" is commonly understood as an objective description of how the sea level rises and how the shoreline thus will move further inland. Hence a rising sea level is something that can be measured quantitatively, either historically through observations or in forecasts. However, "rising sea level", like "global warming" and "climate change", is not simply an objective expression of rising sea level, rising mean temperatures and a changing climate. Such concepts, used in scientific reports, debates, media, politics and planning are discursive entities. They are mediated and communicated in different ways and in different contexts, resulting in differing understandings, perceptions and commitments to their meaning. Climate change and rising sea level, as well as momentary impacts such as storm floods, are always associated with values and politics.[5]

4 Oppenheimer *et al*. 2019, p. 324.
5 Abbott & Wilson 2014; Hulme 2015.

In Sweden, insight into ongoing and future sea level rise, as well as its discursive dimensions, has had an increasing impact on the planning, exploitation and utilization of the country's coastal areas. However, as *Figures 3* and *4* reflect, the measures taken to meet the effects of rising sea level will be neither equal nor fair. In the affluent community on the Falsterbo peninsula, with enormous values invested in private homes, a resource-rich municipality has been able to launch an extensive project to protect physically some of its coastal communities against floods and rising sea level through the construction of walls and dikes. In the small village of Jonstorp, in Höganäs municipality, individual property owners will not receive the same protection, as the houses are too scattered and the municipality's resources too small.

In 2011, I initiated together with colleagues from landscape architecture and planning a research project on these issues. The purpose of the project was to investigate the preparedness and planning for future sea level rise in municipalities along the coast of Scania. The project was financed by MSB (The Swedish Civil Contingencies Agency) under the title 'Facing Rising Sea levels—the Planning and Design of an Uncertain Landscape'. In applying for money from this national agency, we argued that the ongoing and future sea level rise has differing effects within Sweden on a north–south axis. This is because there is ongoing land rise in most of the country as an effect of the last ice age (isostatic rebound).[6] In the north, land is still rising. Along the coast in northern Sweden the land rise is greater than sea level rise, so there is continuing displacement of the shore "outwards". In Stockholm, land rise and expected sea level rise up to *c*. 2100 are expected to be fairly equal. In the far south of Sweden there is no land rise at all, and therefore sea level rise will have a direct effect on the shoreline. The questions raised by our project therefore appeared urgent. The Scania coast is in parts heavily exploited and there are many examples of conflicts between different interests in the coastal landscape: competition for access to an attractive landscape, both in city waterfronts and as a leisure landscape; nature conservation and cultural environment conservation interests versus resource exploitation, etc.

In the following, I present a short historical overview of Swedish planning and the coastal landscape in Scania, partly illustrated by the Falsterbo peninsula (*Figure 1*).

MODERNITY, LANDSCAPE AND PLANNING

In the modern planned Swedish landscape, the contradictions of modernity are embedded and materialized. The dialectics of the idea and myth of enlightenment and

6 Vestøl *et al*. 2019.

progress[7] can be read in the landscape as a spatial rationality born out of an effort to rationalize, restructure and improve. Depending on the power and ideology of the reformers, this in many cases brought with it the demolition or dissolution of long-established and living customary rights to places and landscapes.[8] An early example is the rationalization of the agrarian landscape during the implementation of the enclosure reforms in the 19th century,[9] but even more significant contradictions appear in later planning during the rise of the welfare state.[10] An example is when "nature" at the end of the 19th century became a focus in the rise of modern society, partly as a means of revitalization and a corrective to the downsides of industrial society and partly as a national symbol. National parks were established, based on a spatial rationality and a scientific perspective, but the eagerness to focus on nature and wilderness meant that landscape's role as a place of residence and human belonging was reduced.[11] From then on, there is a modern tradition of a rational division between nature and culture in a landscape context, which is reflected in the fact that there is a Swedish Environmental Protection Agency (Naturvårdsverket), dealing with the natural dimensions of the landscape, and a Swedish National Heritage Board (Riksantikvarieämbetet), dealing with the cultural and historical dimensions.[12] This division repeats itself at regional and local level in planning.

To such tendencies in modern Swedish planning now comes the question of a changing climate. What significance will facts, measurements, forecasts and the politics taking place in their wake have for future social visions and planning? What happens now that—as Naomi Klein puts it—"this changes everything".[13] Such considerations were the starting point for our research project beginning in 2012.

In preparing for the project, we were able to ascertain that the General Plans (*översiktsplaner*) in most of the coastal municipalities made no mention of rising sea level. Where the phenomenon was mentioned, there were almost no concrete plans to address the threats. Exceptions were the municipality of Vellinge, which includes the Falsterbo peninsula, and some larger coastal municipalities in Scania, for example Malmö and Helsingborg. There the issue of future exploitation of the coast for infrastructure and housing had been raised, with an awareness that reinforced coastal

7 Horkheimer & Adorno 1981.
8 Olwig 2018; Scott (1998) provides examples from other parts of the world.
9 Germundsson & Lewan 2003.
10 Wikman 2019.
11 Mels 1999.
12 Germundsson & Sanglert 2010.
13 Klein 2014.

protection would be necessary.[14] However, the phenomenon of rising sea levels is now becoming more widely recognized in planning and in the public consciousness.

The need to protect Scania's coast against rising sea level reflects the history of modernity. In earlier times, buildings were located at a distance from the beach. Due to lack of natural harbours, fishing boats were pulled up on land for protection against the forces of the sea. Examples of fixed protective infrastructure against the sea are relatively few but exist from older times, for example, on the Falsterbo peninsula, where dikes made of collected seaweed were used both as enclosures and as protection against the sea until the 19th-century land reforms.[15] The coastal landscape was often common land that was used for grazing, collecting seaweed for fertilization, and for coastal fishing.

Industrialization and urbanization changed this in a historically short time. The industrial and port cities grew in size and population. Cement factories, steam mills and other heavy transport industries were located in the coastal cities, and beaches were replaced by deep harbours and shipbuilding docks. As the coast became more attractive, its landscape changed outside the cities, and the rhythm and class structure of industrial society became reflected here as well. It began with the middle class and industrialists going to stay at beautifully situated fishing villages in the summer, to seek relaxation and social interaction at beach hotels and private villas far from the noise of the city. Gradually, more and more urban leisure settlements were established along the coast, which was facilitated by the 19th-century land reform in agriculture, when the former common lands were largely divided among the individual farms of the village. As a lot of beach land was thus privatized, it became open to subdivision and sale. Vacation homes and later also permanent residences were built on the coast by those who had financial resources. The coast's attractiveness increased and during the 20th century took on a new expression, with commuter resorts and leisure facilities in desirable coastal locations where entire stretches of semi-urban development arose, for example, on the Öresund coast.[16]

One of the areas in Scania that is most exposed to the effects of the sea, and thus most strongly affected by sea level rise, is the flat Falsterbo peninsula (*Figure 5*). Settlement on the peninsula in the early 19th century was concentrated in the two small towns of Skanör and Falsterbo, which historically prospered due to the medieval herring fishery. Around 1900, the development that led to the modern landscape rapidly increased. After Skanör's harbour was built, summer guests could come by sea to visit the beaches and the town's urban idyll. With the coming of the railway in 1904, the

14 Germundsson *et al*. 2017.
15 Persson & Reisnert 2008.
16 Germundsson & Wingren 2017.

Figure 5. The low-lying, flat coastal landscape on the Falsterbo peninsula, looking towards the town of Skanör. Photograph: Carola Wingren. Used by kind permission.

summer settlements burgeoned, and many of the peninsula's large summer villas were built by industrialists and other wealthy people from urban Scania.[17] Starting in the 1960s, permanent high- and middle-class housing accelerated, and today Skanör and Falsterbo, together with Ljunghusen and Höllviken a little further east, belong to the more exclusive satellite settlements in the Malmö region.

IGNORING LANDSCAPE DYNAMICS

As indicated, modern settlement has in many places been established without taking the changing dynamics of the coastal landscape in consideration. As demonstrated in *Figure 4*, there are buildings which were at a safe distance from the shore when they were built, but which today threaten to fall into the water—as has already happened in several cases. There has been too little awareness that the beach is constantly changing

17 Lewan 1994.

and that the shoreline is moving further and further inland through natural erosion processes. Along sandy coasts, currents can modulate the erosion effects so that some areas become exporters of sand and the beach shrinks, while others are deposited with sand that is brought with the currents.[18] Superimposed on the historical changes in the coastal landscape is the rising sea level, which has the potential to increase beach erosion and the effects of extreme weather, and which will also continuously move the coastal zone further and further up on the present land.

Modern planning has not only ignored the continuous and changing dynamics of the coastal landscape, but also people's experiences of momentary and extreme conditions. It has been known for a long time that storms, waves and powerful upwelling require protection for harbours and coastal structures. There are examples of extreme events that would cause devastating damage to today's buildings if they were repeated. A very large part of the contemporary settlement on the Falsterbo peninsula would be heavily flooded if a storm of the magnitude that hit the southern Baltic in 1872 should recur.[19] The storm killed over 300 people and the event is still fresh in local memory, but that has obviously not stopped the expansion of modern settlement. This historical flood has only recently been recognized in planning. It is also mentioned as one of the arguments for the 2022 verdict of the Land and Environment Court of Appeal.[20]

I argue that the solutions presented to avert the threat of rising seas and future extreme weather situations are in keeping with the nature of modern era planning, which has shaped many of the communities that have emerged, for example, on the Falsterbo peninsula. There is specialized expert knowledge at play here, which is reflected in the organization of municipal planning. Since nature conservation and cultural environment interests are handled by different bodies, this often means that integration of the complexity found in the real landscape is absent in planning documents and planning practice.

In short, the municipality of Vellinge has chosen to follow a common method to protect an area at risk of flooding by building an embankment, a physical barrier, to protect buildings and the landscape. This action is hardly surprising and can be said to be "natural" in a modern context, based on the premises at hand: first, that the municipal management understood and accepted that the entire community and thus very high values are threatened by future sea level rises; second, that the municipality has the financial and planning possibilities to take measures; and third, that there is sufficient political support to implement the measures (even allowing for protests). It is

18 Malmberg Persson *et al*. 2014.
19 Hallin *et al*. 2021.
20 Mark- och miljööverdomstolen 2022.

difficult to see alternatives to trying to protect the area with a fixed barrier. Raising the ground (which happens with some new establishments along Scania's coast) appears to be impossible. To gradually abandon the area and let the sea take its place instead is hardly a feasible idea in this densely built-up and comparatively wealthy area.

However, the measures are also based on the fact that the existing legal and administrative regulations were created within a specific historical era, but still govern the measures that are being taken during a time when fundamental conditions have changed. In the Falsterbo case, one could simplistically say that the regulations and the planning processes that have been set in motion are hardly based on laws and rules that regulate what must be done when the sea level rises. This aspect has not entered into the legal framework. Rather, the measures are characterized by finding solutions for which there is a regulation, even if the issue was not existent when the regulations were created.

As indicated, the legal processes that have been put into play, for example, in the prelude to the judgement from the Land and Environment Court of Appeal, are based on existing rules and regulations, such as those that make an administrative division between nature and culture. This has the effect that the measures that the municipality wants to take come into conflict with both cultural heritage protection and nature protection based on national laws. In the legal process surrounding the permit for the construction of the protective dikes, it has therefore been the role of the County Administrative Board to defend cultural heritage and nature protection on the Falsterbo peninsula. While the municipalities have responsibility for planning in Sweden, the county administrations, which are a state matter, are responsible for ensuring that certain national laws and regulations are observed. This concerns, for example, various forms of nature protection, but also other interests, termed national interests, which are interests or resources that have been identified as important on a national level and which must therefore be taken into account in, for example, municipal planning. The county board also monitors certain cultural environmental interests. This has, among other things, led to the somewhat paradoxical situation that the county administration wanted to stop the creation of future protective dikes because in some places they would destroy or hide historical remains of seaweed dikes from earlier eras. The County Administrative Board has argued against protective dikes in order to avoid intrusion into nature conservation areas, for example, Natura 2000 areas.[21]

When these issues were considered by the Supreme Court, the judgement followed the municipality's argumentation and plans for the most part. There is acceptance of the municipality's rationale for the dikes: there will be floods, the sea will rise, and thus

21 Mark- och miljööverdomstolen 2022.

the legal issue largely concerns protecting a changing nature by making exceptions to the rules that exist around a supposedly unchanging nature. In order to be able to construct dikes that protect the landscape inside them, several exceptions must be made from rules such as Natura 2000 regulations.

The environmental issues that the judgement focuses on do not question the basic principles for coastal protection. Rather, the restrictions that the judgement imposes on the municipality concern issues such as ensuring that the materials used for the dikes have been cleaned in a satisfactory manner, or that the embankment in some sections must be slightly changed to preserve listed cultural heritage seawalls.[22] In a longer time perspective, this is problematic, because much suggests that this transformation is not sustainable, or even possible in the long run, because protective measures themselves often increase erosion both at the protective dikes and on adjacent coastal stretches.[23]

PROBLEMS AND POTENTIALS OF REPRESENTATIONS

An important background factor of the way that the coastal landscape is perceived and handled by planners, developers and decision-makers relates to the question of how the landscape is represented in maps and plans. The plans in Vellinge, as in several other municipalities, can be said to adhere to a conventional form of mapping and representing the coastal landscape, namely—simply put—by drawing a definitive line between land and sea. Even if this line now is anticipated to move, it is still a problem to represent the dynamic costal landscape in conventional maps and plans, because this leads to a static view and understanding of what is in reality a continuously changing landscape.

As inspiration for a different way of handling a changing coastal landscape, we took note of a number of projects and investigative work that landscape architects Anuradha Mathur and Dilip da Cunha have undertaken for coastal landscapes in different countries.[24] Mathur and da Cunha are critical of marking a dividing line between land and sea, and instead believe that the coastal zone must be described in other ways to capture its changing character, its liminality, and thus its potential for different practices at different times. They regard with particularly critical eyes the moment when the architect or planner puts pen to paper to draw the sharp line between land and sea, because it is precisely at this moment that the understanding of the coastal landscape is

22 Mark- och miljööverdomstolen 2022.
23 Pilkey & Dixon 1996; Boda 2018.
24 Germundsson & Wingren 2017.

created. The drawing of the sharp line leads to the perception that the passing of water over the drawn line always is a problem (flooding) and that the opportunities that exist precisely in the borderland are rarely given enough attention. Mathur and da Cunha have worked with the Mississippi River and on rivers and beaches in India and have also been invited by authorities in the USA to seek alternative strategies to traditional technocratic ones that have not worked.[25]

During the course of the project, we invited Mathur and da Cunha to hold a workshop with planning officials in Höganäs municipality (where Jonstorp is situated). Measuring the effect of such a meeting is of course impossible, but it gave rise to a discussion regarding how the dynamics of the coastal landscape could have a greater influence in planning—is it possible to set aside areas that will be converted from land to sea and see them as a resource of a different kind than fixed nature protection? A strong argument for trying such solutions is that sea level rise is not negotiable. It will happen. Adaptation is necessary, but what are the options? We found it urgent that planners in at least one of the coastal municipalities lacking the same resources as, for example, Vellinge, were able to discuss alternatives to traditional coastal protection and instead take as a point of departure the dynamic and changing nature of the coastal landscape.

Primarily, the issue of the future coastal landscape is about power over the landscape and access to knowledge and resources. In the example of Falsterbo, there has been both political and financial muscle to initiate a two-hundred-million-Swedish-kronor project to protect an existing settlement. In Jonstorp, and in other places in the coastal landscape, such resources are lacking. The challenge, then, is how to deal with the inevitable retreat of the coastal landscape.

Remedying this involves adapting rules and regulations, which in turn requires knowledge of new and changing conditions and also an understanding between both those who administratively and legally work with these issues (planners) and the people who are affected (the public). I see this as a question of justice. Who gets access to the knowledge that exists? What opportunities are there to let people's experiences and needs be heard in the planning? What is required to allow this to be the basis for a justly designed landscape?

Within our project, which was active during a time when the general knowledge about rising sea level did not have the same impact as today, we worked actively to seek ways for how these issues could engage a general audience. One example is an exhibition we designed that had a number of interactive features where visitors could model

25 Mathur & da Cunha 2001; 2009; Mathur *et al*. 2014.

their own new coastal landscape as well as think about and express which values in the landscape they considered threatened by the rising sea.[26]

Another form of engaging people to consider the future effects of sea level rises was to have a group of landscape architecture students choreographically illustrate elevated water levels on site in the streets and squares of the coastal town of Höganäs.[27] The performance was followed by a discussion at the city's library with politicians and the public about these issues. The methods connect to a growing realization that artistic and design-based methods have a great potential to draw attention to and engage people in issues surrounding the effects of climate change.[28]

CONCLUSION: THERE ARE ALTERNATIVES TO PRESENT-DAY LANDSCAPES, LAWS AND (IN)JUSTICES

As an alternative to much of the modern understanding of landscape in a planning context, with its spatial rationality and division, and with its tendency to simplify basic natural conditions, a more open and dynamic understanding is possible. The key to such a reorientation is a historical understanding of the coastal landscape that integrates the natural, social, economic and cultural conditions that shape the landscape. Here, nature's role must never be seen in isolation, as the play of nature in the coastal landscape takes on significance for society only when it is seen from the perspective of people's interactions with land, sea and coast. As demonstrated in the case of Scania's coast, the century-long division of nature conservation and cultural heritage protection must therefore be developed into a much more integrated understanding and management of the coastal landscape if the challenges of a changing climate and rising sea level are to be appropriately met.

Not least in the context of planning, it is central that representations of the landscape in the form of maps and plans and other descriptions actively focus on the changeability of the coastal zone. If the map's line between sea and land is taken for granted as a fixed boundary—which happens in many cases—then mistakes will inevitably be made. It is usually such a simplistic depiction that underlies the modern way of trying to manage and control the sea with hard protective infrastructure, which in turn can lead to increased erosion and other disastrous consequences. Closely intertwined with the landscape as both habitat and representation is the question of the laws and rules that regulate the planning and management of the coastal landscape.

26 Wingren 2016.
27 Wingren 2018.
28 Hawkins & Kanngieser 2017; Rooseen *et al*. 2018.

In the Falsterbo example, it transpired that when the municipal plans came into conflict with a national regulatory framework, as interpreted by the regional authorities, it resulted in a legal process that went all the way to the Supreme Court. The fact that the Supreme Court overwhelmingly ruled in favour of the municipality, that is, it supported the municipality when it wanted to make an exception to existing nature protection restrictions in order to construct a coastal protection, can perhaps be seen as a ruling in favour of a locally rooted decision. It was, however, a judgement that did not discuss the potential problems of coastal protection from a landscape sustainability perspective. This is perhaps not surprising but indicates that alternative laws and regulations could open up new opportunities.

Could an adaptation to the perception and definition of landscape found in the European Landscape Convention—landscape "as perceived by people, whose character is the result of the action and interaction of natural and/or human factors",[29] and its focus on people's everyday landscape—possibly be a starting point for a discussion about what regulations are required to manage future landscapes under the increasing impact of climate change? This indicates a view of the landscape as people's living environment that differs from the sectoral division promoted by modernity's spatial rationalization, which is reflected in current legislation.

The coastal landscape—like all landscapes—is characterized by the prevailing forms of social justice.[30] In whatever way the future coastal landscape develops because of climate change, it is always a question of people's opportunities and right to have access to and be able to use the landscape that determines how the changes will be handled. This opportunity is unevenly distributed. As shown, conditions along the coast of Scania vary depending on the power relations that prevail over landscape and people. Through my examples, I have tried to show how alternative forms of knowledge transfer, planning and participation may bring established truths and starting points into discussion and thus form the basis for a fairer handling of the effects of climate change in a regional coastal landscape.

29 Council of Europe 2000.

30 Mitchell 2008, p. 45.

REFERENCES

Abbott, Dina & Gordon Wilson 2014. 'Climate change: Lived experience, policy and public action', *International Journal of Climate Change Strategies and Management* 6:1, pp. 5–18.

Boda, Chad S. 2018. *The Beach Beneath the Road: Sustainable Coastal Development Beyond Governance and Economics*, Lund: Lund University.

Council of Europe 2000. *ETS No. 176—European Landscape Convention, Florence, 20.X.2000*, Florence: Council of Europe.

Germundsson, Tomas & Nils Lewan 2003. 'Enskiftet i Skåne 200 år: Reformen 1803 i geografiskt perspektiv', *ALE* 2003:1, pp. 1–32.

Germundsson, Tomas & Carl-Johan Sanglert 2010. 'Det förflutna som samtida resurs—det odelade kulturlandskapets konsekvenser: Bakgrund och inledning', in Tomas Germundsson & Carl-Johan Sanglert eds, *Landskapet, förflutenheten och samtiden—uppsatser om bevarandets dilemman*, Rapporter och Notiser 171, Lund: Institutionen för kulturgeografi och ekonomisk geografi, Lund University, pp. 5–18.

Germundsson, Tomas & Carola Wingren 2017. 'Kampen om kusten—en ekologisk, ekonomisk och politisk utmaning', in Erik Jönsson & Elina Andersson eds, *Politisk ekologi—om makt och miljöer*, Lund: Studentlitteratur, pp. 257–288.

Germundsson, Tomas, Kristina Blennow & Carola Wingren 2017. *Inför hotet om stigande havsnivåer: Planering och design av ett föränderligt landskap*, Forskningsrapport, Karlstad: MSB.

Hallin, Caroline, Jacobus L.A. Hofstede, Grit Martinez, Jürgen Jensen, Nina Baron, Thorstein Heimann, Art Kroon, Arne Arns, Björn Almström, Per Sørensen & Magnus Larson 2021. 'Comparative study of the effects of the 1872 storm and coastal flood risk management in Denmark, Germany, and Sweden', *Water* 13:12, 1697 [unpaginated], https://doi.org/10.3390/w13121697.

Hawkins, Harriet & Anja Kanngieser 2017. 'Artful climate change communication: Overcoming abstractions, insensibilities, and distances', *WIREs Climate Change* 8:5, e472, https://doi.org/10.1002/wcc.472.

Horkheimer, Max & Theodor W. Adorno 1981. *Upplysningens dialektik: Filosofiska fragment*, Gothenburg: Röda bokförl.

Hulme, Mike 2015. 'Climate and its changes: A cultural appraisal', *Geo: Geography and Environment* 2:2, pp. 1–11.

Klein, Naomi 2014. *This Changes Everything: Capitalism vs. the Climate*, London: Allen Lane.

Lewan, Nils ed. 1994. *Ett Skåne i förändring: Kartor och landskap genom 200 år*, Malmö: Lantmäteriet.

Malmberg Persson, Kärstin, Johan Nyberg, Jonas Ising & Magnus Persson 2014. *Skånes känsliga stränder—ett geologiskt underlag för kustzonsplanering och erosionsbedömning*, SGU-rapport 2014:20, Uppsala: Sveriges geologiska undersökning.

Mark- och miljööverdomstolen 2022. *Dom i Mål nr 6552-20, Mark-och miljööverdomstolen vid Svea hovrätt*, 17 June 2022, https://www.domstol.se/globalassets/filer/domstol/markochmiljooverdomstolen/avgoranden/2022/m-6552-20-dom-2022-06-17.pdf.

Mathur, Anuradha & Dilip da Cunha 2001. *Mississippi Floods: Designing a Shifting Landscape*, New Haven: Yale University Press.

Mathur, Anuradha & Dilip da Cunha 2009. *Soak: Mumbai in an Estuary*, New Delhi: Rupa & Co.

Mathur, Anuradha, Dilip da Cunha, Caitlin Squier-Roper, G. Laird Prentice & M.J. Weiner 2014. 'Turning the frontier: Norfolk and Hampton Roads, Virginia', *Structures of Coastal Resili*ence*—Phase 1 Context, Site, and Vulnerability Analysis*, SCR, pp. 144–188, https://dokumen.tips/documents/structures-of-coastal-resilience-phase-1-context-stie-and-devstructure-.html, accessed 26 October 2023.

Mels, Tom 1999. *Wild Landscapes: The Cultural Nature of Swedish National Parks*, Lund: Lund University Press.

Mitchell, Don 2008. 'New axioms for reading the landscape: Paying attention to political economy and social justice', in J.L. Wescoat & D.M. Johnston eds, *Political Economies of Landscape Change*, Dordrecht: Springer, pp. 19–50.

O'Donnell, Tayanah 2021. 'Coastal lawscape: A framework for understanding the complexities of climate change adaptation', *Marine Policy* 129:104532, pp. 1–8, https://doi.org/10.1016/j.marpol.2021.104532.

Olwig, Kenneth R. 2018. 'Transcendent space, reactionary-modernism and the "diabolic" sublime: Walter Christaller, Edgar Kant, and geography's origins as a modern spatial science', *GeoHumanities* 4:1, pp. 1–25.

Oppenheimer, M., B.C. Glavovic, J. Hinkel, R. van de Wal, A.K. Magnan, A. Abd-Elgawad, R. Cai, M. Cifuentes-Jara, R.M. DeConto, T. Ghosh, J. Hay, F. Isla, B. Marzeion, B. Meyssignac & Z. Sebesvari 2019. 'Sea level rise and implications for low-lying islands, coasts and communities', in H.-O. Pörtner, D.C. Roberts, V. Masson-Delmotte, P. Zhai, M. Tignor, E. Poloczanska, K. Mintenbeck, A. Alegría, M. Nicolai, A. Okem, J. Petzold, B. Rama & N.M. Weyer eds, *IPCC Special Report on the Ocean and Cryosphere in a Changing*

Climate, Cambridge & New York: Cambridge University Press, pp. 321–445, https://doi.org/10.1017/9781009157964.006.

Persson, Lars & Anders Reisnert 2008. *Kulturmiljövärden på Falsterbohalvön: En studie av kulturmiljövärden relaterat till framtida skyddsvallar mot översvämning: Skanör och Falsterbo socknar i Vellinge kommun, Skåne län*, Rapport 2008:022, Malmö: Malmö Kulturmiljö.

Pilkey, Orrin H. & Katherine L. Dixon 1996. *The Corps and the Shore*, Washington, D.C.: Island Press.

Rooseen, Liselotte J., Christian A. Klöckner & Janet K. Swim 2018. 'Visual art as a way to communicate climate change: A psychological perspective on climate change-related art', *World Art* 8:1, pp. 85–110, https://doi.org/10.1080/21500894.2017.1375002.

Scott, James C. 1998. *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*, New Haven: Yale University Press.

Sehlin, Maria 2023. 'Skyddsvallar ger intresse för nya bostäder på Skanörs vångar', *Sydsvenskan*, 10 March, https://www.sydsvenskan.se/2023-03-10/skyddsvallar-ger-intresse-for-nya-bostader-pa-skanors-vangar/, accessed 22 May 2024.

Vestøl, Olav, Jonas Ågren, Holger Steffen, Halfdan Kierulf & Lev Tarasov 2019. 'NKG2016LU: A new land uplift model for Fennoscandia and the Baltic region', *Journal of Geodesy* 93, pp. 1759–1779.

Wikman, Pär 2019. *Kulturgeografin tar plats i välfärdsstaten: Vetenskapliga modeller och politiska reformer under efterkrigstidens första decennier*, Uppsala: Uppsala University.

Wingren, Carola 2016. *Vattnet kommer! Utställningskatalog för en utställning om stigande havsnivåer på Form/Design Center i Malmö 19 nov 2016—8 feb 2017*, Malmö: Form/Design Center.

Wingren, Carola 2018. 'The human body as a sensory tool for designing—in order to understand, express and propose changes in coastal landscapes', *Landscape Review* 18:1, pp. 4–21.