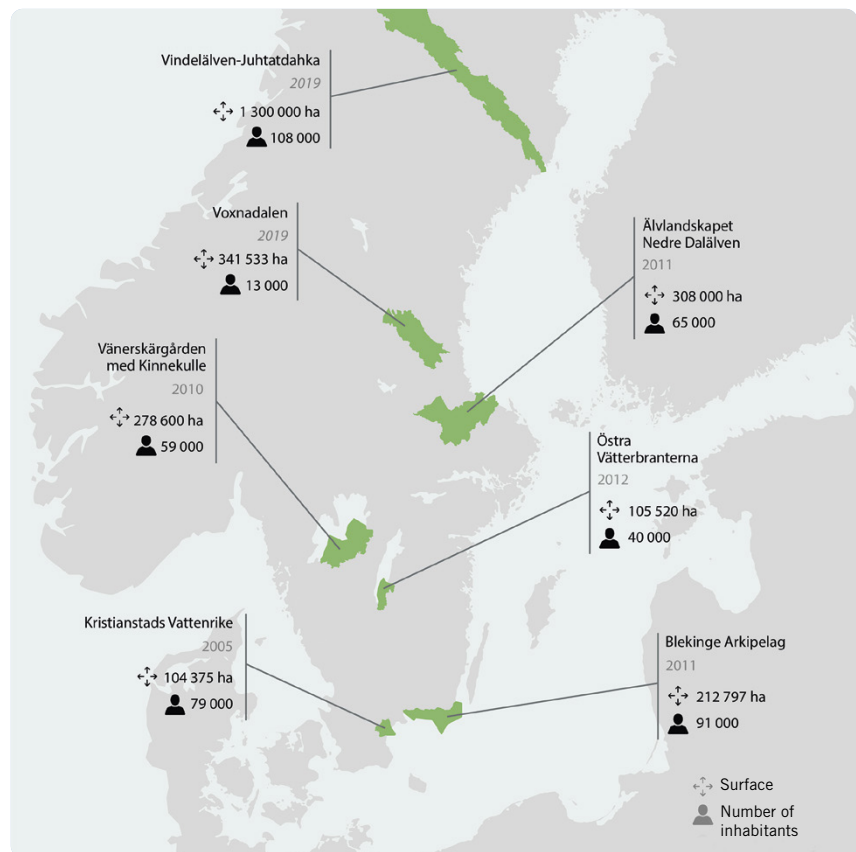
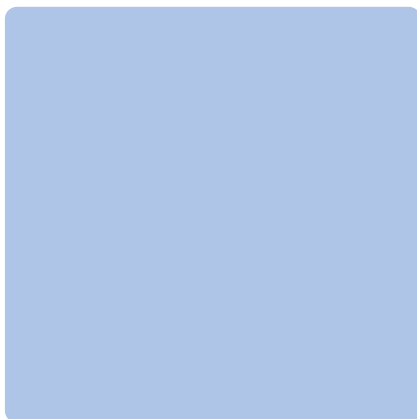
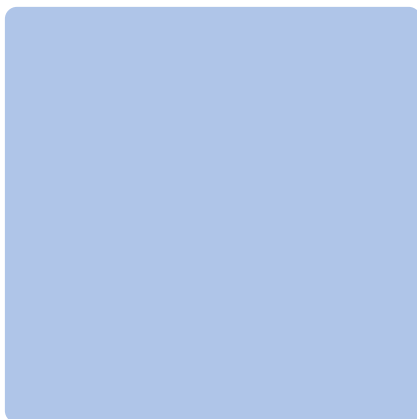


# Building Biospheres Reserves through Collaborative Governance

A study of organisational forms and collaborative processes in Sweden's biosphere reserves

EMIL SANDSTRÖM AND EMMA SAHLSTRÖM

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processes in Sweden's biosphere reserves

by Emil Sandström and Emma Sahlström

SWEDISH ENVIRONMENTAL  
PROTECTION AGENCY

**Order**

Phone: + 46 (0)8-505 933 40

E-mail: [natur@cm.se](mailto:natur@cm.se)

Address: Arkitektkopia AB, Box 110 93, SE-161 11 Bromma, Sweden

Internet: [www.naturvardsverket.se/publikationer](http://www.naturvardsverket.se/publikationer)

**The Swedish Environmental Protection Agency**

Phone: + 46 (0)10-698 10 00

E-mail: [registrator@naturvardsverket.se](mailto:registrator@naturvardsverket.se)

Address: Naturvårdsverket, SE-106 48 Stockholm, Sweden

Internet: [www.naturvardsverket.se](http://www.naturvardsverket.se)

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# Foreword

The Swedish Environmental Protection Agency (SEPA) has actively contributed to work with Sweden's biosphere reserves since 2002. The purpose is to encourage locally supported work with long-term sustainable development in a limited number of designated areas, where the ecological dimension interacts with the societal and economic dimensions. SEPA regards biosphere reserves as model areas for an approach that complements other available approaches to achieve Sweden's environmental quality objectives and long-term sustainable development ambitions. In June 2019, the seventh biosphere reserve in Sweden was designated. In total, Sweden's biosphere reserves account for about seven per cent of the country's total surface area.

One way of supporting the work with biosphere reserves is to study and evaluate how the work is organised and conducted, and based on this, extract lessons learned and pass on good examples. This report describes the development of Sweden's biosphere reserves, with special focus on their governance and formation processes. Since biosphere reserves are based on local initiatives, their governance and collaborative efforts take different forms, depending on the character, history, involved stakeholders and funding of the biosphere reserve. This report provides valuable knowledge about biosphere reserve governance, including the challenges and opportunities involved. The knowledge from this study can serve as a basis for continued development of the biosphere reserves. The evaluation is part of the SEPA's long-term goal of disseminating experience, good examples and working methods for collaboration and sustainable management of natural resources.

The evaluation has been conducted by Dr. Emil Sandström, senior lecturer, and Research Assistant Emma Sahlström at the Department of Urban and Rural Development, Division of Rural Development, at the Swedish University of Agricultural Sciences (SLU) on behalf of the Swedish Environmental Protection Agency. Many people with different connections to the biosphere reserves have also contributed to this work. To all of them, we would like to extend our warmest thanks. The authors are responsible for the design and conclusions of the report.

Stockholm, November 2020

Claes Svedlindh  
Director  
Nature Department

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We hope that this study will contribute to reflections and discussions about the biosphere reserves and to the collaborative efforts of developing them.

Uppsala, August 2020

Emil Sandström

Emma Sahlström

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## Summary

In June 2019, Sweden received its seventh biosphere reserve. Biosphere reserves are part of UNESCO's global programme Man and the Biosphere (MAB), which commenced in 1971 with the aim of enhancing the relationship between humans and the environment. There are more than 700 biosphere reserves in the world that strive to be model areas for sustainable societal development. In total, Sweden's biosphere reserves account for about seven per cent of the country's total surface area.

The report describes the development that has taken place in Sweden's biosphere reserves regarding their organisational structures and their formation processes. The report is based on semi-structured interviews and conversations with about 60 key informants in combination with extensive analysis of documents. Based on the biosphere reserves' mission to promote collaboration and dialogue for sustainable societal development, the report describes the challenges and success factors that have emerged since their establishment and discusses these in relation to issues concerning organisational change, representativeness, legitimacy and organisational effects.

The report shows that the biosphere reserves are characterised by extensive collaboration among different stakeholders and organisations, but run the risk of mission drift due to their hybrid organisational character and their interactive working methods. The report also reveals several significant qualitative results of the biosphere reserves' organisational processes. In several of the biosphere reserves, people have started to perceive and relate to their environments in new ways as a result of the work. The collaborative work processes have also contributed to resolving several natural resource-related conflicts. Finally, the report provides recommendations for supporting the work with biosphere reserves in Sweden.

*Key words: biosphere reserve, collaboration, hybrid organisations, environmentality, collaborative governance, environmental governance.*



# Sammanfattning

Sverige fick i juni 2019 sitt sjunde biosfärområde. Biosfärområden är en del av Unescos globala program *Man and the Biosphere* (MAB) som startade 1971 i syfte att utveckla relationen mellan människan och hennes livsmiljö. Det finns över 700 biosfärområden i världen som strävar efter att vara så kallade modellområden för hållbar samhällsutveckling. Sveriges biosfärområden utgör sammanlagt drygt sju procent av landets totala yta.

I rapporten beskrivs utvecklingen av Sveriges biosfärområden med särskilt fokus på områdenas organiserings- och bildningsprocesser. Rapporten bygger på semistrukturerade intervjuer och samtal med ett sextiotal nyckelaktörer för Sveriges biosfärområden i kombination med omfattande dokumentstudier.

Rapporten diskuterar de utmaningar och framgångsfaktorer som uppkommer i biosfärorganisationerna och sätter dessa i relation till frågeställningar om biosfärområdenas representativitet, legitimitet samt organisatoriska förändringar och effekter. Rapporten visar hur biosfärorganisationerna förändrats över tid och hur de präglas av omfattande interaktiv samhällsstyrning, som utmärks av samverkan mellan en mångfald av olika aktörer inom biosfärområdena. Samtidigt innebär biosfärorganisationernas interaktiva arbetssätt och hybrida karaktär att det kan finnas risk för så kallad *mission drift*, där organisationerna riskerar att frångå sina ursprungliga uppdrag. Rapporten visar också på flera betydelsefulla kvalitativa effekter av biosfärområdenas organiseringsprocesser. I flera av områdena har bland annat biosfärlarbetet bidragit till att människor börjat betrakta och förhålla sig till sin omgivning på nya sätt. Det interaktiva arbetssättet har också bidragit till att lösa flera naturresursrelaterade konflikter. Avslutningsvis ger rapporten rekommendationer för det fortsatta arbetet med att stödja biosfärlarbetet i Sverige.

Nyckelord: *biosfärområde, samverkan, organisering, hybridorganisationer, legitimitet, representativitet, environmentality, interaktiv samhällsstyrning (collaborative governance).*

## Abbreviations

MPA	Marine Protected Area
CBD	Centre for Biological Diversity
EU	European Union
HaV	Swedish Agency for Marine and Water Management
IBA	Important Bird Area
LAP	Lima Action Plan
Leader/LLU	Liaison entre actions de développement de l'économie rurale, [translation: Collaborative measures to strengthen the economy of rural areas] / Locally led development
LIFE	EU's economic tool for environmental protection
LONA	Local nature conservation project
LOVA	Local water conservation project (Lokala vattenvårdsprojekt)
LRF	Federation of Swedish Farmers (Lantbrukarnas riksförbund)
MAB	Man and the Biosphere
NeDa	Nedre Dalälven Interest Association
NEDAB	Nedre Dalälven Development Company
NPA	Northern Periphery and Arctic Programme
SDG	Sustainable Development Goals (UN's global environmental objectives)
SLU	Swedish University of Agricultural Sciences
SNF	The Swedish Society for Nature Conservation (Naturskyddsföreningen)
UNESCO	United Nations Educational, Scientific and Cultural Organisation
VIKOM	Vindelälven Municipalities in Collaboration
WWF	World Wildlife Fund

# 1 Introduction

In June 2019, Sweden received its seventh biosphere reserve. Biosphere reserves are part of UNESCO's global programme Man and the Biosphere (MAB), which commenced in 1971. The overall aim of the biosphere reserves is to enhance the relationship between humans and the environment. By ways of stimulating broad local participation, the establishment of biosphere reserves aim to serve as model areas for long-term sustainable societal development. There are more than 700 biosphere reserves spread across 124 countries (June 2020).<sup>1</sup> Seven biosphere reserves are located in Sweden, and together they account for about seven per cent of the country's surface area. A governing board called the International Co-ordinating Council directs the UNESCO MAB Programme. In Sweden, biosphere reserves are essential parts of the Swedish MAB Programme, consisting of a National Programme Committee, a biosphere Council and the seven designated biosphere reserves.<sup>2</sup>

## 1.1 Assignment

This evaluation is conducted on behalf of the Swedish Environmental Protection Agency and is partly based on a previous evaluation, "The process of creating biosphere reserves" (Sandström and Olsson, 2012), which analyses experiences from the implementation processes to achieve biosphere reserve status in five Swedish biosphere reserves. This study investigates working methods and governance processes in Sweden's biosphere reserves. More specifically, the aim of the evaluation is to:

- Analyse the organisational effects in five Swedish biosphere reserves (Kristianstads Vattenrike, Blekinge Archipelago, Nedre Dalälven River Landscape, East Vättern Scarp Landscape and Lake Vänern Archipelago).
- Compile experiences and analyse the implementation processes for achieving biosphere reserve status in two recently appointed Swedish biosphere reserves (Voxnadalen and Vindelälven-Juhttátahkka).

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<sup>1</sup> See: <https://www.unesco.se/vetenskap/biosfaromraden/> [11 May 2020].

<sup>2</sup> See: <https://biosfarprogrammet.se/unescos-biosfarprogram/> [11 May 2020].

In clarifying the above aims, the inquiry has been guided by the following examples of questions<sup>3</sup>:

- How have organisational forms and working methods changed since the biosphere appointment?
- How do people involved in biosphere reserve management perceive the biosphere organisation's role and mission?
- How robust and legitimate are the biosphere organisations in terms of resources and representativeness?
- What general effects can be attributed to how biospheres are organised and governed?
- What challenges and opportunities can be associated with the selected governance arrangements and working methods?

## 1.2 Outline of the study

The report is structured as follows: Chapter 2 describes the assignment's methodology and our approach. Chapter 3 contains a literature overview and a description of key concepts that have guided the study's analysis.

Chapter 4 describes and analyses the individual biosphere reserves in seven separate sections (sections 4.1–4.7). To understand why different biosphere reserves have arrived at different organisational solutions and working methods, each section describes the history of the biosphere and institutional and environmental conditions. The individual biosphere sections are intentionally descriptive to allow for a more in-depth analysis in Chapter 5. In Chapter 5, the study discusses and analyses how the investigated biosphere reserves relate to the evaluation questions and guiding concepts. The analysis uses a comparative approach in which the challenges and success factors of the biosphere reserves are placed in relation to questions about the organisational changes, representativeness, legitimacy, funding and organisational effects of the biosphere reserve. Chapter 5 also includes an analytical summary of the formation processes for the two most recent biosphere reserves.

Chapter 6 summarises the results and provides recommendations for continued work in supporting the development of the biosphere reserves in Sweden.

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<sup>3</sup> For a more detailed account of the mission's questions, see Annex 1.

## 2 Methodological approach

To achieve the assignment's purpose of examining the biosphere reserves' organisational forms and governance processes, the evaluation has mainly used a qualitative approach based on two methods for collecting data; semi-structured interviews and document studies. Students at SLU have also supplemented the evaluation with public opinion polls about the public awareness of biosphere reserves.

### 2.1 Semi-structured interviews

About 60 key individuals associated with biosphere management for the seven surveyed biosphere reserves have been interviewed. Informants' positions and roles within each biosphere reserve have varied. Most of those interviewed have been biosphere coordinators, project managers, "biosphere ambassadors", communications officers and biosphere board members.

The interviews were mainly conducted in places chosen by the informants, often in the informants' workplaces or at home in their kitchens or in cafés, libraries, tourist offices and, in one case, in a church chapel. Conducting interviews in or near the biosphere reserves has contributed to an in-depth understanding of the particular contexts in which the biosphere organisations conduct their work. In some cases, interviews have also been conducted using Skype or by telephone. The COVID-19 pandemic resulted in conducting online interviews with informants for Blekinge Archipelago and Kristianstads Vattenrike.

Before the interviews, the informants were informed of the assignment's purpose, and all consented to recording the interview for transcription purposes. In some cases, several informants participated in the same interview, which provided an opportunity for extended discussions about the biosphere reserve's working processes. Two people were involved in each interview, with one conducting the interview while the other took detailed notes. The interviews have averaged one to two hours in length.

The interviews were guided by a set of interview questions that were related to the evaluation's overarching aims (see Annex 2). The interviews have been open-ended with the aim of allowing opportunities to hear the informants' own stories and reflections on how e.g., biosphere organisations and working methods have changed over a period of time. This methodology has been used to understand, where possible, the driving forces and special contexts that govern the work and organisation in each biosphere reserve. During completion of the evaluation, the biosphere coordinators have been given opportunities to comment on the descriptions of their own biosphere reserves for clarifying and joint learning purposes.

## 2.2 Document studies

The other main method for knowledge acquisition has been analysis of documents, which has been an ongoing process throughout the evaluation. This has involved analysis of both written communications about biosphere reserves in general, and more in-depth analysis of documents about individual biosphere reserve activities. Consequently, this analysis has included previous evaluations, research reports and various national and international reports on biosphere reserves. To supplement the interview material, we have also collected various forms of written communications from the individual biosphere reserves during the course of the evaluation, such as applications, activity reports, board minutes and other strategic documents.

## 2.3 Collection of other information

The evaluation has also been supplemented with empirical material from a number of projects conducted in the spring of 2020 by students, within the framework of a course in Natural Resource Governance at SLU. These studies included public opinion polls about the public awareness of biosphere reserves in East Vättern Scarp Landscape, Nedre Dalälven River Landscape, Vindelälven-Juhttatáhkka and Voxnadalen (see Annex 3). A master's thesis has also been conducted alongside this study, using Lake Vänern Archipelago and East Vättern Scarp Landscape as a starting point. The thesis has contributed in-depth knowledge of organisational forms and working methods for these two biosphere reserves (see Tidlund, 2020).

## 3 Literature overview and guiding concepts

The following chapter presents an overview of some of the existing research on biosphere reserves in Sweden. It also contains an account of a couple of guiding concepts that are primarily used to analyse the biosphere reserve's organisational and work processes (see also Chapter 5).

### 3.1 Literature overview

Numerous studies have been conducted in biosphere reserves. This research has been mainly scientific in nature, with a focus on describing and analysing data in relation to ecosystem changes and biological diversity (Tuvendal and Elmkvist, 2011; Björklund et al., 2016; Jakobsson et al., 2019).

Somewhat fewer studies have been conducted about biosphere reserve management from social science perspectives. The Swedish social sciences studies have mainly examined biosphere reserves based on what is known as resilience theory and adaptive management (Schultz, 2009; Schultz et al., 2011). Some studies concern the role of biosphere reserves for outdoor recreation (Beery and Jönsson, 2017), tourism (Hoppstadius and Sandell, 2018), how biosphere reserves can contribute to achieving the 2030 Agenda (Heinrup and Schultz, 2017) and studies highlighting biosphere reserves as arenas for interactive multilevel governance (Hahn et al., 2006; Olsson et al., 2007; Schultz, 2009). Much of the scholarly literature on Swedish biosphere reserves is based on *Kristianstads Vattenrike*, Sweden's oldest biosphere reserve.<sup>4</sup>

Literature concerning biosphere reserve governance notes their potential for promoting dialogue and collaboration in natural resource management processes (see Hahn et al., 2006; Sandström and Olsson, 2012; Plummer et al., 2017; Price, 2017) and the challenges in communicating the biosphere reserve concept to the general public (Sandström and Olsson, 2012; Stroll-Kleman and O'Riordan, 2017). Other studies on biosphere governance highlight the risk of power imbalances among involved actors and the lack of a real change process after being designated as a biosphere reserve (Schleip and Stoll-Kleman, 2010). Studies conducted in Sweden have also called attention to the risk that biosphere reserves might develop into "mini public authorities" with responsibility but without decision-making rights (Sandström and Olsson, 2012:53) and to the importance of biosphere governance considering place specific values (ibid; Hahn et al., 2013).

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<sup>4</sup> Sweden's first biosphere reserve was Torneträsk, which was established in 1986, but the designation was withdrawn in 2010 due to a lack of local commitment.

To support the development of biosphere reserves, a number of studies have made recommendations for their support functions and work processes. A DELFI study covering more than 90 biosphere reserves from 42 countries found that successful biosphere management is based on four aspects: 1) zoning to promote regional integration; 2) inclusive and collaborative stakeholder representation; 3) funding and resource allocation; 4) platforms for continuous evaluation of how the biosphere reserves develop (Cuong et al., 2017:16). Studies of Sweden's biosphere reserves have drawn similar conclusions, highlighting the importance of stable funding, the establishment of arenas for critical reflections on the biosphere mission and responsibility (Sandström and Olsson, 2012), and the importance of communicating and coordinating biosphere efforts at the national level (Heinrup and Schultz, 2017).

## 3.2 Guiding conceptual pairs

### 3.2.1 Hybrid organisation and boundary organisation

Biosphere reserves have been described as “novel institutional architectures” (Price, 2017:27) in reference to their governance and mission. Biosphere reserves are designated based on finding new forms of governance arrangements at the local level that combine use and conservation. To understand how biosphere governance work in practice, we analyse the biosphere reserves as examples of hybrid organisations. A hybrid organisation is characterised by different forms of organisation coexisting within the same organisation, such as a non-profit association and a corporation. Hybrid organisations are often governed by different institutional logics – that is to say, with different missions and driving forces. For example, an organisation may be motivated by both market forces and by member interests (Scott, 1995).

A hybrid organisation possesses many strengths; it creates interfaces among participating stakeholders in the organisation, often has a broad representation and promotes the exchange of experience. At the same time, it is relatively common for hybrid organisations to transform into other forms of organisation as time passes, since the working methods and collaborative efforts place high demands on being able to bring together different institutional logics without tensions arising over how resources are to be distributed (ibid). Analysing the biosphere reserves as a form of hybrid organisation is a way of understanding the processes of change that govern the biosphere organisation as a result of the various stakeholders' aspirations and motivating forces.

Another concept from organisation theory that can be applied in the study of biosphere governance is boundary organisations. A boundary organisation can best be described as a platform that intrinsically connects other organisations through collaboration (Löfström, 2010). This collaboration is based on communication and trust among the participating boundary organisations. Biosphere reserves, which offer arenas for discussions about environ-



mental governance, exemplify a boundary organisation in many ways, through its collaboration with other organisations. In this study, we use the concept of boundary organisation to highlight how the biosphere reserves are intertwined with other organisations through different forms of collaboration and governance. .

### 3.2.2 Governance and collaboration

In recent years *collaborative governance* has left its mark on Swedish nature conservation policy (cf. Sandström, 2008). Collaborative governance is often characterised by consensus seeking and collective decision-making processes. Similar to the concept of hybrid organisation, collaborative governance uses different forms of institutional logics where at least one or more public agencies work with non-state stakeholders to implement public policy (Ansell and Gash, 2008). In the evaluation, we understand the biosphere reserve's mission as a consequence of the social phenomenon entailed by collaborative governance, where attempts are made to deviate from traditional hierarchical (centrally controlled) governance in favour of more collaborative, consensus seeking and network-based governing processes (cf. Jessop, 2002).

The word *collaboration* (*samverkan*) also appears frequently in descriptions of the biosphere reserve's mission and methods. Collaboration can be understood as a prolonged, integrated process in which the parties involved, together try to find solutions to identified problems (Gray, 1989). Other definitions of collaboration emphasise that the parties are looking for mutual learning, joint decision-making and collective action (Hallgren and Ljung, 2005; Norrby et al., 2011). In this study, the concept of collaboration is used primarily to describe the biosphere organisations' working methods but also to highlight the results that can be attributed to how the biospheres organise their work.

In this context, the study also makes use of the concept of *environmentality* (also referred to as *eco-governmentality*, *environmental governmentality*, or *green governmentality*), which can be understood as the techniques and procedures that govern and influence how people look and perceive their surrounding environment (see Agrawal, 2005). It builds on the philosopher Michel Foucault's concept of governmentality developed in the late 1970s and early 1980s and sheds light on the changing environmental attitudes and actions involved in environmental governance, including those related to biosphere governance.

### 3.2.3 Legitimacy and representativeness

The evaluation's guiding questions include the concepts of *legitimacy* and *representativeness*.

In the evaluation, we use the concept of legitimacy to examine whether the work and governance of the biosphere reserves are justified in relation to the MAB Programme's core values – that is, whether they are based on processes that are perceived as democratic and participatory. Successful democratic and participatory processes require the involved parties to trust each other as co-actors (Sandström and Tivell, 2005; Eksvärd et al., 2005), which makes legitimacy a central aspect in fulfilling the biosphere organisations' mission. A legitimate organisation has the support and trust of the participating actors, but also the support among those affected by the organisation's governance practices. Legitimacy also requires representativeness; that decision-making forums include relevant stakeholders, such as landowners, non-profit and volunteer organisations and the private sector. The evaluation examines the biosphere organisation's representativeness and legitimacy to discuss how well the biosphere reserves have succeeded in gaining support by relevant actors.

## 4 Descriptions of Sweden's biosphere reserves – lessons learned

The following chapter describes Sweden's seven biosphere reserves. The descriptions focus on their mission statements, governance arrangements and lessons learned since being designated as biosphere reserves. For two of the newly formed biosphere reserves, the description also centres around the biosphere candidature processes and the challenges and factors for success encountered during the formation process.

### 4.1 Kristianstads Vattenrike

Kristianstads Vattenrike, Sweden's oldest biosphere reserve, was established in 2005. The biosphere reserve is located in Kristianstad Municipality in Skåne and includes the lower drainage basin of the River Helge (Helgeån) and the coastal waters of Hanöbukten Bay. The wetlands around the River Helge are biologically valuable and of national and international interest. They were noted in 1974 (additional decision in 2018) as an important wetland site under the Ramsar Convention. The biosphere reserve contains several nature reserves and two Important Bird Areas (IBAs). The River Helge and its surrounding wetlands are the main artery in Kristianstads Vattenrike, but it is important to note that the area consists of several other ecological milieus' than wetland areas, including sandy grassland and sloping broad-leaved deciduous forests.

The biosphere reserve comprises about 100 000 hectares, and about seven per cent (7 179 hectares) of the area consists of what is defined as core areas. The majority of the residents of Kristianstad Municipality live in the development area of the biosphere reserve, which covers about 74 000 hectares (Kristianstads Vattenrike, 2005). Work has been ongoing since the 1980s to preserve and convey information about the importance of the surrounding wetlands in the municipality, and this work has increased and proliferated since the biosphere reserve designation.



Image 1. Map of Kristianstads Vattenrike. Source: [https://vattenriket.kristianstad.se/wp-content/uploads/2017/12/biosfaromrade\\_grans.pdf](https://vattenriket.kristianstad.se/wp-content/uploads/2017/12/biosfaromrade_grans.pdf) (29 June 2020)

#### 4.1.1 The role and mission of the biosphere organisation<sup>5</sup>

The ideas for developing Kristianstads Vattenrike biosphere reserve goes back to the late 1980s, when representatives of nature conservation in the municipality aimed to change the general public's attitudes toward their immediate surroundings, from perceiving the area as a waterlogged area to a water-rich wetland area. They wanted residents living in the area to understand that wetlands have unique values, including the ability to purify and buffering capacity, which turns the wetlands into a resource for the municipality rather than a burden.

To improve the understanding of the important role of wetlands and to make these "rich wetlands" accessible to the public, more than 20 visitor sites with paved trails and bird observation towers were built in the biosphere reserve in the 1990s. Extensive areas of beach meadows were also restored and the foundation for today's nature education and nature school emerged. Since the initiation of establishing a biosphere reserve, there has been a vision to change public perceptions in the municipality of the area, and the expression "from waterlogged to water-rich wetlands" has become a slogan. Even before establishing the biosphere reserve, extensive outdoor education efforts had begun, with the Kristianstad Nature School and the former Eco Museum as important partners. Since the designation of the biosphere in 2005, the biosphere reserve management has become an integral part of Kristianstad Municipality, where the phrase "Vattenrike" (rich wetlands) has been trademarked since 1998.<sup>6</sup>

Since the designation of the biosphere in 2005, its work has evolved to include an extensive array of activities, and today the work with the biosphere is a driving force in the municipality's sustainability efforts. An important part of this effort has often involved developing concrete water-related nature conservation projects, and gradually this work has expanded to include all habitat types in the area. Projects have often been implemented in collaboration with various public stakeholders in combination with non-profit associations and business owners in the area. In addition to initiating various nature conservation-related projects, efforts also include significant educational activities such as nature and guide programmes.

The construction of a visitor centre (Naturum Vattenriket) has been an important milestone for the biosphere reserve. Each year, the visitor centre conducts a wide range of activities under its own management and in collaboration with others (about 500 programme events annually) that reflect the

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<sup>5</sup> According to the current action plan (2016–2020), three strategic documents guide the biosphere reserve's mission: Kristianstad Municipality's strategic roadmap for 2020; UNESCO's MAB Programme for 2015–2025; and the Swedish Environmental Protection Agency's guidelines for Sweden's visitor centres (*naturum*).

<sup>6</sup> A more detailed description of the formation process for Kristianstads Vattenrike biosphere reserve is provided in the SEPA report: *The process of creating biosphere reserves: An evaluation of experiences from the implementation processes in five Swedish biosphere reserves*, by Sandström and Olsson, 2012.

work in the biosphere reserve. The physical design of the visitor centre and its strategic location near the centre of the town of Kristianstad and in the heart of the biosphere reserve has facilitated educational activities and contributed to making the biosphere reserve known to a wider public. The centre plays an important role in communicating all the work being done in the biosphere reserve and is both a symbol of the biosphere reserve and a landmark for Kristianstad's identity.

Informants describe the biosphere's role and mission as an ongoing effort, with the biosphere organisation serving as a communicator, catalyst and mediator for both concrete nature conservation initiatives and for achieving a broader sustainable societal development in the area. Successful collaborative projects that have come to fruition thanks to the biosphere and that are brought up during interviews include the handling of the previous conflict between farmers and ornithologists in the area. This conflict concerned cranes and geese that ate the farmers' crops when stopping in the fields in Vattenrike while on their migration north. The biosphere office formed a "goose and crane management group" with farmers and ornithologists. They worked out a solution inspired from Germany, where the cranes were fed to reduce harvest losses. The result was a win-win situation that not only reduced damage to the farmers' crops, but also attracted visitors to the crane feeding and thereby creating spin-off effects like increased income from tourism.

#### **4.1.2 Biosphere reserve governance and key actors**

Since 2017 the biosphere office has been organised into two separate units within the municipal administration: the Biosphere Unit and the Visitor Centre Unit.<sup>7</sup> The units have separate managers and employer responsibilities, though they describe their assignments and working method as a "team" that works towards the same goals. The two units also share some staff. Both units fall under the Growth and Development Department of the Municipal Executive Office, which points to the importance of the biosphere reserve as an integral and central part of municipal activities in Kristianstad.

In total, about 14 people work at the biosphere office, with seven people in each unit. In addition to the biosphere coordinator, positions in the Biosphere Unit include an ecologist, nature conservation manager, communications officers, a limnologist and a nature and outdoor technician. The Visitor Centre Unit consists of a nature manager, nature guides, a technician, a project administrator and nature educators. A management team, which meets every two weeks, heads biosphere operations. The team consist of the head

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<sup>7</sup> Over the years, biosphere work has experienced several municipal reorganisations. The reason for splitting the biosphere office into two separate units can be traced to organisational changes that occurred in 2017, when the Sustainability Department was created under the municipal management. The biosphere coordinator then took over as department head and received a much broader remit than before. After a while, another reorganisation divided the biosphere office into two units (the Biosphere Unit and the Visitor Centre).

of the Biosphere Unit, i.e. the biosphere coordinator, the director of the visitor centre and staff from the Biosphere Unit. Important partners include the County Administrative Board; the Swedish Forest Agency; the Swedish Board of Agriculture; the Swedish Environmental Protection Agency, the Swedish Agency for Marine and Water Management (HaV); the Swedish Species Information Centre and the Centre for Nature Interpretation at SLU; the Stockholm Resilience Centre; Kristianstad University, through its Man and Biosphere Research environment; and a number of non-profit associations, landowners and entrepreneurs in the biosphere reserve.

Placing the biosphere office's administration under the municipality has facilitated Kristianstads Vattenrike gaining both organisational stability and financial muscle to propel the organisation forward. In connection with the Periodic Review (10-year evaluation) for UNESCO, the Municipal Executive Committee declared that Kristianstads Vattenrike is an important part of the municipality's brand. Since Kristianstads Vattenrike was designated as a biosphere reserve, the biosphere office has become increasingly involved in the municipality's planning processes. The office may comment on various municipal planning matters and referrals, etc. The coordinator is also part of the municipality's Steering and Management Team working with comprehensive planning, which provides some indication of the biosphere reserve's significance for the municipality. However, there is a certain organisational vulnerability associated with municipal policy changes and the fact that biosphere work does not constitute a "traditional" municipal activity. Among other things, this means there is a continuous need to work strategically to ensure support of biosphere activities from a cross-organisational partisan political perspective.

In addition to this continuous work to build and seek support for biosphere-related work in municipal activities, both politically and among civil servants, a collaboration agreement has been worked out with the County Administrative Board in Skåne.

#### **4.1.3 Working model and funding**

The working model in Kristianstads Vattenrike is based on broad-based local participation and collaboration with both the surrounding local community and organisations at regional, national and international levels. Collaboration has often been conducted in the form of projects and aims to preserve landscapes, species and ecosystem services, while trying to find innovative ways to utilise natural resources. The working method can be described as a form of adaptive co-governance<sup>8</sup> involving different actors in the management of the biosphere reserve that aims to combine both scientific and experience-based knowledge. A key part of the working model also involves

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<sup>8</sup> For example, see Shultz 2009 and Hahn et al. 2006 for a more detailed description of Kristianstad's working methods based on the concepts of adaptive co-management and resilience.

calling attention to and communicating the work through social media, such as Instagram and Facebook, and through Vattenrike's website. The visitor centre, which is described as the biosphere reserve's showcase, also serves as a very important tool for communicating all the biosphere-related work being carried out.

To ensure commitment and support for biosphere work among local stakeholders, about 300 "biosphere ambassadors" have been trained. They are invited to participate in annual training and events. To further build local support and participation, a consultation group is linked to the biosphere organisation. This group acts as an advisory body for the biosphere, and consists of about 30 members who convene three times a year. They include representatives from municipal political organisations (one of whom is chairperson), municipal officials, Kristianstad University, the Federation of Swedish Farmers, the County Administrative Board, the Swedish Forest Agency, Region Skåne and a number of interest groups active in the area, such as the local birdwatchers club, the Swedish Society for Nature Conservation, the motorboat club and the Queen Bee club. The consultation group has existed since 1997, predating even the formation of the biosphere reserve.

The group supports biosphere efforts and provides valuable input in the form of knowledge, ideas and contacts. Since 2011, there has also been an independent non-profit member association (a friends of the biosphere association) with about 150–200 members.<sup>9</sup> In addition to generating local support, the collaboration group and the friends of the biosphere association provide legitimacy and new perspectives to the work with the biosphere reserve. Key informants working with biosphere reserve management also highlight the importance of effectiveness and organisational stability when being integrated in municipal activities, which would have been difficult to maintain if the biosphere's work had been organised as a non-profit association or similar.

The Biosphere Unit and the Visitor Centre Unit receive most of their funding from the municipality, aside from grants (SEK 400 000 for the Biosphere Unit and SEK 350 000 for the Visitor Centre Unit) from SEPA. The Biosphere Unit's budget is about SEK 7 million, most of which goes to salaries and rental costs. The Visitor Centre Unit's budget is SEK 11 million, of which SEK 6 million is for rent. In addition to its core funding, the biosphere reserve receives co-financing from the projects operated within the biosphere reserve. Since the biosphere designation in 2005, an estimated SEK 55 million in external funds have been obtained. These are mainly funds from the

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<sup>9</sup> Among the contributing reasons for creating the friends of the biosphere association was the desire by the Absolut Company to donate money to support the biosphere's efforts. A municipal activity has difficulty accepting such contributions. The friends of the biosphere association was formed to expand involvement and to be able to receive donations. It also gives the trained biosphere ambassadors a context and additional motivation for their efforts. So far, about 300 people have been trained.



Local Environmental Protection Contribution Programme (LONA), the Local Water Protection Project (LOVA) and the Swedish Agency for Marine and Water Management. The ability to raise external funds is described as an important success factor that the biosphere office can use when highlighting the economic significance of the biosphere reserve for the municipality and for other purposes.

#### **4.1.4 Challenges and success factors**

During our interviews, informants emphasised the importance of working long-term and strategically when seeking to change public attitudes and awareness about surrounding environmental milieus. At an early stage, the work focused on creating organisational legitimacy, both internally within the municipality and externally among strategic partners, through extensive dialogue and collaboration with various stakeholders.

Over time, the dialogue and collaborative processes helped the biosphere organisation and participating stakeholders to develop trust and confidence in each other. Creating trust has mainly come through personal meetings and concrete activities in the countryside through the ‘power of good examples’, which seem to have created pride and commitment among biosphere reserve stakeholders to work with the surrounding waterscape. The approach established at the start of the biosphere reserve has largely been maintained. It focuses on developing projects that have then served as good examples, and as such create a ripples on the water effect.

Another success factor in the development of Vattenriket has been a strong focus on communication and information through exhibitions and information about places to visit in the surrounding waterscape through printed information in leaflets and brochures, and other means. The biosphere reserve also tried to take advantage of various windows of opportunities and has been quick to concentrate on current themes and communication tools such as Instagram, Facebook and the biosphere reserve’s website.

The current working model clearly retains a legacy from the visions and strategic approaches that have characterised the working process since the establishment of Vattenrike as a concept during the late 1980s. Several of the initiators of the formation process have continued to work with the biosphere. This has helped provide the work with continuity and invaluable knowledge about the field, which remains within the biosphere organisation today.<sup>10</sup>

Since beginning process of establishing the biosphere reserve, attempts have been made to learn from the positive effects emanating from dialogue created to deal with conflicts. A concrete illustration of this is the predator control project, which is based on discussions and collaboration among

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<sup>10</sup> The current biosphere coordinator was already well acquainted with the biosphere reserve upon taking the position in 2013. The head of the visitor centre was involved even before the biosphere reserve was formed.

stakeholders with different backgrounds and interests. The project is intended to control and regulate the number of predators as a way of increasing populations of shorebirds. Participating stakeholders include the local hunters' association, the Swedish Society for Nature Conservation and the local bird-watchers club. This type of project has been facilitated thanks to the existing network of contacts and trust that has been built up over the years between the involved stakeholders and the personal working at the biosphere office.

Other success factors include continuously telling the story of the emergence of Vattenrike and the change in perception from waterlogged area to rich wetlands. Initially, communicating the biosphere reserve concept proved challenging because the Vattenrike name was adopted much earlier. However, in the last five years and as more biosphere reserves have been designated in Sweden, the biosphere concept has become increasingly easy to communicate.

In the future, the key informants see potential in working more closely with the private sector on social sustainability issues and increasing international collaboration. As Sweden's first biosphere reserve, according to current global criteria, Kristianstads Vattenrike has been involved in establishing the "Swedish model" for interpreting UNESCO's core values and guidelines for biosphere reserves, and Kristianstads Vattenrike is sometimes highlighted as a model for other biosphere reserves in Sweden.

#### **4.1.5 Summery reflections**

Efforts to establish Kristianstads Vattenrike has been going on for over 30 years, and the area has been a biosphere reserve for 15 years (since 2005). Over the years the biosphere organisation has established extensive activities while developing into a robust, legitimate and integrated organisation in Kristianstad Municipality. Over the years, the biosphere reserve has also become an important part of Kristianstad's identity and developed into a significant organisation for Kristianstad Municipality's sustainability efforts.

The legitimacy of Kristianstads Vattenrike Biosphere Reserve is grounded in long-term and strategic work combined with a comprehensive communication strategy to convey the biosphere reserve's opportunities and unique values. Key to the working model is highlighting and communicating the work using the power of good examples. Support for the biosphere reserve's values has been ensured through a consultation group and a non-profit association of biosphere reserve friends, but above all through long-term and strategic municipal support. Support for developing the biosphere reserve has also been ensured through extensive educational activities linked to the biosphere reserve visitor centre, which serves as an important showcase for the biosphere reserve.

Kristianstads Vattenrike is the only biosphere reserve in Sweden that covers a single municipality. As work has progressed, the organisational positioning allowed the biosphere office to become involved in municipality planning. This has enabled opportunities for insight into and influence over long-term management of land in the area. However, the position of the biosphere organisation under municipal management also presents some challenges, such as balancing different interests when working with municipal comprehensive planning. Being organisationally part of a municipal organisation also implies that support for the biosphere work needs to be continually built across party lines to ensure continuity across shifts in municipal political power.

## 4.2 Blekinge Archipelago

The Blekinge Archipelago Biosphere Reserve stretches across the municipalities of Karlshamn, Karlskrona and Ronneby as well as the coastal and archipelago landscapes of these municipalities, a total area of 213 000 hectares. Blekinge Archipelago was designated a biosphere reserve in 2011.

Blekinge Archipelago consists of a varied natural and cultural landscape, including a deciduous forest coastal area with oak groves, an archipelago with about 800 islands and islets, and the country's southernmost salmon watercourse, the river Mörrumsån. Human use of both islands and the mainland has greatly impacted the landscape and the environments found in the biosphere reserve. Of the total area, the sea accounts for 156 000 hectares and the land for 57 000 hectares. The biosphere reserve's core area covers about 21 000 hectares and consists of 50 nature reserves, one cultural heritage park and 72 Natura 2000 areas. There is also a Marine Protected Area (MPA) within the biosphere reserve encompassing large parts of Torhamn archipelago. The biosphere reserve includes both population centres and more sparsely populated areas. About 85 000 permanent residents live in the area. In addition, a large number of seasonal residents spend time and live in the area, mainly during the summer (Blekinge Archipelago application, 2009).

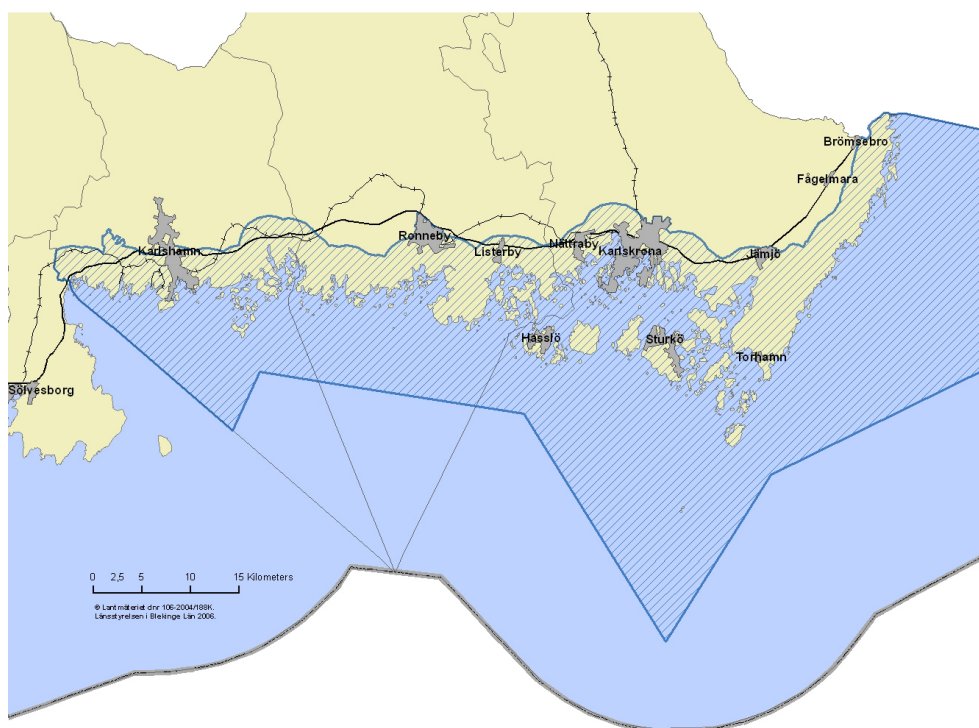


Image 2. Map of Blekinge Archipelago.

Source: Collaboration plan for Blekinge Archipelago, 2011 [30 June 2020].<sup>11</sup>

#### 4.2.1 The biosphere organisation's mission

The operational plan for 2018–2020 (Blekinge Archipelago, 2018) states that Blekinge Archipelago's mission is governed by three strategic documents: the collaboration plan formulated by participating stakeholders at the time of the designation (municipalities, the County Administrative Board and other stakeholders), the Lima Action Plan (LAP) and the 2030 Agenda. How to fulfil the mission in concrete terms is defined by five priority areas described in more detail in the operational plan (see section 4.2.3).

The way the biosphere organisation relates to its mission has changed since its designation as a biosphere reserve in 2011. A significant change in the focus was implemented in 2017 in connection with an external evaluation of the biosphere reserve's work and organisation. The evaluation was conducted because the organisation felt that it had “lost track” of its mission, as one informant described. Several informants describe how the biosphere office, soon after the designation as a biosphere reserve, focused on building national and international relations instead of devoting itself to local projects. This contributed to the loss of contact with its “home base” and loss of legitimacy among stakeholders.

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<sup>11</sup> Image taken from collaboration plan for Blekinge Archipelago, 2011 [2020-06-30]

Friction also arose internally within the organisation from what is described as a “lack of division of responsibilities” between the biosphere office and the biosphere reserve’s board of directors. In retrospect some of those involved in the situation described it as a catch-22 where the lack of concrete results contributed to mistrust, both internally and externally, and complicated implementation of new ideas and activities. In 2016 the board hired an external evaluator who conducted interviews with several participating stakeholders. The inquiry determined that a reset of the biosphere organisation was needed.

The reset involved recruiting a new biosphere coordinator and appointing new board members. Great emphasis was placed on producing results by “picking the lowest hanging fruits” and making the local community aware of the results. In our interviews several informants state that the biosphere is well on its way to restoring trust, that there is now a clearer collaboration between the board and the biosphere office and that local stakeholders want to be involved in various biosphere-related projects. Among other things, informants mention the destination project ARK56 (see section 4.2.4), which has generated great interest beyond the biosphere reserve.

At the same time as the biosphere reserve was being established, there were discussions about establishing a marine reserve. The municipalities viewed the establishment of nature reserves with concern, fearing that conventional nature reserve management might imply a “wet blanket” for the development of the municipalities, as one informant expressed it. A biosphere reserve designation, on the other hand, was seen as an alternative that could promote discussions among different interests in the area. In this regard, one informant mentioned the facilitating and mediating role the biosphere reserve has had on fishery management in the area. For example, when the County Administrative Board proposed changes in the regulations for pike fishing, this gave rise to a conflict between anglers and those fishing commercially. The biosphere reserve organisation then stepped in and facilitated the development of a new management plan for parts of the fishery by initiating talks among the involved stakeholders.

#### **4.2.2 Biosphere governance and key actors**

The Blekinge Archipelago Biosphere Reserve is organised as a non-profit association. The work is led by a board of directors and a biosphere office staffed by a full-time biosphere coordinator and two temporary project managers. Membership is open to the public and, of the approximately 90 registered members, 55 are corporate members, five are association members and about 30 are private individuals. During 2020, interest in membership is said to have increased, especially among private individuals.

The board consists of politicians from the three participating municipalities (Karlshamn, Karlskrona and Ronneby), members of the County Administrative Board, an association representative, a representative from academia (SLU) and two private sector representatives. The municipalities appoint the political representatives on the board, and a nominating com-

mittee proposes the other board members. The Karlskrona municipal director chairs the board. Board meetings take place about every two months, and the person reporting on the meetings is usually the biosphere coordinator. Since the majority of the board members do not belong to either municipalities or public agencies, the board does not need to comply with the Public Procurement Act. Some informants consider this to be advantageous because it increases flexibility and reduces bureaucracy, such as when making sizable purchases.

In addition to the board of the biosphere reserve, there is also a collaboration group linked to the biosphere office. The group consists of rural developers and environmental strategists from the three participating municipalities and a marine biologist from the County Administrative Board. The collaboration group meets four times a year and serves primarily as an advisory group for the biosphere coordinator. In addition, each group member is supposed to coordinate biosphere-related work in their respective home organisations as well as take part in joint project applications.

#### **4.2.3 Working model and funding**

To make the biosphere coordinator's work easier and to take advantage of volunteer resources, support teams were appointed at the time of the 2017 reorganisation within the operational plan's five thematic focus areas. Everyone is welcome to participate in a support team, and each participant can decide on their own degree of commitment. The support teams mainly consist of association representatives and business owners, and several are members of the biosphere reserve association.

Previously, the association employed the biosphere coordinator, but since 2018 the biosphere office staff has been formally employed by Ronneby Municipality. As a result, the municipality administers the employment, while the association's board determines the focus of the work. The work is further guided by five operational areas over the period 2018–2020 and five thematic work areas that vary from year to year (Blekinge Archipelago, 2018).

The five operational areas are as follows:

- 1) Learning and commitment to sustainable development.
- 2) Water in balance and flourishing coastal areas and archipelagos.
- 3) Biodiversity and intact ecosystem services.
- 4) Sustainable enterprises and thriving tourism.
- 5) Health and vitality in sustainable societies.

The five thematic areas that the association is working with during the current operational period are:

- 1) Sustainable tourism industry.
- 2) Keep the biosphere clean.
- 3) Learning and commitment.
- 4) Sustainable fishing.
- 5) Sustainable agriculture and forestry.

The thematic areas are determined at the annual association meeting. In addition to the meeting, the association's members are invited to participate in annual strategy days and other gatherings. To increase the outreach and impact of biosphere-related activities, the biosphere organisation also trains biosphere ambassadors. Training for the ambassadors in 2020 was fully booked quickly, and informants state that more and more people, including young people, are applying for the training.

The Swedish Agency for Marine and Water Management funds the biosphere reserve's work with a basic grant (SEK 400 000). The three participating municipalities also contribute funds in proportion to their size (SEK 310 000 from Karlskrona, SEK 155 000 from Karlshamn and SEK 155 000 from Ronneby) The funds cover costs for the biosphere coordinator's salary and a small sum for operating expenses. The biosphere office hopes to receive increased funding from all the constituent organisations (the principals) and is reviewing the possibility of applying for additional funding from Region Blekinge. In addition to the basic funding, the biosphere association has applied for and received approximately SEK 17 million for projects related to sustainable tourism and sustainable agriculture, and for information and communication projects.

#### **4.2.4 Challenges and success factors**

The 2017 evaluation and reorganisation of Blekinge Archipelago generated several important lessons. Informants state that the biosphere reserve "started in the wrong end" after being designated, spending too many resources on formulating communication plans and investing energy in building relationships nationally and internationally rather than developing collaboration with local communities. Unclear division of responsibilities within the organisation also contributed to decreased legitimacy in the biosphere's work within the organisation itself.

The implemented changes resulting from the external evaluation included shifting the biosphere office staff and payroll administration to Ronneby Municipality. The board also underwent an organisational change and a new chairperson was appointed. The change of chairperson provided an opening into decision-making forums, including Karlskrona Municipality, which had been lacking earlier. In recent years, close collaboration with officials in the participating municipalities has emerged, and informants emphasise the importance of continually keeping municipal politicians informed about biosphere reserve-related activities.

An important part of efforts to involve local residents in biosphere-related activities has been re-establishing the support team and the biosphere reserve ambassador training. In recent years, investments have also been made in disseminating information about projects and activities through social media and newsletters. Overall, the level of activity has also increased in recent years through various lectures and training sessions. However, challenges remain regarding how people view the biosphere reserve. One informant states that

the biosphere reserve is “a strange construction, a regulatory authority product, and has been that since its origin more than 10 years ago”. The above quote illustrates how the association has occasionally been viewed and, to some extent, is still regarded by some people.

Informants also emphasize, however, that local support for the biosphere reserve has grown since the 2017 reorganisation. The biosphere organisation also notes a doubling of the number of followers on social media and those who have signed up for the biosphere reserve’s newsletter since 2018.

Participation in the ARK56 is one project that has significantly increased public awareness of the biosphere reserve and its sustainability work. The ARK56 project promotes developing sustainable destinations and products. Region Blekinge is the project principal, and the biosphere office serves as project manager. The project efforts have included developing a mobile phone app that provides information about accommodations, restaurants, outdoor activities and other things to do in the area.<sup>12</sup>

In conversations about the biosphere organisation’s mission and work, an informant states that the image of the biosphere organisation at times appears “disparate” because the biosphere organisations promotes such a broad and all-encompassing definition of sustainable development. Another challenge with biosphere work is the relatively small resources available for implementing the work in relation to the scope of the mission, as illustrated by the following quote by one of the interviewed key informants:

*“The challenge is that we have taken on a large area of responsibility with limited financial and staff resources. And we cannot work at 120 per cent for any length of time, because then we run the risk of burnout. We need to adapt our aspirations to the staff available, and we would need to gear up to maintain the pace, but we do not have the financial resources for that.”*

An important priority, especially for the biosphere reserve’s board of directors, is finding opportunities for increased core funding. During our interviews, the possibility of applying for funding from the region and of expanding the biosphere reserve by involving Sölvesborg Municipality were discussed. When the biosphere reserve was established, it involved three of the region’s five municipalities. The municipality of Olofström did not take part because the municipality has no coastline, and Sölvesborg chose not to participate during the candidate phase. In connection to the ARK56 project, Sölvesborg Municipality has, however, expressed interest in taking part in the biosphere work, and the board of the biosphere association is positive to including Sölvesborg as a fourth municipality.

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<sup>12</sup> The app was installed more than 7 000 times in 2019.



#### **4.2.5 Summery reflections**

Blekinge Archipelago is organised as a non-profit association. Its operations are directed by a biosphere office, consisting of a biosphere coordinator and two project employees. The association has undergone significant changes in its mission and work since the biosphere was established in 2011. Over time, it has become clear that there needs to be a clear division of responsibilities between the biosphere office and individual members of the board and that it is important and necessary to utilise the willingness of volunteer resources in the surrounding community. Another lesson has been the importance of using available resources to achieve concrete results. This creates visibility and organisational legitimacy in local contexts. In the future, the biosphere organisation hopes to be able to increasingly be seen as an interesting partner for local stakeholders.

In our view, the organisation is well on its way to establishing good trust in the local community. However, the challenge of gaining public support for the organisation remains, due to the existing view of the biosphere reserve as a “creation of a public agency”. Our view is that the biosphere organisation has worked constructively with the lessons learned from the 2017 evaluation and the subsequent reorganisation. The work ahead also offers the opportunity to benefit more from similar initiatives for sustainable development that exist in the area, such as the Marine Protected Area (Torhamn’s Baltic Sea Protected Area) that is located within the boundaries of the biosphere reserve.

## 4.3 Lake Vänern Archipelago

Lake Vänern Archipelago was designated as a biosphere reserve in 2010 and celebrates 10 years as a biosphere reserve this year (2020). The area encompasses the three municipalities of Lidköping, Mariestad and Götene. It includes the south-eastern section of Lake Vänern, with its archipelagos, and the flat-top mountains of Kinnekulle and Lugnåsberget. The biosphere reserve includes parts of the Lidan and Mariedalsån ravine systems and the eastern part of Dättern cove. The municipalities have a population of about 78 000. The biosphere reserve comprises a total of 278 600 hectares, including 16 281 hectares identified as a core area. The core area includes land that is protected under Swedish legislation in the form of Djurö National Park, several nature reserves, Natura 2000 areas and forested habitat areas (Lake Vänern Archipelago, 2008).



Image 3. Map of Lake Vänern Archipelago Biosphere Reserve.

Source: <http://media.vanerkulle.org/2014/04/Biosf%C3%A4rkarta-spridntillst.-Dnr-601-2008-855.jpg> [29 May 2020].<sup>13</sup>

### 4.3.1 The biosphere organisation's mission

The biosphere organisation's working methods and direction have changed over time, although its mission as a model area for sustainable development has remained the same. During 2009–2014, the organisation's responsibilities included a European Fisheries Area. For this reason, the biosphere organi-

<sup>13</sup> Image taken from: <http://media.vanerkulle.org/2014/04/Biosf%C3%A4rkarta-spridntillst.-Dnr-601-2008-855.jpg> [2020-05-29].

sation initially had a major focus on commercial fishing and cultural heritage issues associated with the local fishing industry. During 2016–2019, the organisation also tried working more with local companies to involve them in its work.

In recent years, 2017–2019, this work has focused on various communication projects aimed at inspiring more people to become involved. The website for Lake Vänern Archipelago Biosphere Reserve describes its main mission as “creating conditions and making it easier for others to contribute to the sustainable societal development”<sup>14</sup>. However, several of our informants consider the biosphere organisation to be too small and with too limited resources to shoulder the responsibility for the work required to achieve sustainable societal development of the area. In 2018, the organisation established three new goals and a horizontal goal for the organisation to achieve a clearer profile and management of the organisation.

To encourage more people to join efforts to achieve sustainable societal development within the framework of the biosphere reserve, the biosphere organisation has been working on projects that can lead to concrete impacts, such as new tools for municipal planning and projects aimed at inspiring and disseminating knowledge on sustainable societal development to a wider public. This is done by linking biosphere efforts to the UN 2030 Agenda. The 2030 Agenda has influenced how the biosphere reserve address its mission by relating its efforts to a number of concrete global goals. Some informants mean that explaining what a biosphere reserve is, which was previously a challenge, has been facilitated by the connection to the 2030 Agenda, which is described as a concept with broader popular support than the biosphere reserve concept.

In recent years, the organisation has worked strategically on communication initiatives, through the *Here's Life (Här finns liv)* project. This communication project has resulted in, among other things, an exhibition with an associated game app. The exhibition is mobile and provides information about the biosphere reserve. Through a six-metre-long map and in the game app, participants learn more about the global Sustainable Development Goals (SDG) and how the biosphere reserve contributes to achieving them. The project has also included talks and other activities to disseminate knowledge about the biosphere reserve. According to several informants, the project has facilitated communication about what a biosphere reserve is, while helping to build pride of and support for the biosphere reserve among the local population.

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<sup>14</sup> <https://vanerkulle.org/om-biosfaromrade/>

### 4.3.2 Biosphere governance and key actors

The biosphere Lake Vänern Archipelago is organised as a non-profit association to enable the broadest possible involvement from local stakeholders. During the biosphere reserve's formation process, some feared that if the municipalities assumed the overall responsibility, it would lead to passivity and lack of involvement from private actors. By organising the biosphere reserve as a non-profit association, the hope is to encourage a broad-based, popular involvement in biosphere-related activities. In March 2020, the association had about 60 registered members, consisting of a mixture of business owners, associations and private individuals. Business owners make up about 60 per cent of the association's members. A nine-member board heads the association. Five are appointed at the association's annual meeting, three by the three participating municipalities and one by the County Administrative Board of Västra Götaland.

During 2016–2017, the biosphere organisation went through a challenging period. During this time, local politicians described the biosphere's operations as “troublesome”, and some officials from the municipalities felt that they were not “getting their money's worth”. To improve the situation, the biosphere office and the municipalities established a working committee consisting of the members of the board appointed by the municipalities, the chair of the board and the biosphere coordinator.<sup>15</sup> The working committee now constitutes a permanent body focusing mainly on discussing issues concerning collaboration with the municipalities. The working committee also prepares the information prior to board meetings. On the whole, these organisational changes have meant that biosphere work has now been increasingly integrated with municipal activities and that inter-municipal collaboration has strengthened.

In the future, however, the board hopes more funding organisations and stakeholders will be represented in its work, such as Region Västra Götaland. The County Administrative Board in Västra Götaland has a representative on the board, but the county administration has not been very active in recent years. Recently, however, a number of projects dealing with ecosystem services have reinitiated some of these contacts with the county administrative board.

### 4.3.3 Working model and funding

Daily operations are headed by the biosphere coordinator and a project manager. Previously, the association used working groups, which eventually “came to nothing”, as one informant put it when we asked about what happened to them. In the future, the association hopes to begin developing its efforts with the working groups again, and in 2018, the Naturnytta

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<sup>15</sup> Since the autumn of 2017, the biosphere coordinator has had a half-time position as a biosphere coordinator. In addition to the biosphere coordinator, a project manager is employed.

Biosphere Group was launched. It includes the local Nature Conservation Association, municipal ecologists and municipal developers as well as the County Administrative Board. The aim of the group is to discuss current issues and activities connected with ecosystem services and the benefits of nature (2018 annual report). There is also an anticipation that more land-owners will become involved in the work of the biosphere in the future.

Previously, the biosphere organisation concentrated more on leading, process facilitation and serving as an arena for various stakeholders, including the fishing industry in Lake Vänern. From 2009 to 2015, for example, the biosphere organisation was the principal for a European Fisheries Area dealing with sustainable fishing in Lake Vänern. The work placed great emphasis on developing new forms of collaboration that could provide the fishing industry added value for its products and services. The EU Fisheries Fund, Region Västra Götaland and the biosphere reserve's three municipalities provided funding for the development of the Fisheries Area. The Fisheries Area, which serves as a LEADER Area, facilitated fishermen collaborating with each other and making Vänern vendace roe (Vänerlörrommen) an established brand.

The Fisheries Area also facilitated making the whole of Lake Vänern a common Fisheries Area based on locally led development during 2014–2020. To date, about 20 projects have been implemented linked to the fishing industry, both within commercial and sport fishing. The biosphere organisation has also established the GULLD fund<sup>16</sup>, where individuals and organisations can apply for money for activities that promote sustainable development in the biosphere reserve. The fund is financed through donations from different organisations, companies, private individuals and others, and is managed by the board of the biosphere reserve.

In addition to a grant of about SEK 400 000 per year from the Swedish Environmental Protection Agency, the three participating municipalities contribute with funding to the biosphere organisation's work. The funding covers the salaries for the biosphere coordinator (50 %), project manager (50 %) and the operating costs of the biosphere office. The project manager is employed full time, so the biosphere office depends on project money to cover the remaining salary cost. Membership fees from individuals, associations and companies also provide some funds. The biosphere organisation also seeks project funding to implement development initiatives. In a discussion about funding the work, one informant states that “the hunt for money determined our activities in the beginning”.

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<sup>16</sup>The GULLD acronym stands for Globala Utmaningar, Lokala Lösningar & Drivkrafter (Global Challenges, Local Solutions & Driving Forces).

#### 4.3.4 Challenges and success factors

An important challenge the biosphere organisation has had to face since the designation is how to encourage and maintain involvement among participating actors. Informants note that, initially, many were very active, but the commitment among participating actors gradually declined. There have been occasional spikes in involvement in connection with notable projects, but even for specific projects it has been difficult to maintain interest after the project period.

Other challenges involve the difficulty of measuring the results of the extensive collaborations over the years, something that has become apparent with the ongoing 10-year UNESCO periodic review. Earlier, there have been no tools to measure either effects or procedures for communicating results. Over the past years, however, indicators and routines for communication and measuring effects have been developed. The difficulty in measuring the effects has also been one of the reasons for earlier municipal critique of the biosphere work.

Since its designation, the biosphere organisation has more tightly integrated with municipal activities by organising the position of biosphere coordinator administratively under Mariestad Municipality and through establishing the inter-municipality working committee under the board. This has provided the municipalities with greater influence over the work of the biosphere, while at the same time contributing to ensuring continued involvement and core funding from the municipalities.

Having the work of the biosphere more closely integrated with municipal activities does, however, pose the risk that non-municipal actors may become less interested in becoming involved in biosphere-related activities. Informants from both the private and non-profit sector say there is a risk that biosphere work may be seen as merely a “municipal matter”. In the long run, such perceptions could undermine the aim of being a non-profit association, i.e., to ensure broad-based support among the public. According to our assessment, there is an awareness of this dilemma in the biosphere organisation and it intends to focus on building a stronger network and involvement from the local private and non-profit sectors in the future.

The organisation also intends to promote collaborations, not only with local actors but also with national and international organisations. It is hoped that greater national awareness of Lake Vänern Archipelago Biosphere Reserve will increase opportunities for future project collaborations. As one informant expressed it: “We want to be a model area, but then others higher up also need to know that we exist and that we have an organisation capable of taking on various assignments”. Informants also request clarification from the National Programme Committee for the MAB Programme about the overall strategic guidelines for the biosphere reserves. At the same time, representatives from the biosphere organisation emphasise that they want to avoid too much control from above.

#### 4.3.5 Summery reflections

Lake Vänern Archipelago Biosphere Reserve celebrates its tenth anniversary as a biosphere reserve this year (2020). Over the years, it has participated in several different biosphere-related projects. During 2009–2014, the biosphere organisation's responsibilities included a Fisheries Area. This meant that, at an early stage, a great deal of attention focused on Lake Vänern and the fishing industry. In recent years, the work has increasingly focused on communication projects aimed at inspiring others to contribute to sustainable societal development and on linking biosphere efforts to the 2030 Agenda. Much time has also been devoted to restoring confidence in biosphere reserve work among the three participating municipalities. During 2017–2018, the biosphere association went through a minor reorganisation involving the establishment of an inter-municipal working committee under the association's board.

In practice, these changes have meant that the participating municipalities now have greater influence over the biosphere association than before, which seems to have contributed to greater confidence in the association and paved the way for new inter-municipal collaborations. Historically, Lidköping and Götene municipalities have collaborated with each other, but thanks to the biosphere, new collaborations have evolved to include Mariestad Municipality. Several informants highlight this as a positive organisation effect of the biosphere work. In the future, the association intends to re-establish and expand contacts with the private and non-profit sectors and to further develop contacts with Region Västra Götaland and the County Administrative Board.

## 4.4 Nedre Dalälven River Landscape

Nedre Dalälven River Landscape Biosphere Reserve extends along the lower course of Dalälven (River Dal), a distance of 170 kilometres. The river represents an ecological boundary between northern and southern Sweden and has long been targeted for various nature and conservation projects. The preliminary study for a potential biosphere reserve began in 2003, and the area was officially designated a biosphere reserve in 2011. The principal for the biosphere reserve is Nedre Dalälven Interest Association (NeDa).

The biosphere reserve extends over nine municipalities, and at the time of establishment, the total area corresponded to about 308 000 hectares. The River Dal borders four counties: Dalarna, Västmanland, Uppsala and Gävleborg. The core areas covers 23 400 hectares and consists largely of Färnebofjärden National Park. The buffer zones covers approximately 19 000 hectares, and the remaining area consists of a development area corresponding to 86 per cent of the biosphere reserve's area. At the time, when the area was designated as a biosphere reserve (in 2011), there were about 66 000 residents living in the area. About half of the residents live in one of the main population centres: Säter, Hedemora and Avesta (Nedre Dalälven, 2011). Today, however, the geographic area of the biosphere reserve has “unofficially” increased. In 2013, the board of the biosphere decided to expand the size of the area to include the entire municipalities of Säter, Hedemora, Avesta, Heby, Tierp and Älvkarleby and the southern parts of Sandviken and Gävle.

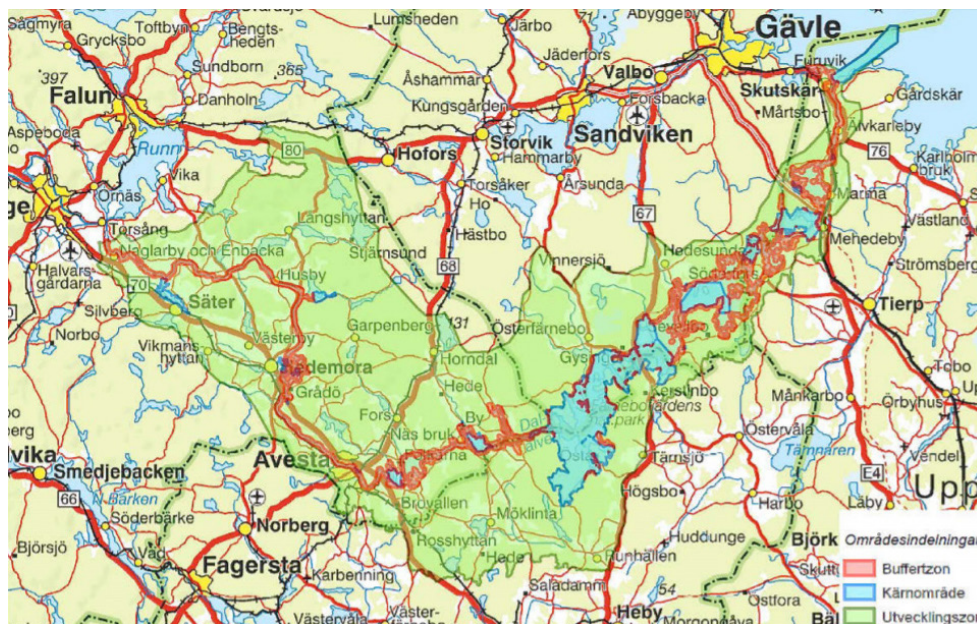


Image 4. Map of the biosphere reserve boundary.

Source: Application to UNESCO, 2010.



#### 4.4.1 The biosphere organisation's mission

The biosphere reserve's mission is closely linked to other activities conducted at the office in the town of Gysinge, where NeDa, its subsidiary NEDAB, and the Nedre Dalälven LEADER office are located. This co-location is important for the biosphere reserve's mission and focus, as it enables synergies between different activities. In addition to sharing office space, NeDa's executive director also serves as the operations manager for the LEADER office, and two of the biosphere reserve's board members are on LEADER's local development group (LAG). Informants note that, in the future, it should be possible to coordinate biosphere activities even more extensively with the objectives and strategies of the LEADER programme.

Thanks to collaboration with LEADER, the biosphere has been able to implement an extensive communication initiative through the project known as "BUS in the biosphere". The acronym stands for Bevara, Utveckla, Stödja (in English, "Conservation, Development, Support"). LEADER awarded SEK 3.8 million to the project. Through "BUS in the biosphere", the biosphere organisation has hired a part-time project manager/communications officer to work strategically with communication and highlight the biosphere reserve's mission.<sup>17</sup>

A recurring challenge has been establishing a "biosphere identity" with the biosphere organisation's board, since the organisation's scope has expanded to include much more than just the biosphere reserve. The biosphere reserve is one of NeDa's three focus areas; the other two are Destination Nedre Dalälven and Biological Mosquito Control. The task of entrenching the work of with the biosphere reserve as part of NeDa's identity through communication is partly influenced by how the biosphere reserve was developed in the first place. NeDa's work fit well with the biosphere concept, and several actors perceived the biosphere designation as "being awarded for their efforts", as one informant put it.

Informants maintain that it is difficult to build support for the biosphere concept among the public as a whole, especially in the media. Some informants argue for clearer guidelines "from above" (such as the National Programme Committee for the MAB Programme) about how to define and communicate the biosphere reserve concept. Other informants argue that media attention all too often is about NeDa's work with mosquito control instead of the efforts taking place with the biosphere reserve.

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<sup>17</sup> In 2020, the communications officer will assume the position of biosphere coordinator.

#### 4.4.2 Biosphere governance and key actors

Nedre Dalälven River Landscape Biosphere Reserve is organised under Nedre Dalälven Interest Association as the official principal. The interest association has a subsidiary, Nedre Dalälven Development Company (NEDAB), which mainly handles mosquito control. NeDa and the biosphere office have the same board of directors.

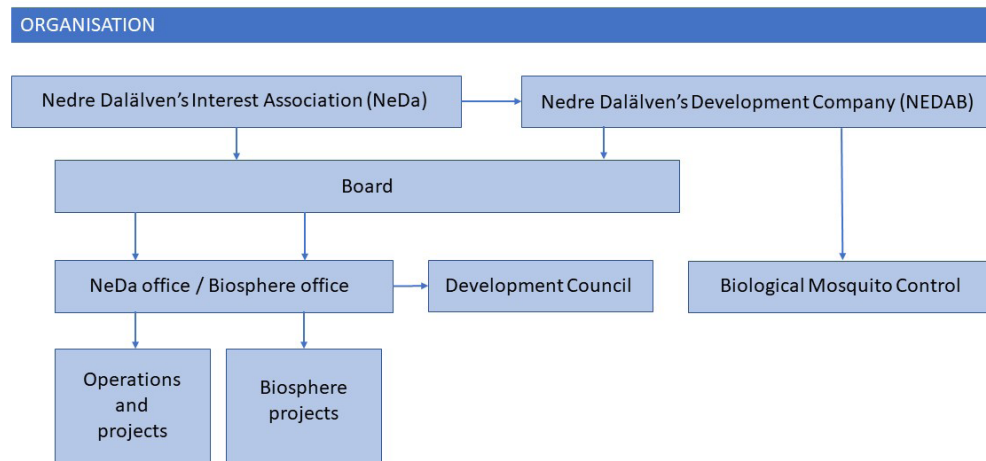


Figure 1. Involved parties of the organisation.  
 Source: Nedre Dalälven's 2019 annual report.

The operational work of the biosphere office is mainly conducted by NeDa's executive director, along with the biosphere coordinator and project managers for biosphere-related projects, primarily related to sustainable fishing, sustainable tourism and open landscapes.

The strategic decisions are made by NeDa's board, which consists of politicians from the municipalities included in the biosphere reserve. Previously, only the chair of the municipality board took part, but now individuals with other roles are included. The nine municipalities represented on the board are: Sandviken, Gävle, Hedemora, Heby, Älvkarleby, Säter, Avesta, Tierp and Sala. The board also has two tourism companies as representatives from the private sector and one representative each from the Federation of Swedish Farmers (LRF) and Fortum<sup>18</sup>, who represent land and water owners in the area. The chair of the Sandviken Municipal Executive Committee serves as chair of the NeDa board. The board meets four times a year and is appointed by the annual general meeting.

To gain broader support and participation from academia, NGOs, public authorities and others kinds of organisations that are not formally members of the NeDa board, a development council convenes every two years. The

<sup>18</sup> Fortum is a Finnish partly state-owned energy company focusing on the Nordic and Baltic countries, Poland, Russia and India. Fortum operates power plants, including hydro-power plants, in Nedre Dalälven river landscape.

Development Council's task is, among other things, to be involved in influencing and advising on the biosphere reserve's future work and focus. The development council's most recent meeting (April 2019) had eighteen participants representing universities, NGOs, the private sector and various public authorities<sup>19</sup>.

The NeDa Interest Association have a large number of members, including members from municipalities, land and water owners, and the private, public and non-profit sectors.<sup>20</sup> In a discussion of how stakeholder representation has changed over the years, informants noted that the main difference is less involvement of forestry companies, partly due to the split of the forestry company Bergvik Skog. Increasing the involvement of the forest sector and universities and university colleges is a priority for the future work. Several informants describe the current organisational structure for biosphere work as "a perfect fit", thanks to NeDa's ability to pool both resources and competencies from the organisation's different operations.

In our interviews, informants felt it was difficult to involve the regions in biosphere-related work. The public sector, in the form of the County Administrative Board and regions, is currently not represented in the biosphere organisation. Indirectly, however, both the regions and the County Administrative Board are involved through NeDa's work with mosquito control, fisheries conservation and tourism. Informants also expressed a desire to involve the municipalities more in biosphere-related work. During the biosphere candidacy, not much work was carried out to build support for the biosphere idea with the municipalities since they were already represented on NeDa's Board. This probably contributed to the current perceptions of absence of commitment from the municipalities. The potential for additional financial commitments from the municipalities to the biosphere reserve is also considered as limited since they already invest money in the core funding (about SEK 60 000 per municipality per year).

#### **4.4.3 Working model and funding**

The working model for the biosphere reserve relies on the intertwined organisational form used by NeDa and its subsidiaries. However, the fact that NeDas' organisational form is an "interwoven bouquet" contributes to the fact that "it can be difficult for people to see the point and communicate what a biosphere reserve is about", as one informant explained. The close connection to the LEADER organisation is however, of great importance for the biosphere's work. Interviewed staff members state that LEADER is an important "toolbox" for implementing NeDa's mission. In the past, the NeDa

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<sup>19</sup> Representatives from the University of Gävle, the Green House of Science (Gröna kunskapshuset), the Swedish Forest Agency, the Uppland Foundation, the Swedish Society for Nature Conservation, NeDa staff and the municipalities of Heby, Avesta, Tierp, Sandviken and Gävle.

<sup>20</sup> The association includes Fortum, Vattenfall, Billerud Korsnäs, LRF, the Uppland Foundation, Avesta Industristad, folk high schools and a number of tourist companies and campsites in the geographical area.

LEADER programme has funded several biosphere-related projects in the area. The start of the BUS project, which funded communication activities, marked an important turning point for the work with the biosphere reserve. The project began in 2016 and will continue until 2022. It works to inspire and implement new initiatives to improve sustainability and to strengthen the biosphere reserve's brand.

An advantage of the current organisational model is that it allows the different organisations to support each other. The model allows for pooling resources and staff from NeDa's different activities, which opens up for synergies among different areas of the organisation. At the same time, this complex organisational model makes it difficult to differentiate between the biosphere reserve's mission and results and LEADER's activities, since their operationally overlapping geographical areas.

In addition to SEK 400 000 from the Swedish Environmental Protection Agency, the biosphere's core funding also comes from various projects, currently mainly from LEADER. In the coming years, funding from the Swedish Environmental Protection Agency is planned to finance a 40 per cent position to help out with UNESCO's 10-year periodic review. NeDa also receives funding from the nine participating municipalities, which each pay an annual fee of SEK 60 000 to the interest association. Seven of the municipalities also pay a separate fee to NEDAB for mosquito control.

Stakeholders such as power companies, the forest industry, folk high schools, industrial companies and tourist entrepreneurs contribute to funding to the organisation through membership fees, service fees and sometimes also with project money. The Alsbo Ägg poultry and egg producer also supports the biosphere with an annual SEK 40 000 contribution.

The total funding has been described as "insufficient" in relation to the biosphere reserve's aspirations and commitments. A lot of time is spent writing project applications, and one informant states: "If someone who works part-time has to go out and find funding, there is no actual work being done". Informants would like to see more core funding from the Swedish Environmental Protection Agency, among others.

#### **4.4.4 Challenges and success factors**

Thanks to its organisation under the NeDa Interest Association, Nedre Dalälven River Landscape Biosphere Reserve has been able to carry out relatively many collaborative projects involving several different local actors and stakeholders. One example noted in our interviews is a fishing and water project. Six years ago, it was decided that all water-based activities in Sweden would be subjected to environmental assessments and that five watercourses, including Dalälven, would be investigated. At the time of environmental assessment, a survey of different aquatic environments and values was taking place in the biosphere reserve. NeDa saw a need and an opportunity to coordinate information between the two initiatives and started a project aimed at sharing knowledge about fishing and water use in the area. People at Neda and the

biosphere office invited various actors connected to fishing and water use to the river network meetings and appointed a group to collaborate on fishery management. The group produced a joint report to the Swedish Agency for Marine and Water Management and contacted a number of parliamentarians to influence the upcoming environmental impact assessment. One member of the group describes the importance of NeDa's role and the group's work as follows:

*“The [environmental impact assessment] was a crucial issue for the region. Some argued that the issue was complex and unexplored. And it was complex, although we had supporting documents. It would not have been possible if we hadn't been a neutral party [NeDa] that could bring people together to discuss the issues.”*

The biosphere organisation's role as a coordinating and neutral party was also dependent on NeDa's history in dealing with fisheries issues in the past. Fishery management has been a central part of NeDa's identity and mission since the organisation started in the 1980s. Perception of NeDa as a neutral party proved crucial to reconciling the various interests, instilling the confidence needed to promote dialogue among local stakeholders. Their success in influencing a national inquiry is considered a significant result of the long-term collaboration on water and fishing issues within NeDa.

Establishing a biosphere identity is a challenge that is largely a question of communications. Despite the increased focus on communications within the BUS project, challenges remain in identifying and communicating the biosphere reserve's identity both internally and to external stakeholders. Support at the national level is asked for, as illustrated in the following quote:

*“It has been said that support should come from below, and that is a good idea, but sometimes this can be facilitated by some structure or guidance for how to build support, to raise its [the biosphere reserve] status. This could be in the form of a handbook or a tool that advertises to all of Sweden that we actually have seven biospheres and to market this. To say that what we have is unique is not enough, if you cannot explain to people how it is useful.”*

As previously noted, the board decided in 2013 to expand the biosphere reserve without building public support in these new areas, creating a democratic dilemma. According to informants, the enlargement of the biosphere reserve was supported by the participating municipalities. The decision to expand the geographical area was also supported by the Swedish MAB Programme, and in the upcoming 10-year evaluation, the organisation intends to apply to UNESCO for authorisation to include the new area.

Another challenge concerns public perception of the biosphere reserve's role and mission in a planned construction of two data centres in the bio-

sphere reserve (in Horndal), which will account for about three per cent of Sweden's electricity consumption. Establishing such a facility would also imply the use of cooling water from surrounding lakes in the Dalälven drainage basin. In discussions about future development in Horndal, our informants have different views on the role and mission of the biosphere organisation. Some of the informants assert that the biosphere office should take on the role of mediator in the matter, while others maintain that building a data centre is incompatible with the biosphere idea.

#### **4.4.5 Summary reflections**

Affiliation with Nedre Dalälven Interest Association and its long history of development work in the area, along with close collaboration with the Nedre Dalälven LEADER office, are important success factors in finding funding and synergies for the biosphere reserve. There are significant advantages with the current form of organisation used by Nedre Dalälven River Landscape Biosphere Reserve. It enables the organisation to bring together both resources and competencies from the organisation's various branches. The fishery management project, in particular, exemplifies this. In this particular project, project managers from the biosphere reserve facilitated arenas for dialogue and collaboration between different stakeholders associated with water and fishery management in light of a public national environmental impact assessment.

At the same time, challenges remain in establishing a "biosphere identity" both within the organisation's board and among the public as a whole. In 2016, however, a biosphere project was launched that works towards long-term and strategic initiatives to improve the biosphere reserve's brand and identity. The challenge of establishing an identity is also complicated by the redrawing of the boundaries of the biosphere reserve without any significant effort to build support for this in the local community.

## 4.5 East Vättern Scarp Landscape

About 40 000 people live in East Vättern Scarp Landscape Biosphere Reserve, an area that covers 104 000 hectares. The core areas make up slightly more than two per cent of the total area, approximately 2 120 hectares. The boundaries of the biosphere reserve are based on parish borders, primarily in Jönköping Municipality, but also in parts of Tranås Municipality. The area includes the south-eastern part of Lake Vättern, with Visingsö island and the small-scale forest and agricultural landscape east of the lake as well as the towns and communities of Huskvarna, Ölmstad, Tenhult, Kaxholmen and Gränna. The biosphere reserve includes a number of protected areas (28 Natura 2000 areas, 34 nature reserves, 31 habitat protection areas and 23 nature conservation contracts) comprising a total area of 1 948 hectares.<sup>21</sup> Large parts of the biosphere reserve have also been singled out as of national interest for nature conservation (39 600 hectares) and as being of national interest for cultural heritage (6 500 hectares). East Vättern Scarp Landscape mostly consists of privately owned land distributed among about 1 000 private landowners (East Vättern Scarp Landscape, 2012)



Image 5. Map of East Vättern Scarp Landscape.

Source: <https://www.ostravatterbranterna.se/besok-och-upplev/> [29 May 2020].

<sup>21</sup> This area does not include water protection areas or areas protected through the species and habitat directive for certain lakes in the area, including all of Lake Vättern.

#### 4.5.1 The biosphere organisation's mission

To understand how different stakeholders in East Vättern Scarp Landscape Biosphere Reserve view the biosphere's mission and organisation, we need to understand how the biosphere reserve came into existence.<sup>22</sup> Its origins can be traced to a number of natural resource conflicts between representatives from the Gränna Forest Group (Gränna Skogsgrupp) and individual landowners from the late 1990s into the 2000s. The conflicts included the right of individual landowners to log forests, on the one hand, and the need to protect land through nature reserves or biotope restrictions, on the other. To resolve these conflicts, a group was formed by the initiative of the County Administrative Board with representatives from the board's nature conservation unit, the Swedish Forest Agency, the Gränna Forest Group and the Federation of Swedish Farmers (LRF).

The group met monthly for several years, gradually leading to the work becoming increasingly institutionalised. The group initiated various collaborative projects where there was agreement among the different stakeholders. The focus was on joint projects for land in need of active cultivation to benefit biodiversity, such as pastures and meadows. Members of the group also arranged a joint study trip to Romania and became involved in the management of old pollarded trees and in projects developing new forestry plans, which try to combine conventional forestry with measures to protect natural and cultural values. Over the years, the World Wildlife Fund (WWF), Södra Forest Owners and LRF have supported this work financially, and in 2008 UNESCO approved the candidature of East Vättern Scarp Landscape as a biosphere reserve.

East Vättern Scarp Landscape defines its main mission as being a neutral arena to enable dialogue and collaboration among different actors and stakeholders in the area. Several informants single out East Vättern Scarp Landscape Biosphere Reserve as an arena for dialogue and collaboration among the stakeholders in the area, particularly collaboration projects within green industries. Everyone we interviewed seems to agree that even if there are disagreements on different issues, the association should still serve as a platform for dialogue and not take a stand on controversial issues.

#### 4.5.2 Biosphere governance and key actors

East Vättern Scarp Landscape is organised as a non-profit association. The composition of the organisation largely reflects the original stakeholders involved in forming the biosphere reserve in 2012. According to its statutes, the association's board is to be composed of representatives from the biosphere reserve's founding organisations, which include the Gränna Forest

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<sup>22</sup> You can read more detailed information on the origin of East Vättern Scarp Landscape Biosphere Reserve in Olsson, R. (2012). *A wonderful Friday: From Conflict to Cooperation in East Vättern Scarp Landscape*. Gränna Forest Group; Gränna. See also Sandström and Olsson, 2012.



Group, Jönköping Municipality<sup>23</sup>, LRF, the County Administrative Board of Jönköping County, the Swedish Forest Agency, Södra Forest Owners and WWF. In addition to these organisations, individuals are also elected on individual mandates.

## Biosphere Reserve East Vättern Scarp Landscape

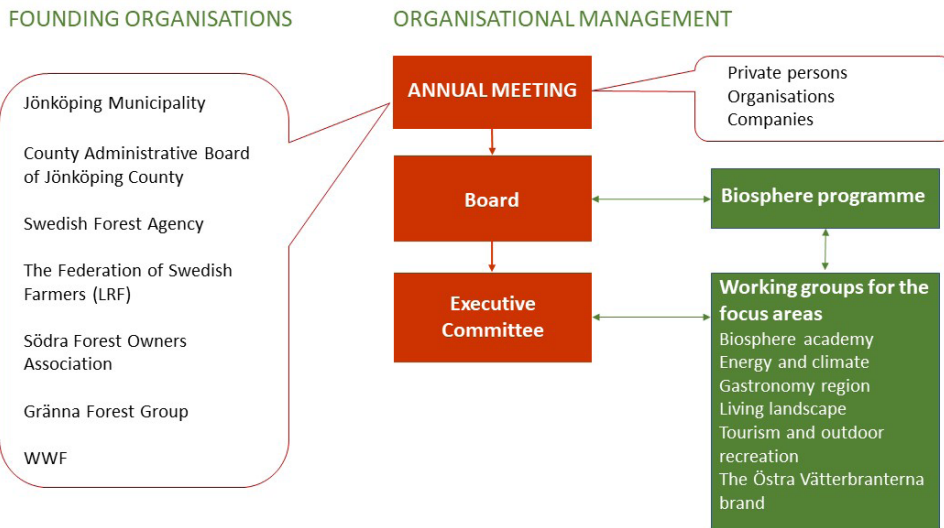


Figure 2. The East Vättern Scarp Landscape organisation and stakeholder chart showing the founding organisations and the organisation's management, including the annual meeting, board of directors and working committees.

Source: <https://www.ostravatterbranterna.se/om-oss/organisation/> [21 May 2020].

The board's responsibilities include implementing the decisions of the annual meeting and ensuring that the association's activities are developed according to the association's core values. The board meets 5 to 10 times a year, depending on needs. An executive committee works with the biosphere coordinator on the association's ongoing activities. Among other things, this involves preparing agendas for the board and making decisions in matters the board has delegated.<sup>24</sup> In addition to the biosphere coordinator, the executive committee includes the chair of the board, a unit manager from the County Administrative Board and a co-opted board member.

The association has about 115 registered members (2020). Since designation of the biosphere reserve in 2012, the Swedish Forest Agency and LRF have left the association and there is now uncertainty about how to handle the situation. The Swedish Forest Agency chose to leave the biosphere association because the agency believes it is not legally appropriate for a public

<sup>23</sup> The East Vättern Scarp Landscape Biosphere Reserve also includes part of Tranås Municipality, but Tranås Municipality is not represented on the board or to any significant extent in the biosphere association's work.

<sup>24</sup> More detailed descriptions of the roles of the board, the biosphere coordinator and the executive committee are available at: [www.ostravatterbranterna/Dokument/Verksamhetsideochriktlinjer](http://www.ostravatterbranterna/Dokument/Verksamhetsideochriktlinjer)

authority to participate in a non-profit association.<sup>25</sup> LRF left the association because the federation believes landowner interests are already represented through Södra Forest Owners.

Since two of the founding organisations have left the board, the County Administrative Board and the municipality in particular have become increasingly important stakeholders for the work of the biosphere. The County Administrative Board is a member of the association's executive committee, and its representatives are actively involved in several different working groups. Region Jönköping and the global company Husqvarna Group<sup>26</sup> have been mentioned as potential future partners that could also participate and contribute financially to biosphere reserve related activities.

#### 4.5.3 Working model and funding

The biosphere reserve's work is based on six different themes with six different focus groups:

1. The Biosphere Academy provides information and education about biological diversity and the 2030 Agenda, such as training of biosphere ambassadors; various types of courses, seminars and conferences; and initiates research projects.
2. *Energy and Climate* works on reducing climate impact by promoting sustainable energy production, sustainable consumption of goods, sustainable transport, durable construction and reduced energy use. The group also organises study circles on renewable energy and runs projects that aim to produce biochar from pollarded trees.
3. *Gastronomic Region* coordinates initiatives to ensure that the biosphere is associated with the production of "genuine" and authentic, products and food experiences. The group also works on increasing consumer awareness of the positive effects of food production and encouraging food shopping with a sustainability perspective.
4. *Living Landscapes* works with various initiatives to develop and support small-scale agriculture and forestry in the biosphere through initiation and participation in projects promoting ecosystem services and biodiversity.
5. *Tourism and Outdoor Recreation* works with developing the tourism industry and outdoor recreation in the biosphere through projects that make it easier for people to venture into nature.
6. *East Vättern Scarp Landscape Brand* works with producing information used for strategic communications about the work of the biosphere. The group also develops guidelines and proposals for ways of simplifying the name and communicating it in different contexts.

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<sup>25</sup> However, the County Administrative Board and Jönköping Municipality have interpreted the legal options differently and have no legal misgivings about being part of the board of a non-profit association. The Swedish Forest Agency is also represented in the work of the biosphere at the national level on the National Programme Committee for the MAB Programme.

<sup>26</sup> The Husqvarna Group is a Swedish manufacturer of outdoor power products including chainsaws, trimmers, brushcutters, cultivators, garden tractors, and mowers.

In addition to the above focus groups, plans are underway for a focus group within social sustainability, which could address one of the biosphere organisation's integration projects. All members of the association have the opportunity to become involved in one of these six focus areas. In 2019, these groups conducted about 30 projects and participated in about 25 public events (East Vättern Scarp Landscape's 2019 annual report).

The broad representation of different members in the association continues to enable innovative collaborative projects within the agricultural sector. One project highlighted by several informants as a particularly successful collaborative effort is the Broadleaf Success Project, a 2018–2020 green infrastructure initiative in collaboration with Södra Forest Owners, the Swedish Forest Agency, SLU, LRF and the Jönköping County Administrative Board, with project money from WWF. The aim of the project was to develop models for creating landscape sections with a green infrastructure of deciduous forests in different stages of successive growth (Jönköping County Administrative Board, 2017).

The many previous years of work in the biosphere reserve, with close cooperation between landowners, non-profit organisations and authorities, contributed to the choice of East Vättern Scarp Landscape as a suitable model area for the forest project. The biosphere organisation's role as a "neutral arena" for dialogue and collaboration has also come into play with discussions of possibly starting a mine in the biosphere reserve. The biosphere organisation initiated seminars about the planned mine, inviting key stakeholders who were for and against possibly opening a mine in the biosphere reserve.<sup>27</sup> Already in 2013, the biosphere association had adopted a policy stating how the biosphere association views the possibility of a mine in the biosphere reserve based on the biosphere organisation's core values.<sup>28</sup>

The East Vättern Scarp Landscape Association was formed with the idea that all seven founding organisations would contribute about the same amount financially, but this did not materialise. In addition to the national contribution from the Swedish Environmental Protection Agency (400 000 SEK annually), Jönköping Municipality contributes funds that cover the biosphere coordinator position and Södra Forest Owners contributes SEK 25 000 annually. The association also receives some membership income from other founding organisations, companies and private individuals. The County Administrative Board primarily contributes with staff resources through participation in the executive committee, focus groups and in the board's work. In addition to the above core funding, East Vättern Scarp Landscape finances its operations through various kinds of project funds.

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<sup>27</sup> <https://www.ostravatterbranterna.se/wp-content/uploads/2016/10/Dokumentation-fr%C3%A5n-workshop-om-grubrytning-och-h%C3%A5llbar-utveckling.pdf>

<sup>28</sup> <https://www.ostravatterbranterna.se/wp-content/uploads/2015/07/%C3%96VBs-v%C3%A4rdegrund-och-brytning-av-mineraler.pdf>

Employment of the biosphere coordinator is administratively managed by Jönköping Municipality's Trade and Industry Department. Some individuals, such as staff at the County Administrative Board, have had the opportunity to work as part of their regular employment with the biosphere, while others work entirely or partly on a volunteer basis. Volunteers can occasionally receive compensation when the resources allow, and board members receive some compensation (SEK 500) per meeting they participate in.

#### **4.5.4 Challenges and success factors**

During the formation process of East Vättern Scarp Landscape Biosphere Reserve, members chose to organise as a non-profit association to ensure a broad-based organisation with strong local ties. This organisational form has provided some degree of stability through involvement from the board's seven founding organisations. Since the designation, however, two of the founding organisations have chosen to leave the association. At the same time, a couple of key individuals have also scaled down their involvement. On the whole, these changes have brought some uncertainty about how the association should handle its future work, both in terms of organisational form and focus.

However, the changed circumstances have also opened up new opportunities to consolidate the association's operations and possibly look for new strategic partners. The changed circumstances have also facilitated a shift in the organisation's interest areas from focusing primarily on the natural resource governance and management to include a wider range of sustainability efforts.

Conversations with informants highlights the need for funding that can cover the costs of at least one additional full-time position, but informants also would like to see unearmarked project funding to support more work on strategic issues. Some informants describe the biosphere coordinator's work as unlimited. This is partly attributed to some focus areas not working as intended combined with overly ambitious objectives in relation to the existing financial framework. Some informants also describe an "imbalance" in how committed board members are and whether or not individuals receive compensation for the work they do. Part of the association's work is done on a voluntary basis and part is performed by individuals receiving economic compensation. The mixture of paid work and volunteer association work is sometimes described as problematic. For example, volunteer work is mostly done in evenings and weekends, while those receiving compensation prefer to work on weekdays. A couple of informants would like to see better opportunities to compensate individuals who spend a lot of time as volunteers in the association.

Another challenge concerns the difficulties of communicating the biosphere reserve's activities and gaining public support for them. One informant describes how the public as a whole links the word "association" to other types of activities:

*"People link it [the biosphere association] with the football club. But of course those involved include people from government agencies, not just various private individuals. The name non-profit association lumps everything together."*

The fact that the activities are spread over six focus groups is described by some informants as too scattered. "You can essentially push anything into these focus groups," as one informant put it when we asked what the different focus groups do. They also perceive the working method as ideas being "turned into a project all at once", which can mean that long-term strategic work does not materialise to the extent as intended.

The difficulty of communicating the association's aims and working methods in combination with the biosphere reserve's six rather disjointed focus areas means that long-term strategic work has not been done. In the future, the association hopes to concentrate more on fewer, but larger initiatives (projects) that are based on long-term and strategic objectives.

Another challenge is that the activities are dependent on a few individuals. Some informants also express concern that "there is a lack of commitment from some board members, while others are active and try to take charge" and that "it has been difficult to get new members on the board to be more assertive, to make their voice heard and to retain them". Since 2012, the biosphere association has also changed its chair and coordinator several times, which has made it difficult to maintain the continuity and long-term perspective that the association needs. What the board chooses to work with is also very individual-based. For example, there is a risk that the organisation will lose its focus on nature conservation when committed individuals who have worked with conservation issues step down from their positions. This poses a challenge when you want to develop a long-term and clear direction for the organisation's mission and work.

#### **4.5.5 Summery reflections**

The East Vättern Scarp Landscape Biosphere Reserve has existed since 2012, and the biosphere association is facing several significant changes both organisationally and in terms of content. Two of the seven founding organisations have chosen to leave the board, and other key individuals who have previously been involved have also reduced their commitment. The biosphere organisation has also expanded its commitments since 2012 from primarily working with issues related to nature conservation and management to broader sustainability efforts. The biosphere coordinator has also changed several times.

Collectively, these changes have meant that the municipality and the County Administrative Board have taken on bigger roles in biosphere activities, which eventually will affect the organisation's identity, working methods and future direction. Funding is an important issue that needs to be resolved in the future since the founding organisations have not been able to contribute as much financial support as originally intended. This makes securing a long-term funding solution a priority for the future.

Experiences from East Vättern Scarp Landscape Biosphere Reserve clearly highlight both the benefits and challenges involved when several organisations with different logics (cultures) come together to achieve goals and conduct joint projects. In some projects, the hybrid composition of organisations seems to have worked very well, while in other projects frictions have emerged between, for example, volunteer efforts and paid work.

## 4.6 Vindelälven-Juhttáahkka

Vindelälven-Juhttáahkka is Sweden's largest biosphere reserve, encompassing an area corresponding to 1.3 million hectares. About 108 000 people live in the area. Most, 92 per cent, live in the coastal area in the municipalities of Vännäs and Umeå. The area is also a Sami administrative region. A wide range of habitats are represented in the area, which extends from mountains in the west to the Baltic Sea coast. Important land use areas within the biosphere reserve include reindeer husbandry, forestry, tourism, agriculture, hunting and fishing. Juhttáahkka refers to the importance of the Vindel River (Vindelälven) as a migration route for the reindeer industry; it means "migration route" in the Ume Sami language.<sup>29</sup> Historically, the Vindel River (Vindelälven) has also served as a timber floating waterway and as an important migration route for salmon.

The 450-kilometre-long Vindel River – with its largest tributary, the Lais River (Laisälven) – is one of Sweden's four rivers exempted from use for hydroelectric power. The river flows into the Ume River (Umeälven), which is also within the biosphere reserve. Coniferous forest covers large parts of the biosphere reserve. A total of 430 676 hectares, corresponding to 32 per cent of the total area, consists of formally protected nature conservation areas in the form of nature reserves, nature conservation contracts, Natura 2000 areas, and areas that have been voluntarily set aside (2019 Vindelälven-Juhttáahkka application).

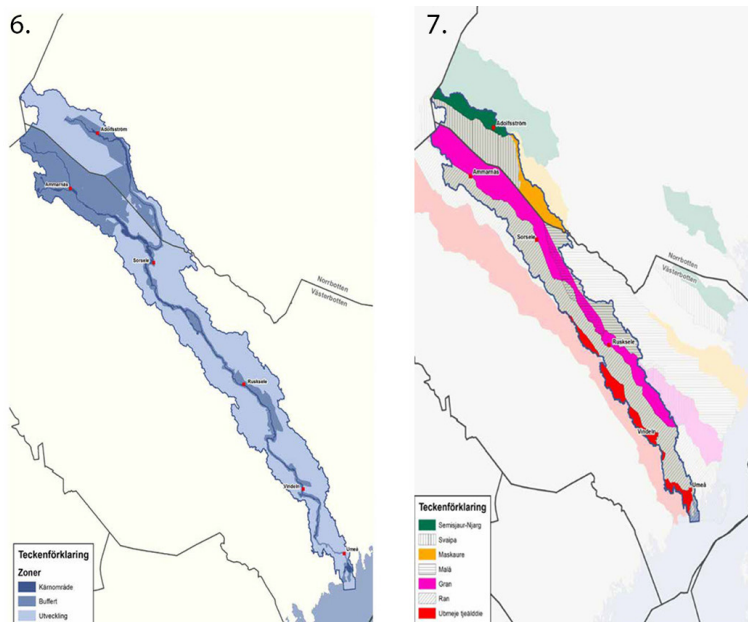


Image 6. The biosphere reserve with its zones. Image 7. Territories of Sami villages (economic associations) in the biosphere reserve.

<sup>29</sup> <https://www.umea.se/umeakommun/byggaboochmiljo/samhallsutvecklingochhallbarhet/klimatmiljooch-hallbarhet/biosfaromradevindalalvenjuhtatdahka.4.561e058815826ceb9fa5987.html> [28 May 2020]

#### 4.6.1 Origins and implementation process

The idea of establishing Vindelälven-Juhtttáhka Biosphere Reserve was initiated by people associated with the economic association of the Vindelälven municipalities (VIKOM), the County Administrative Board of Västerbotten and WWF. The initial idea was to establish the Vindel River as a World Heritage Site. VIKOM raised the idea of a World Heritage Site in 2005 and conducted a study with the support of the County Administrative Board that was completed in 2008. The study pointed out values that had the potential to satisfy criteria for a World Heritage Site, but it required in-depth studies for further assessment. As time went on, interest turned instead towards the MAB Programme and the potential of forming a biosphere reserve.<sup>30</sup>

The idea of developing the river system into a biosphere reserve gained momentum at a meeting held by the initiators in May 2013, attended by about 50 people. Representatives of two other biosphere reserves were invited to participate along with local residents in the river valley, representatives from public agencies, researchers, municipalities, Sami villages<sup>31</sup>, non-profit organisations and companies. The attendees decided to carry out a feasibility study to explore the possibilities of forming a biosphere reserve. The Västerbotten County Administrative Board served as project manager during the feasibility study. The work with the feasibility study continued in 2013 and 2014, involving about 80 people. The study was produced in close collaboration with the Västerbotten County Administrative Board, WWF and the six involved municipalities: Arjeplog, Sorsele, Lycksele, Vännäs, Vindeln and Umeå. In February 2015, the National Programme Committee for the Swedish MAB Programme approved the biosphere candidature for Vindelälven-Juhtttáhka, and a biosphere coordinator was appointed to head the candidature phase and an interim board was appointed. During the candidature, conditions for forming a biosphere reserve were discussed at more than 160 meetings, including four major meetings with stakeholders in the area. Attendees included researchers, students, landowners, business owners, Sami villages, non-profit associations, local history and village associations, municipality boards and public authorities in the area. The six participating municipalities have also had at least one biosphere event per year in each municipality (UNESCO application, p. 93). During the process, the biosphere coordinator and the board also had access to external process support that has helped facilitate meetings and served as project support.

The application to form a biosphere reserve was sent out for comment to the municipalities, Sami villages, various interest groups and public authori-

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<sup>30</sup> Since the 1960s, there has been great interest and activism related to the Vindel River, when a social movement arose to protest against permitting hydroelectric power along the river.

<sup>31</sup> A Sami village (*Sameby*) is not a conventional village but an administrative union within a specific geographical area. Its members have the right to engage in reindeer husbandry in this area. Members in a Sami village also have fishing and hunting rights in certain areas and the right to construct facilities necessary for reindeer husbandry. Sami villages are regulated by Swedish law through the Reindeer Husbandry Act.



ties, and was subsequently revised prior to the Swedish government deciding to officially nominate the area to UNESCO. The final biosphere reserve application for Vindelälven-Juhtttáhka was approved by UNESCO in June 2019.

The geographic scope of the biosphere reserve and its complex land use history have influenced the process of establishing the biosphere reserve. Informants describe how various actors during the candidacy first joined the work to “protect their own interests”. The feasibility study for the candidature indicates that some actors also were sceptical about a possible biosphere designation because they feared that this would mean more restrictions and harm the development in the area. To build further support for the idea of forming a biosphere reserve, consultation meetings were held in the communities of Gargnäs, Blattnicksele, Rusksele, Sorsele, Gransele, Vormsele, Åmsele, Vännäsby, Vindeln, Laisvallen and Adolfström.

Concerns were also raised by the Sami villages with regards to the naming of the biosphere reserve and their representation on the board. The final application submitted to UNESCO describes how “frictions and suspicion”<sup>32</sup> arose during the feasibility study and that there was criticism that the earlier steering group only comprised the project owners (County Administrative Board, municipalities and WWF). However, it was soon agreed that the candidature’s board would have a broader representation.

To address the criticism and achieve the broadest possible representation, the organisation’s interim board now includes 17 members.<sup>33</sup>

#### 4.6.2 Stakeholders and organisation

The interim board, consisting of 17 members appointed during the candidacy phase, has maintained its representative distribution, even though individual members have been replaced or added over time. The board has broad representation, including representatives from the academia, public, non-profit organisations, Sami villages and community representatives living in the area. The chair of the board is the director of the County Administrative Board’s Nature Conservation Unit in Västerbotten County. Forest industry representatives on the board come from the Swedish Forest Agency (permanent) and Sveaskog (deputy). The large private landowners in the form of the forest companies Holmen and SCA are not currently represented on the board.<sup>34</sup>

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<sup>32</sup> Vindelälven-Juhtttáhka application, 2019:166.

<sup>33</sup> A list of the board’s representation (permanent, deputy). • Mountain Municipalities (Sorsele; Arjeplog) • Forest Municipalities (Vindeln; Lycksele) • Coastal Municipalities (Umeå; Vännäs) • County Administrative Board (1 permanent, 1 deputy) • Region Västerbotten (1 permanent, 1 deputy) • World Wide Fund for Nature, WWF (1 permanent, 1 deputy) • Sami Village 1 (Rans Sami Village; Rans Sami Village) • Sami Village 2 (Grans Sami Village; Malå Sami Village) • Mountain Villages (Laisvall; Ammarnäs) • Forest Villages (Rusksele; Vindelgransele) • Coastal Villages (Tavelsjö; Hissjö) • Forestry (Swedish Forest Agency; Sveaskog) • Agricultural industry (1 permanent, 1 deputy) • Fisheries (1 permanent, 1 deputy) • Tourism (Fjällhästen; Gold of Lapland) • Non-profit Organisations (Swedish Tourist Association; Swedish Society for Nature Conservation) • University/Research (Umeå University; Swedish University of Agricultural Sciences).

<sup>34</sup> The Swedish Forest Agency has a permanent seat on the board and Sveaskog, the governmental forest company, has a deputy representative.

This poses a potential problem of representation and could be seen as a limitation, since the forest companies (including Sveaskog) own more than 45 per cent of the biosphere reserve's area. The practices of the forest companies have historically been, and continue to be, widely criticised, especially from actors associated with nature conservation and reindeer husbandry.

In addition to the board members and individuals associated with the Swedish MAB Programme, important partners include the Vindel River Fishing Foundation (Stiftelsen Vindelälvsfiske) and LEADER's Vindel River Fishing District. Both of these organisations distribute project funds to develop the fisheries and water management in the Vindel River.

A working committee of four board members and the biosphere coordinator leads the board's operational efforts. The working committee prepares documentation for the board, takes decisions on project applications and assists the biosphere coordinator, who leads the daily work of the biosphere reserve. The biosphere office consists of a full-time biosphere coordinator, a communications officer who currently works 30 per cent, and two project employees. The biosphere office has no permanent physical location; employees work mainly from their home offices. According to municipality memoranda of understanding from 2020, additional support for the efforts of the biosphere has been added in the form of five 25-per cent positions from five of the six participating municipalities. In addition, the biosphere office has trained about 20 biosphere ambassadors, who work as volunteers to inform the public about the biosphere reserve. In 2020, the biosphere organisation was turned into an economic association with its own budget responsibility and its own administration. By forming an association, the organisation hopes to receive additional support from stakeholders who support the biosphere's goals and visions.

The vision for Vindelälven-Juhttátahkka reads "wild, beautiful and world-famous". Strategic efforts to achieve the vision is guided by the application to UNESCO and by the operational plans and development documents that have been prepared in connection with its application. These strategic documents have largely been guided by the Lima Action Plan (LAP) and the overall objectives stated in the LAP. According to the application to UNESCO, the work of the biosphere reserve should also be guided by the following six focus areas (2019 Vindelälven-Juhttátahkka application):

1. Flourishing landscape
2. Fishing in flourishing lakes, streams and seas
3. Tourism and outdoor recreation for everyone
4. Successful reindeer husbandry
5. Development of the local community
6. Diversity of cultural expressions

### 4.6.3 Funding

Ensuring long-term and stable funding of the biosphere organisation is a challenge and a priority. Basic funding of the biosphere office consists of an annual contribution of SEK 400 000 from the Swedish Agency for Marine and Water Management and a total contribution of SEK 375 000 per year from the six participating municipalities. In addition to these funds, the Västerbotten County Administrative Board provides an allocation of SEK 500 000 to 700 000. However, this funding is described as uncertain and varies from year to year. During the biosphere candidature, WWF also contributed SEK 400 000 per year, but it does not plan to provide further funding in the coming years. The current core financing covers the cost of a biosphere coordinator with expenses. There is also a budgeted fund of about SEK 100 000 per year to support local ideas and projects.

To make planned activities possible, the biosphere organisation needs to seek external project funding. The biosphere reserve's application notes the Northern Peripheral Arctic Project (NPA), EU-LIFE and Interreg Nord as among potential funding bodies. Future membership fees could also generate revenue, but they are not expected to provide large amounts of funding.

### 4.6.4 Success factors and challenges

In our opinion, the biosphere reserve has the potential to become an important arena for mediation and dialogue among different interests linked natural resource management in the area (forestry, reindeer husbandry, agriculture, hunting and fishing). Dealing with the initial friction among the area's different interests and stakeholders testifies to an ability to understand each other's perspectives and reach compromises:

*“Initially, the parties attended only to protect their own interests, but the more meetings we had, the more we began to discuss and understand each other, and attitudes began to change.”*

The board's broad-based representation of different actors has allowed the development of new contexts and new interfaces among the involved actors. An illustration of this is a project in which farmers have begun to produce fodder for reindeer owners. This type of project would probably not have occurred if the board had not been a platform where different actors could meet. The broad composition of the board can be seen as a strength as it brings people together with different skills and backgrounds, especially in matters concerning natural resource management in the area. At the same time, the board's broad representation can be a challenge when, e.g., agreeing on a clear goal for the biosphere reserve's work.

During the interviews, informants emphasised the importance of initiatives that provide fast and visible results while working with the long-term objectives for achieving a sustainable societal development in the area. Maintaining and developing even greater participation and involve-

ment among various actors in the area is seen as an important task for the future. Young people were mentioned as a group to whom it is particularly important to reach out to, especially from a labour market perspective. The geographical size, combined with historical conflicts on land use, presents challenges in terms of ensuring how representative the biosphere reserve is in terms of how it is organised. As previously noted, the two large forest companies, SCA and Holmen, are not represented on the board. Their representation has been a topic of discussion, but so far their participation has proved challenging. Another challenge is related to the ambitious objectives for the biosphere reserve, which at times seem to be almost inexhaustible. Since the process of establishing a biosphere reserve began, Vindelälven-Juhtátahkka has had four different biosphere coordinators in quick succession. Informants describe the biosphere coordinator job as challenging, not only because of the ambitious goals, but also because the work has at times been perceived as insecure in terms of funding and workload.

#### **4.6.5 Summery reflections**

The process of establishing the Vindelälven-Juhtátahkka Biosphere has been extensive. It began in 2012, and the final designation came in the summer of 2019. The area is one of Europe's largest biosphere reserves and the borders of the biosphere reserve follow the drainage basins of the Lais, Vindel and lower Ume Rivers. The geographical size potentially enables innovative models for working towards sustainable societal development, while the biosphere reserve's complex geography and composition of stakeholders and historically competing interests pose major challenges for the biosphere organisation's legitimacy and how representative it can be.

The areas around the Vindel River have long been the subject of several notable natural resource conflicts<sup>35</sup> that continue to influence the work of the biosphere reserve. An important success factor for the candidature was the expansion of biosphere board membership from primarily the project owners to the current 17 members. The current biosphere organisation serves as an arena for several different stakeholders to meet based on, at times, different interests, and it is hoped that these organisational efforts will contribute with constructive dialogues and development projects in the future.

However, challenges remain in meeting the objectives formulated by the biosphere reserve, especially regarding management of forestry issues. In the future, the biosphere reserve might be able to serve as a platform for implementing the regional forest strategy being developed. We see it as a strength that the organisation has succeeded in bringing together many stakeholders with varying interests within the board. However, the biosphere organisation runs the risk of focusing on issues where consensus can be reached, while avoiding dealing with many underlying natural resource conflicts in the area.

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<sup>35</sup> See, for example, Sandström and Tivell, 2005 and Sandström, 2008 for an overview of different resource conflicts and attempts to solve them.

## 4.7 Voxnadalen

The Voxnadalen Biosphere Reserve comprises parts of the provinces of Hälsingland and Dalarna and extends over an area corresponding to 341 500 hectares. Parts of the municipalities of Ovanåker, Ljusdal, Bollnäs and Rättvik are included in the biosphere reserve. The biosphere reserve begins at Voxnan River, with its headwaters in Härjedalen and confluence with Ljusnan River, just south of Bollnäs. In total, the biosphere reserve consists of two per cent of core areas centred around Voxnan and about 32 per cent of the biosphere reserve consists of buffer areas; and the rest is development areas. The majority of Voxnadalen's residents, nearly 13 300 people, live in the development area. About 51 per cent live in Ovanåker Municipality, 41 per cent in Ljusdal Municipality and the remaining eight per cent in Bollnäs and Rättvik municipalities.

The biosphere reserve consists of 80–90 per cent forest, and forestry is an important industry in the area. Of the biosphere reserve's total surface area, 22 000 hectares consist of lakes and watercourses. There are several formally protected areas within the core area, including Hamra National Park, 16 nature reserves, 25 Natura 2000 areas, and one cultural reserve. The biosphere reserve also encompasses a UNESCO appointed World Heritage Site (the Decorated Farmhouses of Hälsingland). In addition to formally protected areas, there are also voluntary protected areas, including 7 700 hectares of forests, in the form of voluntary nature conservation contracts. The biosphere reserve also includes the state-owned company Sveaskog's Grytaberg Ecopark. Large parts of the forest areas are of national interest for conservation and outdoor recreation (2018 Voxnadalen application).

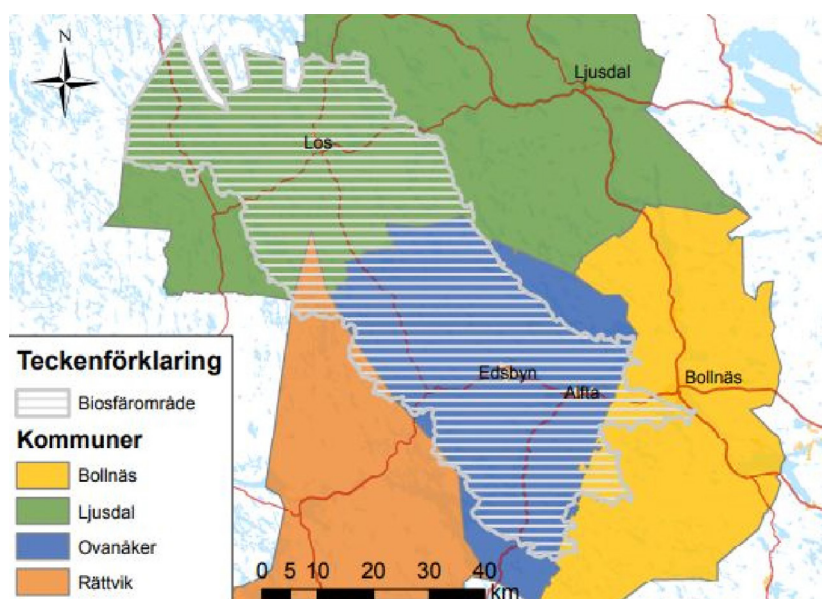


Image 8. Map of Voxnadalen.

Source: <https://www.ovanaker.se/boendeochmiljo/klimatochmiljo/biosfäromradevoxnadalen.947.html> [29 June 2020].

#### 4.7.1 Origins

Voxnadalen's designation as a biosphere reserve is closely linked to the World Heritage designation of the Decorated Farmhouses of Hälsingland. When it became clear that the World Heritage Site would primarily include buildings and their interiors, the idea emerged to form a biosphere reserve that highlighted the area's natural and cultural values from a broader perspective. Since the 1970s, there have been conflicts surrounding the Voxnan River in relation to proposed expansions of hydroelectric power, which partly explains why the biosphere reserve came to be based on the river and its water catchment area.

On behalf of the municipality of Ovanåker, efforts were made during the period 2002–2006 to preserve summer pasture buildings in the area. These efforts were conducted in parallel with a first feasibility study of Voxnadalen as a potential biosphere reserve. Participating stakeholders at the time included Ovanåker Municipality, the Swedish Biodiversity Centre (CBM) at SLU and Gävleborgs Fäbodförening (a pasture association). The feasibility study, which included only Ovanåker Municipality, was called *Ovanåkersbygden med Voxnan och Fäbodskogen* ("Ovanåker District with Voxnan and the Summer Forest Pastures"). While the work on the World Heritage Site application for the Decorated Farmhouses of Hälsingland was completed, the work on the biosphere reserve was set aside. After the World Heritage designation, work with the biosphere candidature resumed and a second feasibility study was carried out with an expanded geographical delimitation. In 2014 the official candidature began with Ovanåker Municipality as the official principal. During the initial phase of the candidature, a steering group was established comprising Ovanåker Municipality, the Gävleborg County Administrative Board, Region Gävleborg, the Swedish Forest Agency, LRF, Mellanskog and the Swedish Society for Nature Conservation. During the candidature, there was also a working group consisting of a biosphere coordinator and officials from the municipalities of Ovanåker, Ljusdal and Bollnäs.

Open workshops and theme days were held to build support for and public awareness of the biosphere reserve. One of the workshops focused on agricultural and forestry stakeholders, and another focused on open landscapes at the Våsbo summer pasture pastures. The biosphere coordinator and a project manager also arranged meetings with stakeholders from universities, university colleges, interest groups and companies. At an early stage during the candidature (in 2015), Ovanåker Municipality also hosted the Swedish MAB Programme's annual seminar.

Relevant authorities, municipalities, companies and interest groups met during the candidature in two consultation rounds (in the autumn of 2016 and the winter of 2017). The first round of referral comments elicited many responses, most of them positive, but some criticism was expressed, especially

from stakeholders from the forest industry. In one referral comment, a forest company<sup>36</sup> wrote:

*“It is difficult not to perceive the process and the proposed approach as anything other than a declaration of war against property rights and prevailing forest policy. [...] A successful biosphere reserve will require real collaboration with owners and users, including obvious positions in governing bodies. In the absence of such a change in the arrangement, [the forest company] will actively oppose the proposal.”*

In the second round of referral comments, the forest company did not submit any comments to the proposed biosphere reserve. Härjedalen Municipality, which initially was included in the biosphere reserve candidature, also chose to opt out in the final stages of the candidature. As a result, the final delimitation of the biosphere reserve became somewhat smaller than originally proposed. The inauguration of Voxnadalen’s biosphere reserve took place in Alfta, Ovanåker Municipality, in September 2019.

#### **4.7.2 Stakeholders and organisation**

The official principal for Voxnadalen is Ovanåker Municipality, and the biosphere office is placed under the Municipal Planning Department. The biosphere office currently consists of a biosphere coordinator and a project manager. The coordinator and project manager are employed by Ovanåker Municipality (both at 80 per cent). However, the overall administrative responsibility is divided between four municipalities: Ovanåker, Ljusdal, Bollnäs and Rättvik. The board, supported by a working group, heads the biosphere reserve’s strategic work.

The current board consists of representatives of Ovanåker, Ljusdal and Bollnäs municipalities; Region Gävleborg; the Swedish Angling and Fish Conservation Association; Mellanskog (a forestry company); the Swedish Association for Hunting and Wildlife Management; the Swedish Association for Transhumance, Pastoralism; the Swedish Society for Nature Conservation; LRF; and the Los Village Council. The board meets four times a year, and the representatives are elected for two-year periods.<sup>37</sup>

The Voxnadalen board of directors is responsible for prioritising the biosphere’s work and strategy, which includes decisions on development plans, operational plans and budgets. A working group also supports the biosphere office’s operational work. It consists of the biosphere office’s staff,

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<sup>36</sup> At the time of the application, the forest company was one of the largest landowners, but it no longer exists and the land has been divided among other companies.

<sup>37</sup> The biosphere reserve also includes Rättvik Municipality, but it is not represented on the board. This is because the municipality’s area and population make up such a small part of the biosphere reserve’s surface area (Voxnadalen application, 2018:125).

municipality ecologists, and environmental strategists from the municipalities of Ovanåker, Ljusdal and Bollnäs.

Regarding the biosphere organisation's representation, one informant states that there is a lack of involvement from small businesses owners, despite written material about the entrepreneurial spirit and entrepreneurship in the applications. During the start of the biosphere candidature, the County Administrative Board in Gävleborg played an active role, but it left the steering group during the candidature phase, fearing it was not in accordance with its role as an inspection and enforcement authority. Conversations with the biosphere office's staff, however, indicated that the staff would like to see greater collaboration with the County Administrative Board and expect it to be developed through the recently approved Rivers of LIFE project. This project is part of the EU's environmental programme dealing with water and fishery management in the Voxnan River.

Representation from the major landowners in the area (forest companies) is lacking. These companies own about 50 per cent of Voxnadalen's area, and attempts to involve their representatives during the biosphere candidature have been challenging (see also 3.7.1). According to informants, the difficulties appear to stem from concern among the companies that the biosphere designation would result future restrictions in forestry. However, several informants working with biosphere-related issues note a good dialogue with the Swedish Forest Agency and say that the projects run by the biosphere organisation have contributed to the forest sector's involvement during past years.

An example of this is the biosphere reserve's work with quality issues in forestry. In November 2018, a forest theme day attracted about 70 people and proved important for the focus of the biosphere organisation. Among other things, it resulted in a project funded by Region Gävleborg aimed at increasing the supply of quality timber to local companies and promoting collaboration among private forest owners. Workshops and educational materials used in the project focus is on Hälsinge pine, but there are also educational materials and study circles for forest owners.

The work of the biosphere reserve is ultimately guided by the application submitted to UNESCO but also by the development plan drawn up in early 2020. Work conducted during the biosphere candidature focused on seven areas, which were narrowed down to three priority thematic areas after comments from stakeholders: i) the forest as a sustainable resource; ii) flourishing lakes and streams; and iii) an open and thriving landscape. All focus areas are linked with both Sustainable Development Goals (SDGs) and the Swedish Environmental Quality Objectives.

To ensure broad local participation, the biosphere office plans to organise an open meeting annually in which organisations and private individuals alike can share ideas and opinions regarding the direction of the biosphere reserve's work. The objective is also to establish focus groups linked to each focus area. At present, a focus group for "the forest as a sustainable resource" is being formed.



### 4.7.3 Funding

Basic funding for the Voxnadalen biosphere reserve comes from the following annual grants: the Swedish Environmental Protection Agency, SEK 400 000; Ovanåker Municipality, SEK 250 000; Ljusdal Municipality, SEK 100 000; and Bollnäs Municipality, SEK 75 000. Region Gävleborg contributes additional project funding that extends until 2022. This money mainly funds two focus areas: “the forest as a sustainable resource” and “an open and thriving landscape”. Some concern has been expressed about long-term funding. Though support from the region is welcome, the biosphere reserve needs to start looking for new funding sources as early as 2021 to secure its operations. In addition to the support from the region, the County Administrative Board’s Life project also provides some funds.

An informant describes the biosphere office’s placement under Ovanåker Municipality as offering security and as “a financial assurance”. However, basic funding, so far, covers only about one full-time position and some related costs, which means there is a “constant hunt” for project funds.

### 4.7.4 Success factors and challenges

An important success factor for Voxnadalen’s formation process is the political support and acceptance that has existed since the idea of forming a biosphere reserve first emerged. Support from the municipality on the part of both officials and politicians has been important in giving the work with the biosphere legitimacy. Political support has primarily been developed with Ovanåker Municipality, but as more and more support has developed, other participating municipalities have also joined to varying degrees.

In the future, the biosphere organisation aims to prioritise project initiatives in areas where the municipal borders of Ovanåker, Ljusdal and Rättvik meet, a borderland closely linked to forestry where stakeholders previously criticised the feasibility study. Another challenge during the formation process concerns the importance of finding the right configuration of stakeholders in steering and working groups. During the candidature, the head of the municipality predetermined the working group, which is said to have caused difficulties in “succeeding in completing” the application. One informant emphasises the importance of having the right skills in the working group. The informant stated the “we went through a tough period when we could not work with the right things”. The challenge of finding a functioning working group prolonged the candidature phase.

However, the fact that the work took time is also described as a strength since the process of building support took longer than anticipated, allowing the organisation time to become established before the designation. Staff now regard the biosphere office as a node for natural resource management, something that was previously lacking. Having an arena in the district for discussing nature conservation issues is very much appreciated.

That Voxnadalen Biosphere Reserve has increasingly become established as a platform for highlighting conservation interests also creates a challenge because it requires clearly defined mandates and authority within the organisation. Since its designation, the biosphere reserve has received several requests to join both national research projects and local nature conservation projects. This means the work ahead requires setting priorities among the requests that are received. Another challenge is the difficulty of communicating what a biosphere reserve is. One informant states that the term “biosphere” is problematic because it is a borrowed word with geophysical connotations, which makes it difficult “popularise” the term.

#### **4.7.5 Summery reflections**

The formation process for the establishment of Voxnadalen Biosphere Reserve was characterised by a combination of different initiatives and interests: the designation of the Decorated Farmhouses of Hälsingland as a World Heritage Site, the designation of Voxnan River as of national interest worthy of protecting and involvement by non-profit organisations in issues related to preserving and developing summertime pastures (*fäbodbruk*). The designation as a biosphere reserve was seen as an opportunity to preserve and at the same time cultivate the land that characterises and that has characterised the area historically.

A key lesson from the formation process includes the importance of having the right combination of people and skills, something that can vary during different phases of the application process. Informants also emphasise that the changed geographical scope developed during the candidature would have necessitated additional support among local residents in the newly added areas. In general, however, the long formation process is perceived as important for the work and establishing the organisation in a way that facilitates future efforts.

The biosphere organisation is closely linked to municipal activities, especially in Ovanåker Municipality. Support within the municipality provides both stability and legitimacy to the biosphere organisation because its activities are also supported by the political organisation. The biosphere office and the working group lead the day-to-day work, while the role of the board is still evolving. In the future, operational work will involve more communicating and building of support and understanding for the biosphere reserve, while also prioritising among received enquiries. However, questions remain about the possibility of securing long-term project funds to increase what can be done in biosphere reserve. Challenges remain in ensuring that the biosphere organisation is representative, especially in terms of the forest sector’s future role in the biosphere’s work.

## 5 Comparative analysis

This chapter discusses and analyses the lessons learned from the biosphere reserves' current situation. The analysis uses a comparative approach where the biosphere reserve's challenges and success factors are related to evaluation questions about, e.g., the biosphere reserves' organisational changes, representativeness, legitimacy, funding and results. The analysis also includes descriptions of the formation processes of two biosphere reserves (Voxnadal and Vindelälven-Juhtátahkka) and the challenges and opportunities that have emerged from these formation processes. The aim of the analytical comparison has not been to place a value on the work of the different biosphere reserves in relation to each other. Instead, the analytical comparison aims to highlight important qualitative aspects of the organisational processes and impacts of the biosphere reserves, which would have been difficult to identify if the biosphere reserves had been studied separately.

### 5.1 The role and mission of the biosphere reserves

*How are the biosphere organisation's role and mission perceived? How well does work with the biosphere reserve relate to the basic ideas of the MAB Programme and the key factors that shape its core values?*

How the biosphere organisation's role and mission are viewed depends on how one perceives what a biosphere reserve is. Several informants refer to the description of biosphere reserves as "model areas for sustainable development" and consider that the biosphere organisation's mission is first and foremost to initiate and conduct "sustainability projects" (models), which can then be replicated in similar contexts in Sweden and in the rest of the world. This description of the biosphere organisation's role and mission is clearly based on UNESCO's definition of biosphere reserves.<sup>38</sup> Biosphere reserves also are commonly described as a neutral arena for resolving natural resource-related conflicts, where various parties can discuss controversial issues like the establishment of wind farms, mines or data centres.

Several informants also emphasise the biosphere organisation's special informational and educational mission to disseminate knowledge about what sustainable societal development is in a broader context.

Some informants also discuss the biosphere reserves in terms of brands, where the mission of biosphere organisation includes highlighting and 'packaging' the biosphere reserve's unique values into tourism products. This form of branding in the name of "sustainable development" can be seen as a form

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<sup>38</sup> See: <https://biosfarprogrammet.se/fakta/ett-biosfaromrade/> [14 May 2020].

of commodification and as a way of promoting economic development based on the “quality stamp” that the UNESCO designation provides. Some informants also emphasize the biosphere reserve’s role and significance for the implementation of the 2030 Agenda. All of the task and role descriptions above relate to the basic ideas and the central aspects highlighted in the MAB Programme’s core values; see fact box below (UNESCO, 2017).

### MAB:s Vision and Mission

Vision and Mission of the MAB Programme: Our vision is a world where people are conscious of their common future and interaction with our planet, and act collectively and responsibly to build thriving societies in harmony within the biosphere. The MAB Programme and its World Network of Biosphere Reserves (WNBR) serve this vision within and outside biosphere reserves.

Our mission for the period 2015-2025 is to:

- develop and strengthen models for sustainable development in the WNBR
- communicate the experiences and lessons learned, facilitating the global diffusion and application of these models
- support evaluation and high-quality management, strategies and policies for sustainable development and planning, as well as accountable and resilient institutions
- help Member States and stakeholders to urgently meet the Sustainable Development Goals through experiences from the WNBR, particularly through exploring and testing policies, technologies and innovations for the sustainable management of biodiversity and natural resources and mitigation and adaptation to climate change

## 5.2 Organisational form and working model

*How has the organisational form/working model changed since the designation? How has the organisation created the potential for fulfilling its mission? What have been the challenges and opportunities with selected organisational and working models?*

Five out of seven biosphere reserves are organised as non-profit associations. Kristianstads Vattenrike and Voxnadalen Biosphere Reserve are organised under municipal organisations. The choice of organisational form is partly related to geographical and historical circumstances. All biosphere reserves except Kristianstads Vattenrike overlap several municipal boundaries and Voxnadalen has been closely connected to Ovanåker Municipality since its inception. This means that the process of establishing the biosphere reserves influences the choice of organisational form (Sandström and Olsson, 2012). This is also illustrated by the origin of Vindelälven-Juhttáhka, which can be traced to VIKOM (the economic association of Vindelälven municipalities),

which has been involved in the management of the Vindel River since the 1960s.

Despite most biosphere reserves having chosen to organise their work through non-profit associations, the associations differ in how they organise their work and membership. Since their designation, three biosphere reserves (East Vättern Scarp Landscape, Blekinge Archipelago and Lake Vänern Archipelago) have increasingly developed close ties to the municipal administration. The biosphere organisations have found it is cumbersome to handle salary payments, pension provisions, etc. By administratively placing the biosphere office under the municipality, they reduce the administrative burden and free up more time for “concrete biosphere work”. In our view, this shift has brought administrative relief and has also improved municipality understanding for biosphere work. It has also paved the way for new municipality interfaces and collaborative projects. However, linking activities and operations closer to a municipality has its risks. Biosphere work may eventually be perceived as “a municipal matter”, and the organisation can be subject to political tugs-of-war.

Another organisational challenge is the balance between volunteer work, paid work and pro bono work. The seven studied biosphere organisations are typically hybrid organisations. Hybrid organisations are characterised by the fact that several different organisational forms may be part of one and the same organisation, as in the case of an association that owns a company. A hybrid organisation can also work on different assignments and be governed by different institutional logics. For example, it may be funded by different sectors, such as private donations, public grants and voluntary membership fees, which is the case for several of the studied biosphere reserves.

Organising operations across different sectors and institutional logics has several advantages. It can contribute to expanding an organisation’s collaborative interfaces, improving local legitimacy and how representative the organisation is, and, especially, creating opportunities for an improved exchange of knowledge and experience and expanding funding opportunities. In this way, a well-functioning hybrid organisation can provide many advantages over more traditionally narrow ways of organising. The biosphere reserve organisations are also good examples of what is referred to in organisational theory as *boundary organisations*. Boundary organisations work across organisational boundaries and are characterised by their ability to collaborate with other organisations (see, for example, Löfström, 2010).

The challenge in governing and managing both boundary and hybrid organisations is that they often require the integration of several logics – both commercial and non-profit logics, for example. In the case of East Vättern Scarp Landscape, the “industry” (the forestry and agricultural sectors) is represented by elected representatives. The County Administrative Board’s staff work in the biosphere association during paid working hours and the coordinator is employed by the municipality. At the same time, “nature conservation” is the largest source of funding in the form of the Swedish

Environmental Protection Agency, while the representatives of nature conservation are mostly individuals who work voluntarily, motivated by commitment. Such hybrid working models occur to varying degrees in all studied biosphere organisations, and this can occasionally cause friction between, for example, paid work and volunteer work.

As a result, management and control of hybrid organisations are complex, and tensions can arise over the best way to use resources for different purposes. In some of the biosphere reserves, the stakeholders seem to partly want to move in the same direction, but they also compete to set the agenda for what the various biosphere associations should work with.

### 5.3 Resources, representativeness and legitimacy

*What are the lessons of the chosen organisational model? How robust and legitimate is the organisation in terms of resources and representativeness?*

Most of the biosphere reserves have a board, which serves as the biosphere organisation's highest decision-making body. The various boards usually consist of representatives from a mixture of interests and institutional logics that reflect the different conditions and history of the biosphere reserves. In our view, most biosphere reserves have a balanced representation in their governing and advisory bodies, but the composition of the governance arrangements may need additional representation. For example, in the northernmost biosphere reserves, landowners are not significantly represented, despite their landholdings making up a significant part of the area. Representatives from several biosphere reserves also would like to see a better representation and involvement from the regions and private sector stakeholders, and during interviews informants express hopes that they could also be involved in and contribute financially to biosphere operations. In some biosphere reserves, such as Nedre Dalälven River Landscape and Kristianstads Vattenrike, the issue of representativeness and grassroots participation has been resolved through an advisory group comprising actors from various associations in each area.

When looking at the few surveys of the public's knowledge of biosphere reserves, it is clear that some of the biospheres face challenges with low public awareness. This can be seen as a legitimacy issue for some of the biosphere reserves.<sup>39</sup> In a public opinion survey conducted by students at SLU in the spring of 2020, 218 people in four biosphere reserves were asked about

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<sup>39</sup> A legitimate organisation for a geographical area is an organisation that has the support and trust of the participating stakeholders as well as those who are covered by the organisation's work. In the case of biosphere reserves, there are the people living and working within its boundaries. If support for and knowledge of the organisation's activities is limited, the organisation apparently has legitimacy problems.

their knowledge and awareness of the biosphere reserves (see Annex 3). The survey shows that on average 35 per cent of the residents know that they live in a biosphere reserve. This figure provides an indication of awareness of and knowledge about the biosphere reserve concept among residents in the surveyed biosphere reserve areas.

Of significance for the legitimacy, support, and the functioning of the biosphere reserves are questions pertaining to mandate and roles of the decision-making and advisory bodies. It is important for representatives of the biosphere organisation's decision-making bodies to not only serve as representatives of their "home organisations" but to also participate in defining the activities and pursuing biosphere-related questions in their respective home organisations. At times, we get the impression that some of the representatives in the decision-making bodies remain passive and mainly participate to safeguard the interests of their home organisations. There is a delicate balance between the involvement and responsibility of individual board members vis-à-vis the biosphere office's operative responsibility. Trade-offs are continually required, since too much or misdirected involvement from participating organisations can lead to unwanted shifts in the work, known as "mission drift".

Despite the rather long processes of gaining support with a "grassroots perspective" in the biosphere reserves' candidature phases, biospheres in some circles are considered a product of public administration that comes from above (which is partly also true). These perceptions mean that biospheres are automatically perceived in some camps as illegitimate, while others perceive the connection with public authorities as something positive that provides the biosphere reserves with legitimacy and *raison d'être*. One informant states: "Stamps and certifications are nice to have, but does anything come out of it?" This quote, combined with the characterisation of biosphere reserves as "toothless tigers", as one informant put it, indicates that some perceive the biospheres as organisations without mandates and muscle, something that in the long run risks undermining confidence in the biosphere reserves' ability to contribute to sustainable societal development.

## 5.4 Effects of how biospheres are organised

*What general impacts can be attributed to how work with the biosphere reserve is organised?*

Measuring the impacts of biosphere-related work is difficult, which partly is related to the difficulty of defining what counts as "biosphere work". In addition, there is a lack of both qualitative and quantitative studies of biosphere-related effects. Sweden's oldest biosphere reserve, Kristianstads Vattenrike, has made some calculations of tourist flows and money gained through participation in projects. Since 2005, Kristianstads Vattenrike estimates that it has "brought in" about SEK 55 million in external funds, and the organisation

estimates that guided tours generate more than SEK 300 000 annually, providing some indication of the added value the biosphere reserve generate.<sup>40</sup>

In addition to quantitative monetary value, it is however possible to point to a couple of significant qualitative effects of the biosphere reserve's organisational processes. Several of the biosphere reserves have contributed to people starting to look at and relating to their surroundings in new ways. These changes are most evident in Kristianstads Vattenrike, where an area previously considered as "waterlogged" in need of drainage has been discursively transformed into a "rich wetland area" with unique values worth preserving. This way of changing how people talk about, perceive and relate to their surrounding environments can also be noted among some of the actors in East Vättern Scarp Landscape related to forestry and nature conservation and among actors in Lake Vänern Archipelago regarding fishing. In scholarly contexts, this change in perceptions and views of the surrounding environment is sometimes referred to as *environmentality* (Agrawal, 2005) to describe how *collaborative environmental governance* can change the relationships between people and their living environment.

However, this change of perceptions toward the surrounding environment does not happen overnight. It often requires long and sometimes tedious collaborative processes involving conflict management and far-reaching compromises (see Agrawal, 2005; Sandström, 2008). For example, changes in the way people regard Kristianstad Vattenrike can be traced to collaborative processes initiated as early as the end of the 1980s, and in East Vättern Scarp Landscape, the changes can be traced to a nature conservation dispute from the late 1990s, long before formation of the biosphere reserves. In this context, we see how the biosphere designations have been an important piece of the puzzle and a prerequisite for consolidating the change in people's perceptions and ways of relating to the environment, and in this way contributing to fulfil UNESCO's vision of improving the relationship between people and their living environment.

This means the establishment of biosphere reserves can be seen as a form of *discursive territorialisation* of areas in the name of sustainability. The concept of discursive territorialisation brings to the fore the struggle over what significance and meanings people ascribe to biosphere reserves. It highlights questions about how people relate to the place and what kinds of man-and-nature relationships the creation of a biosphere reserve may entail in the long term.

In general, dividing biosphere reserves into zones (free development areas, buffer areas and core areas) has not had any noteworthy significance for the work in any of the studied biospheres. We can see how the buffer zones could potentially have a greater significance for developing biosphere reserves in

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<sup>40</sup> Kristianstads Vattenrike has also conducted four economic studies of tourism showing that the biosphere reserve and its visitor centre annually contribute more than SEK 30 million.



the future, especially in those areas where the landscape is characterised by a dichotomous approach between “conservation” and “development”. In the designated buffer zones, one could, for example, experiment with continuous cover forestry, or test new tools for municipal comprehensive planning (something that can also be tested in other areas, of course).

All the biosphere reserves can show several successful examples of projects in which people from the respective biosphere organisations have had a facilitating role in resolving complex natural resource conflicts and dilemmas. Examples include the fishery management project in Nedre Dalälven; the goose and crane project in Kristianstads Vattenrike; the fishery management projects in Blekinge Archipelago and in Lake Vänern Archipelago; and the deciduous forest project in East Vättern Scarp Landscape. All of these projects are characterised by a collaborative philosophy and a pragmatic conflict resolution-oriented approach. Our assessment is that biosphere reserves in this context constitute significant “conflict resolution arenas” previously lacking in the context of natural resource governance in Sweden.

The organisational effects of the newly formed Vindelälven-Juhtátahkka and Voxnadalen biosphere reserves are particularly difficult to assess due to being newly established. However, clearly the process of establishing the biosphere reserves in itself has meant new contexts and collaborations have emerged. Several important lessons have been learned during the candidature phases, particularly the need to deal with competing interests linked to natural resource governance, which eventually can contribute to positive spin-off effects. In Vindelälven-Juhtátahkka biosphere reserve, the participatory mobilisation during the candidature phase and the broad participation of different stakeholders in the board of the biosphere reserve has contributed to a better understanding of different perspectives. This has helped to pave the way for developing a concrete collaborative project between farmers and reindeer owners to produce fodder for reindeer. In Voxnadalen, the biosphere is involved in a two-year project financed by the region to develop quality timber – something that actors connected to the forest industry have shown great interest in.

Several informants also describe in positive terms how the biosphere reserve has resulted in new collaborations among organisations and new internal collaborations within the same organisation. On the whole, the efforts have facilitated myriad new collaborations and interfaces. In some of the biosphere reserves, municipalities that have not previously collaborated with each other to any appreciable extent have entered into various forms of collaborative projects. Inter-municipal collaboration processes are particularly prominent in the municipalities within the biosphere reserves of Lake Vänern Archipelago and Blekinge Archipelago.

There are also several good examples of cross-sectoral collaborations across administrative boundaries and among different institutional logics and contexts in all biosphere reserves. Some notable ones involve various trail and destination projects. Blekinge Archipelago and the ARK56 project can be

mentioned as an interesting example of how a large number of stakeholders have successfully been brought together to facilitate for the public to “venture out” in nature.

## 5.5 Challenges and success factors

*How have problems and challenges been handled? Do any problems/conflicts remain? What success factors have been identified? How has work been funded, and how is the need for continued funding expected to be resolved? What have been the challenges and opportunities with the chosen organisational and working models?*

A recurring challenge for all biosphere reserves has been and still is communicating what a biosphere reserve is to the public. This challenge has been described in previous evaluations and studies (see Sandström and Olsson, 2012). Related to the challenge of communicating what a biosphere reserve is, there are communicative challenges associated with the biosphere reserve’s role and mandate in a number of controversial issues, such as the establishment of mines, data centres and wind farms. For example, some informants consider that establishing mines, data centres or wind farms is not compatible with the spirit of what a biosphere reserve represents, while other informants argue that all types of activities in principal can be allowed in a biosphere reserve as long as they are legal. This difference of opinion about what is compatible and possible to do in a biosphere reserve is also reflected in how the biosphere organisations’ mandate to act on various issues is interpreted.

Most biosphere coordinators argue that biosphere reserves should be seen as “neutral arenas”, where the role of the biosphere organisation should be to enable dialogue among different stakeholders. At the same time, it is clear in our discussions that it may be easy to refer to the idea of the “neutral arena”, but difficult to translate into practice when biosphere reserves become exposed to different exploitation interests. Some informants argue that biosphere reserves have an obligation to act and take a position on controversial issues, especially when these are perceived to jeopardise the biosphere’s ability to contribute to sustainable societal development.

At the same time, we can see that the idea of “neutral arenas” has worked well in several of the biosphere reserves, especially in East Vättern Scarp Landscape, Kristianstads Vattenrike and Nedre Dalälven River Landscape. In the biosphere reserve Nedre Dalälven River Landscape, facilitating a neutral arena was crucial in enabling different water owners and water users to meet to coordinate their arguments and positions before a national river inquiry. In Kristianstads Vattenrike biosphere reserve, attempts have been made to bring together different stakeholders to discuss conflicts at the earliest possible stage. This philosophy has been applied in the ongoing predator control projects with success. The success in the above example has also come from the achievement of the organisation in mobilising involvement of a relatively

large number of local stakeholders, something that has been and will remain an important task and challenge for all biosphere reserves. The ability to mobilise local involvement and participation is also associated with the challenges related to representativeness and legitimacy discussed in section 5.3.

In our judgement, all the biosphere reserves have generally succeeded well in mobilising involvement and building up local organisational structures with good representativeness. At the same time, not enough work has been done building local support for and providing information about the biosphere concept among the general public, which is also evident in the public survey of four biosphere reserves. Another common challenge is problems in communicating the benefits of the biosphere reserve, a key to motivating different stakeholders to become involved in the work.

Several of the biospheres also testify to a “dip in involvement” shortly after the biosphere designation. In Blekinge Archipelago, the lack of concrete results in the years shortly after the biosphere designation contributed to a decrease in trust and involvement among residents and key actors. This eventually led to a major organisational change, which currently is well on its way to rebuild confidence among local stakeholders in the biosphere.

Challenges also arise when key players previously involved in both funding and initiating the creation of biosphere reserves withdraw after the biosphere designation. Examples of this are WWF’s involvement and funding in Vindelälven-Juhttátahkka and the County Administrative Board’s departure from biosphere involvement in Voxnadalen. The loss of key actors shortly after the designation has several repercussions, including the loss of important skills, networks and, not least, funding.

The majority of the informants highlight the need for stronger core funding that covers the cost of hiring a coordinator but preferably at least two full-time employees. Several informants refer the issue of funding as an issue to be resolved by the state, with the argument that international undertakings should include sufficient national governmental funding. Other informants argue that the regions and the larger companies in the biosphere reserves should be able to contribute more in terms of both participation and funding.

Questions related to funding are important and require a more thorough discussion to ensure the long-term funding of biosphere reserves. These questions should probably be dealt with in a national arena such as the National Programme Committee for the MAB Programme. Unless additional funding and resources are not added, there is a risk that people view biosphere reserves as toothless that are mostly about “greenwashing”. International studies of biosphere reserves also highlight the issue of funding as a significant success factor (see Cuong, 2017). Previous studies in the Swedish Environmental Protection Agency’s report series (Sandström and Olsson, 2012; Heinrup and Schultz, 2017) also emphasise the importance of securing enough financial resources and establishing national support functions for developing future biosphere work.

## 6 Concluding reflections and recommendations

Since the establishment of Sweden's first biosphere reserve in 2005<sup>41</sup> (in accordance with the Seville strategy), six more Swedish biosphere reserves have been designated by UNESCO. These "model areas for sustainable societal development" currently account for about seven per cent of Sweden's surface area. Five of the biospheres – Kristianstads Vattenrike, Blekinge Archipelago, Nedre Dalälven River Landscape, East Vättern Scarp Landscape and Lake Vänern Archipelago – have worked on developing organisations with broad local support, creating arenas for dialogue, involving the public and establishing a biosphere identity in their organisations and geographical areas. For the two newly formed areas, Voxnadalen and Vindelälven-Juhtta-tahkka, the formation processes have been characterised by multi-year collaboration that included discussions with a broad representation of local actors.

Since their designations, each biosphere organisation has attempted to launch projects that can demonstrate concrete results. The assessment shows that the biosphere reserves can generate good results in terms of facilitating natural resources conflicts and improving relationships between people and their environment (see section 5.4). Furthermore, our assessment further reveals that the biosphere reserves accomplish a lot with the relatively limited financial resources. In other words, the return from invested resources on biosphere reserve management can be considered as extensive.

However, experience from the various biosphere reserves points to the importance of continuously reviewing and reflecting on how the biosphere organisations are represented. Several of the biosphere reserves have gone through organisational changes since the designation and have become more closely linked to and institutional embedded with their respective municipal organisations. Reviewing how representative the organisation becomes is particularly important when the focus of activities shifts or when the surrounding environment changes. Failing to do so risks biosphere organisations eventually losing their legitimacy and societal relevance.

Some of the experiences and challenges identified in the assessment have also been examined in previous studies (see Sandström and Olsson, 2012; Heinrup and Schultz, 2017; Cuong, 2017), especially the issue of funding, which justifies a re-examination of the biosphere reserve's commitments in relation to available resources. Another challenge, as illustrated in several of the biosphere reserves, is the continuous process of identifying and developing a biosphere identity within both the organisation's own activities and among the public. In our opinion, some biosphere reserves are still

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<sup>41</sup> Sweden's first biosphere reserve was Torneträsk, which was established in 1986, but the designation was withdrawn in 2010 due to a lack of local involvement.

in the infancy of establishing a clear identity and thus some of the biosphere reserves need further support in identity-establishing activities.

Some of the biosphere reserves have requested support “from above” (e.g., from the Swedish MAB Programme) to make the biosphere reserves more well-known, not only among residents and those active in biosphere reserve management, but also among the general public. Informants also request more guidance in explaining what biosphere reserves are and ask for illustrative examples of why they are important. However, providing this type of support needs to be designed in such a way that it does not undermine the respective organisations of the biosphere reserves and their own mission and ability to manoeuvre.

To maintain a good balance between operational and strategic work and to minimise the risk of mission drift, we see a need for continuing professional development and exchange of experience about working within hybrid organisations. This is relevant not just for the biosphere coordinators but also for the biosphere organisation’s board members and other actors involved in biosphere-related activities. An active board that firmly reinforces the biosphere reserve’s identity and mission also allows for natural resource conflicts to be managed in a legitimate way and reduces the risk of mission drift.

For example, the Swedish MAB Programme could support the development of biosphere reserves by providing advanced training and arenas for sharing experiences about what it means to work in hybrid organisations. Developing opportunities for exchanging experiences at the national level would also enable, for example, collaboration on finding concrete tools to further develop the importance of zoning in building model areas for sustainable societal development.

The biosphere organisations typically take the form of hybrid and boundary organisations. Hybrid and boundary organisations often face challenges when participating actors with different organisational logics must work toward the same objectives. This can be further complicated by the fact that the biosphere reserve concept can be understood and interpreted in so many different ways.

Notwithstanding the innovative forms of collaboration and positive effects of the biosphere reserves’ work, there are risks associated with basing activities on ambitious and, at times, diffuse objectives without providing the necessary resources. The financial resources invested in biosphere activities are currently insufficient for the stated objectives. In our judgment, it should not primarily be the biosphere coordinator’s task to ensure funding of their own and others’ salaries. Instead, the boards of each biosphere reserve and the National Programme Committee should have the primary responsibility for funding the MAB Programme.

In the long run, overly ambitious objectives and insufficient funds can risk undermining confidence in the biosphere reserves, resulting in disappointment and loss of motivation among engaged individuals. Nevertheless, the present study shows that the biosphere reserves have great potential as arenas

for conflict resolution and as catalysts for changing man-and-nature relationships. In recent years, the biosphere reserves have also begun serving as platforms for fulfilling the commitments defined by the 2030 Agenda.

Based on the above reasoning, we see potential to further improving the work of the biosphere reserves and recommend the following:

- Long-term and robust financing solutions are important for the biosphere reserves. This evaluation, like previous studies and evaluations, shows the need for additional financial support to ensure stable core funding.
- Increased public awareness is needed to legitimise and institutionalise the status and identity of biosphere reserves. The National Program Committee for the MAB Programme as a coordinating body has the potential of providing more support, such as by initiating projects that increase public awareness of the biosphere reserves in Sweden.
- There is a need in some instances to further clarify the mission of biosphere reserves and the role of their respective organisations by, e.g., creating a more distinctive identity for individual biosphere reserves. In this regard, one can also draw lessons from international experiences and by comparing working methods and different ways of organising biosphere reserves in other countries.
- To ensure a good balance between operational and strategic work, there is a need to expand exchanges of experience and continuing professional development for both biosphere coordinators and biosphere boards. This would provide opportunities to discuss and learn from the challenges and opportunities that arise in hybrid organisations.
- Tools and working methods need to be developed to fulfil the vision of being “model areas for sustainable societal development”. For example, there is scope to further explore the role of zoning in the biosphere reserves, to achieving an improved “balance” between conservation and use by developing alternative forestry and business models instead of clear-felling forestry or by integrating the tools in municipal comprehensive planning within the framework of biosphere reserve governance.
- Generally, the assessed biosphere reserve organisations are succeeding well in building representative organisational structures, but that there is a need to continuously review their legitimacy and representativeness.

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# Annex 1

## Purpose and questions

The following purposes have guided work with the evaluation:

- 1) Evaluate organisational forms and working models in five Swedish biosphere reserves.
- 2) Briefly analyse the effects of the chosen organisational form and working model since the designation as a biosphere reserve viewed in relation to the biosphere reserve's objectives.
- 3) Compile experiences from the effort to achieve biosphere reserve status in two Swedish biosphere reserves
- 4) Analyse the implementation processes of achieving biosphere reserve status in two biosphere reserves.

We have used a number of open-ended questions to investigate the above purposes. The following questions were used for purposes 1 & 2:

- What does the organisational form look like and how has the working model developed since the designation as a biosphere reserve?
- What results does the chosen organisational form/working model produce?
- How well does the work with biosphere reserves relate to the basic ideas of the Man and the Biosphere (MAB) programme and the key factors that shape MAB's core values?
- What activities does the biosphere reserve engage in within the framework of the mission?
- What have been the challenges and opportunities with the chosen organisational and working model? How have these challenges been handled or solved?
- How robust do you feel the organisation is in terms of resources, legitimacy, representativeness?
- How do you see future organisation/work unfolding?
- What other societal processes affect biosphere work?

The following questions were asked for purposes 3 & 4:

- How did the work processes with biosphere reserves originate?
- How have relevant local stakeholders become involved and what is their attitude to the work/process?
- If any stakeholders have been excluded from the processes, why was this done?
- How has the work process been affected by other activities/projects in the area?
- How has the work been funded, and how is future funding expected to be resolved?
- How have problems and challenges been handled?
- Do any problems/conflicts remain?
- What success factors have been identified?
- How well does the work with biosphere reserves relate to the basic ideas of the Man and the Biosphere (MAB) programme and the key factors that shape MAB's core values?

# Annex 2

## Interview guide

### Purpose 1 & 2 from Annex 1

#### a) Mission and work process

- How does your organisation currently operate?
- What activities do you engage in related to the biosphere reserve?  
What has gone well/what challenges exist?
- What does it mean to have a biosphere reserve? What is the objective/  
mission? Has the view of the biosphere reserve's objectives changed  
since the start?
- How would you describe your role in the biosphere organisation?
- What affects/has affected the objectives?

#### b) Organisational characteristics

- What does the organisational structure look like? What determines  
the design?
- Which stakeholders are involved? Why these?
- Does the current organisational form differ from the initial one?  
How and why?
- Are there any special collaborations/forms of collaboration you want  
to highlight?
- How is the work funded? Does the funding look different today than  
after the designation as a biosphere?
- How is the organisation's work managed? / How are key decisions  
made? What is your understanding of the mandate for working on  
the biosphere reserve's objectives?

#### c) Experiences and lessons learned

- Has the work and the organisational form worked well? / Are the  
objectives/mission fulfilled?
- Have there been any challenges? How have you responded to them?
- Based on the challenges/successes, what have you learned about the  
organisation's structure and work?
- How do you see the work unfolding in the future in terms of robustness,  
resources and representativeness?

### **Purposes 3 & 4 from Annex 1**

#### a) Origins

- What was the impetus for forming the biosphere reserve?  
Which stakeholder or stakeholders?
- Why did you want to apply? What were the expectations when applying?
- Was/is there knowledge of/lessons from the work of other biosphere reserves?
- How do you relate to the work/how is the work managed based on MAB's core values?

#### b) Organisation and funding

- Which stakeholders are in your organisation today? How were they chosen/appointed?
- How have you involved local stakeholders? What has their attitude been like?
- Have there been conflicts/collaborations with other work and processes in the area?
- How is the work currently funded?
- What is the outlook for funding opportunities in the future?

#### c) Success factors and challenges

- What has worked well?
- What challenges have you encountered during start-up phase?  
How did you resolve these?
- Are there any challenges/problems remaining?
- What do you think lies ahead?

## Annex 3

### Gallup survey

A Gallup survey was conducted by students at the Swedish University of Agricultural Sciences (SLU) in the spring of 2020. The Gallup survey was conducted in four biosphere reserves (East Vättern Scarp Landscape, Nedre Dalälven River Landscape, Vindelälven-Juhttatähkka and Voxnadalen).

Biosphere reserve:

City/Town:

Location:

Date:

1) Do you know that you live in a biosphere reserve?

Yes

No

If not: Have you heard of biosphere reserves? (Do not ask the rest of the questions if the answer is no.)

If Yes: What is a biosphere reserve?

2) How do you feel about living in a biosphere reserve?

3) Have you in any way been in contact with/been involved in the work of the biosphere reserve?

Yes

No

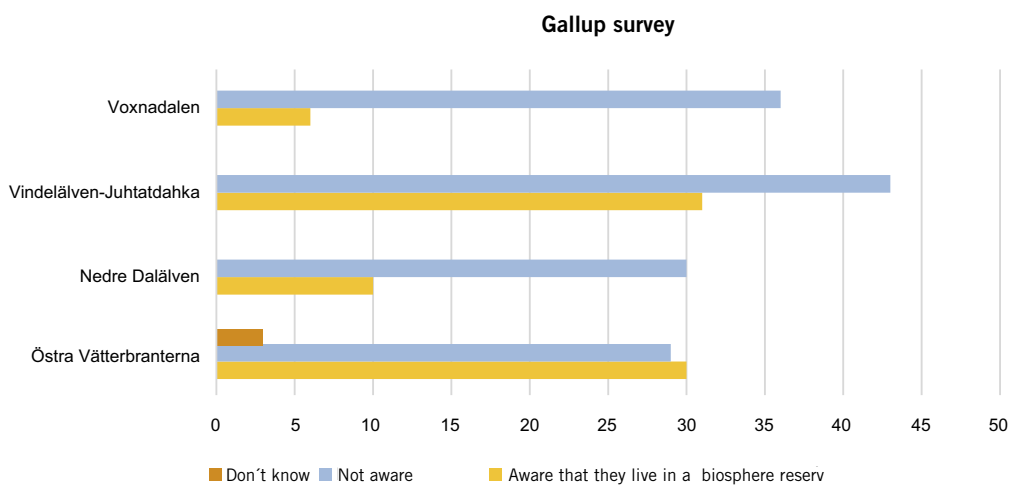
Don't know

If Yes: 'In what way?

5) What issues would you like the biosphere reserve to work on more?

## Results of Gallup survey

Biosphere reserve	Aware that they live in a biosphere reserve	Not aware	Don't know	Total	% aware
East Vättern Scarp Landscape	30	29	3	62	48
Nedre Dalälven River Landscape	10	30	0	40	25
Vindelälven-Juhttááhka	31	43	0	74	42
Voxnadalen	6	36	0	42	14
Total for the four biosphere reserves	77	138	3	218	35





# Building Biospheres Reserves through Collaborative Governance

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A study of organisational forms and collaborative processes in Sweden's biosphere reserves

EMIL SANDSTRÖM AND EMMA SAHLSTRÖM

Since 2002, the Swedish Environmental Protection Agency has actively contributed to the work with Sweden's biosphere reserves. The purpose is to support and encourage locally based work with long-term sustainable development in a limited number of designated areas, where the ecological dimension interacts with the social and economic dimensions. Biosphere reserves are, in the Swedish Environmental Protection Agency's view, model areas for a working method that complements other support and policy instruments that are available to achieve the national environmental objectives and long-term sustainable development. This report describes the development of Sweden's biosphere reserves with a special focus on their organizational development and process of establishment. The report provides valuable knowledge about the management of each biosphere reserve and about overall challenges and opportunities. The generated knowledge can form the basis for further development of the efforts within the MAB Programme.

