

Activities 2018



Vattenriket® 

Kristianstads Vattenrike is a Unesco-designated biosphere reserve that serves as a model area for sustainable development. There are some 700 biosphere reserves world-wide, five of which are in Sweden.

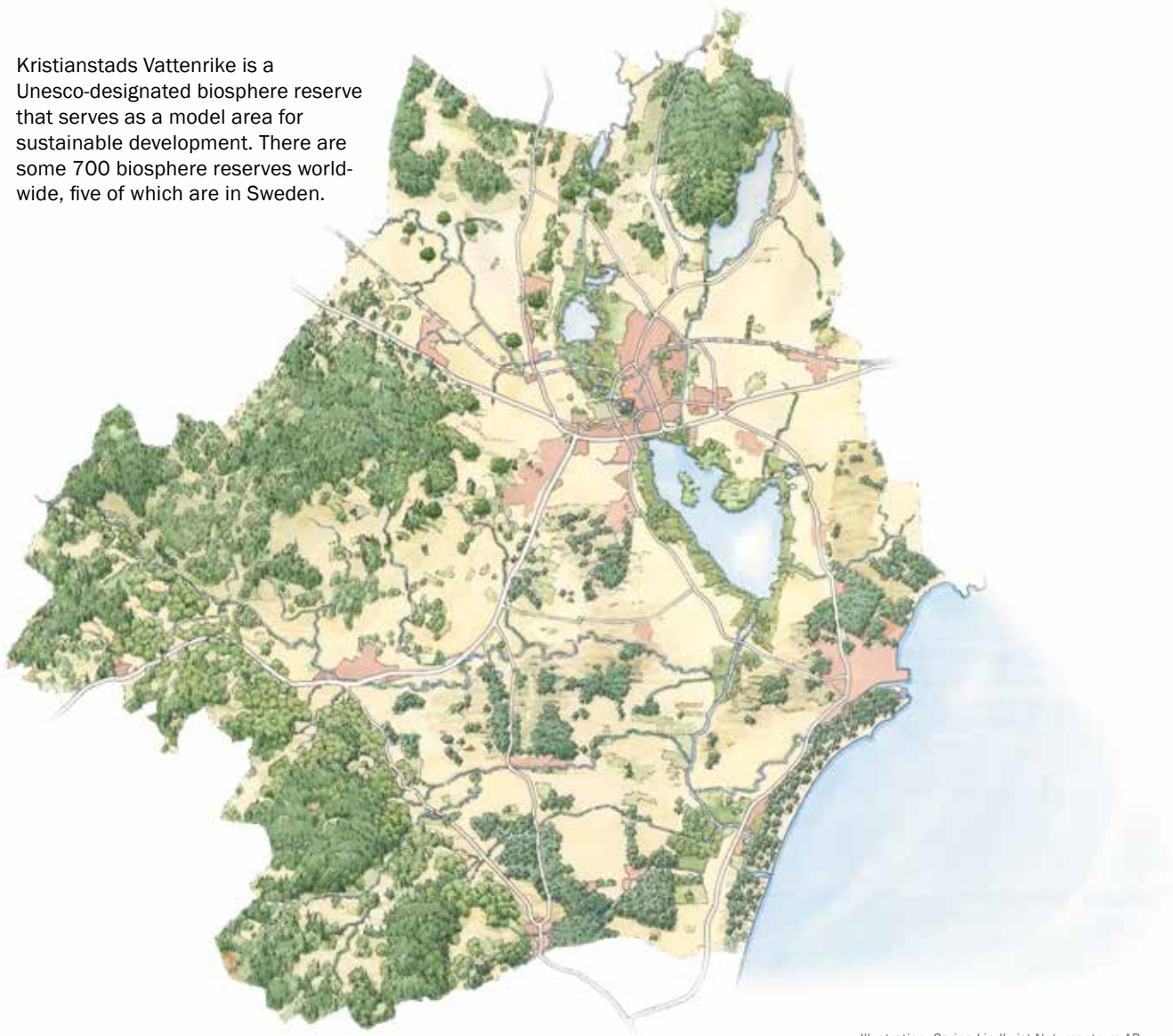


Illustration: Carina Lindkvist Naturcentrum AB

Kristianstads Vattenrike Biosphere Reserve

Kristianstads Vattenrike Biosphere Reserve (Vattenriket) occupies most of the municipality of Kristianstad. This rich cultural landscape is endowed with almost every type of natural habitat to be found in Sweden.

The majestic River Helge å is a central feature. Fed by streams from the ridges and plains, it flows into Lakes Araslövssjön and Hammarsjön before reaching the sea in Hanöbukten Bay. The river is fringed by wetlands and seasonally flooded grasslands, but there are also leafy forests and dry sandy arable lands within the reserve.

Such variety creates numerous natural habitats and the species-rich reserve, less than two tenths of one percent of the area of Sweden, is a refuge for some 20% of the nation's red-listed species. Kristianstad Municipality is committed to making the biosphere reserve a model area for sustainable development. Producing and sharing knowledge about the landscape and nature is crucial for an ecologically, economically and socially sustainable society, so we make inventories, publish reports, work with researchers, host conferences and welcome some 100,000 visitors a year to the naturum visitor centre. We collaborate with local associations, companies and landowners to use and conserve natural values. We create wetlands and restore sandy grasslands. Species diversity and efficient ecosystems help us to cope better with challenges such as

climate change. Enabling people to experience nature inspires them to help conserve it. The biosphere reserve has some 20 visitor sites with observation towers, marked trails and outdoor museums. The jewel in our crown is the naturum visitor centre with exhibitions, meeting rooms, a restaurant and a wide programme of activities. Here we explain how the biosphere reserve works and encourage visitors to explore the area for themselves. Results have been positive. At the Pulken visitor site migrating cranes, visitors and farmers co-exist in harmony. Cat-fish have been successfully reintroduced into the river and otters fish close to the naturum. Thanks to a new-found respect for natural values, the wetlands are no longer seen as a problem, but as a valuable resource for Kristianstad.

2018 – The year in review

Weatherwise 2018 was an unusual year. A late, cold spring deprived us of our customary 'crane season'. Then an exceptionally hot, dry summer and an autumn with little rain led to low water levels in our streams and lakes and an acute shortage of fodder for grazing animals. It is a portent of impending climate change and a reminder that our work as a model area for sustainable development is perhaps more important than ever.

However, 2018 was also a positive year in many ways. We launched a new responsive homepage that can be read as easily on a mobile phone as on a tablet or computer. After several years' focus on ecosystem services we now have a new pedagogic tool, the 'Vattenriket Flower', to explain to young and old alike the value of these free natural benefits.

When Vattenriket's favourite singer was chosen in our own local version of the Eurovision Song Contest, it was the hugely popular skylark that claimed the top spot. The programme of nature activities and cultural events arranged by

the naturum visitor centre continued to have a broad appeal and has become an important channel for attracting visitors to Kristianstad.

Throughout the summer, for example, there were daily activities. Visitors could choose everything from watercolour painting to hand-netting and, despite the sunny weather, the naturum welcomed over 100,000 visitors.

The global goals (SDGs) of the 2030 Agenda play a pivotal role in our work. Together with eight other biosphere reserves around the Baltic Sea we have placed special focus on SDG 14 Life Below Water in the 'Biosphere for Baltic' project. The main themes are lifelong learning and measures to improve water quality – two key areas of our work in Vattenriket.

During the year Kristianstad Municipal Executive Committee resolved to fund the creation of a 150-kilometre Vattenriket Trail. The Biosphere Office is to coordinate the work, which involves large-scale

collaboration between several municipal departments. This will put Kristianstad firmly on the map for Skåneleden and play a key part in our new theme, "Discover Vattenriket".

So, as we welcome 2019, we also extend a warm welcome to you to discover for yourself all that Vattenrike has to offer.



Carina Wettemark

Carina Wettemark
Coordinator, Kristianstads Vattenrike Biosphere Reserve. Manager, Department for Biosphere Activities, Municipal Executive Office, Kristianstad Municipality



Utterly alluring otters

For much of the winter a female otter and her pup could be seen almost daily close by the naturum visitor centre. Many people watched them dive for fish or romp and play on the ice, apparently unconcerned by all the onlookers. At times a kingfisher also appeared to feast on the small fish the otters chased to the surface of the water.

Photo: Torkel Edenborg



Focus on ecosystem services

The free services that nature provides have been a theme throughout 2018. The Biosphere Bus took Biosphere Ambassadors to farmers engaged in sustainable farming. We placed bug hotels in nature reserves and on farms. We produced a report about acknowledging the value of ecosystem services when planning new residential areas, and we developed a new pedagogic tool – the 'Vattenriket Flower'.





New bug hotels in Vattenriket benefit wild bees and arouse public interest.



A taste of the wetlands. The Biosphere Bus visited sustainable food farmers.



Per Modig explained his approach to growing organic quinoa, beans and lentils.

In 2018 we sought to help more people understand ecosystem services and their importance for human survival.

Many Vattenriket farmers benefit from ecosystem services such as pollination. Mixing nectar-rich flowering herbs into sown crops is a good way to maintain beneficial populations of bees and other pollinators, so the Biosphere Office has used its expertise to strategically place bug hotels to provide a home for these insects.

This year's Biosphere Bus visited two farmers producing sustainable food. Visitors to Per Modig's Fagraslätt Farm could see and taste organically grown beans, lentils and quinoa. Jens Fjelkner at Sjögården talked about rearing beef cattle with a low carbon footprint. By grazing and keeping land open our local cows perform key nature conservation tasks, ensuring greater biodiversity while producing climate-smart meat.

New bug hotels

In the summer five new bug hotels were located in areas rich in flowers: two in the Horna sandar and Sannarna nature reserves and three in agricultural surroundings. Wild bees deliver ecosystem services as important pollinators. Bug hotels provide them with new homes and help spread awareness of the role pollinators play in nature.

Vattenriket ecologist Karin Hernborg worked closely with carpenter Lennart Prenter on the design of the bug hotels.

Researchers acknowledge ecosystem services in community planning

Kristianstad Municipality is part of a research project into ecosystem-based community planning that aims to identify processes and methods in selected municipalities. Lund University researchers are working with four municipalities in Skåne to learn more about examples of how local authorities integrate ecosystem services into community planning.

Kristianstad chose to showcase the new residential area of Transval, south-west of Åhus. This area of high recreational and natural values serves as an important link between the flowers on the sandy grasslands and the insects at Sannarna and Flintabacken.

A Biosphere Office report on the area's ecosystem services provided expert insights into how increased cooperation with the municipal Environmental and Planning Department led to sustainable solutions that preserve ecosystem services and biodiversity in the community planning process.

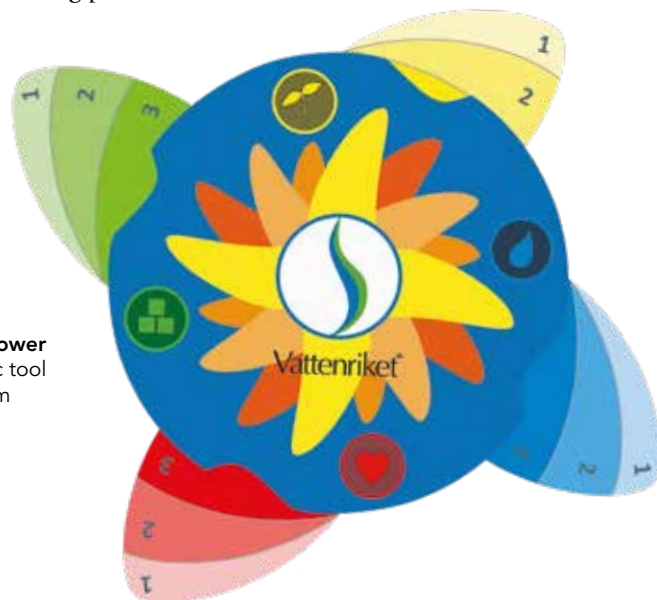
The Vattenriket flower

Three new pedagogic tools were introduced during the year. 'The Tale of the Little Apple Tree' shows young children how worms, bees and other friends help apple trees to produce fruit.

'Pollen, please!' is a game where school-children are challenged to think of what an apple would cost if we humans, rather than the bees, were required to pollinate the apple blossom.

The 'Vattenriket Flower' is used to analyse a location's ecosystem services. The petals symbolise different categories of ecosystem services, which can then be rated by opening the petals.

The flower can also be used to make adults aware of ecosystem services that need to be protected or improved. The new tools have been developed by nature educator Sam Peterson and nature interpreter Erik Kohlström.



The Vattenriket Flower is a new pedagogic tool for rating ecosystem services.

A busy year for naturum

A new exhibit showing Vattenriket's lakes, rivers and water levels. Information in sign language. A new gateway to the visitor centre with information about the surroundings and biosphere work. A song contest, flower workshops and Biosphere Camp. 2018 was a busy year inside and outside the naturum visitor centre.

Vattenriket's very best voice

As Kristianstad was one of the venues for selecting the 2018 Swedish Eurovision Song Contest entry, the naturum visitor centre staged its own contest – for song-birds! Eight feathered finalists included the crane with its glitz-and-glam plumage, the punk-styled Caspian tern and the contest's bad-boy, the cuckoo.

Nature interpreters presented the eight finalists and after almost 1,5000 visitors had cast their vote via an interactive module, the skylark emerged as the clear winner.

Something for everyone

It was a year with more than 500 naturum activities, as broad and varied as ever, ranging from water-colour classes to hand-netting. For the first time there were also activities every day of the summer.

Some 13,000 visitors to naturum took part in everything from flower workshops with designer Hanna Wendelbo to an Animal Olympics. The most popular event of all was the open-air concert on Sweden's national day, when the Christianstad Symphony Orchestra played Handel's Water Music for more than 500 visitors.

New interactive exhibit

A new interactive module, 'Water, water, everywhere', opened just in time to celebrate the naturum's birthday on 27 November. This exhibit clearly illustrates the consequences of fluctuations in water levels in the River Helge å, with films of the lakes and rivers that highlight the many benefits their waters provide.

It also links the recent theme of ecosystem services to next year's new theme, 'Discover Vattenriket'. During the year sign language was added to the long list of alternatives in which information about Vattenriket is available.



Floral mandala
by Hanna Wendelbo



Classical concert attracted
500 visitors on June 6



Information now available
in sign language





Glitter and glamour. To coincide with one of the Swedish heats to choose a Eurovision Song contest entry, the kingfisher on the naturum signpost was given a glitter hat and glitzy boa.



New information site. A new gateway to the naturum describes the biosphere reserve, the visitor centre and some of the species of flora and fauna to be found close by.

A new way of welcoming visitors

In the autumn a new gateway and meeting point was built outside the naturum to welcome visitors with information, seating and silhouettes of some of our local fauna. This provides an introduction to the biosphere reserve, the visitor centre and the wildlife close by.

Work also began on two more projects: a pedestrian bridge to make the Linnérundan Trail safer where it crosses one of the city's main roads, and a new boardwalk and hide in the reeds and rushes near to the naturum visitor centre. By spring visitors will be able to enjoy an exciting new experience close to the otters and kingfisher that frequent the pond there, with views of both the naturum and the city centre.

Biosphere Camp enjoys nature's gifts

The theme for the 2018 Vattenriket Biosphere Camp was nature's gifts. The children enjoyed themselves immensely as they ringed birds, painted watercolours, built bird boxes, visited beekeepers, met a local farmer, paddled canoes and did much more besides.



Biosphere Camp 2018





Biosphere collaboration around the 2030 Agenda



The 'Biosphere for Baltic' project highlights the importance of biospheres for the UN's 2030 Agenda for sustainable development. The project focuses on Goal 14, Life Below Water.

Biosphere areas around the Baltic Sea shared knowledge and experiences in 2018 as part of the 'Biosphere for Baltic'

project's focus on the UN's Goal 14 to improve water quality and conserve the rich diversity of the seas. The project, part-funded by a grant of one million Swedish kronor from the Swedish Agency for Marine and Water Management, runs until February 2019. Two network meetings – the first in Kristianstads Vattenrike, the second on the outskirts of Turku in Finland – will look at measures from source to sea, discuss marine pedagogics and devise ways to spread knowledge about the importance of conserving marine habitats.

Test fishing shines light on Lake Hammarsjön's health

Work is ongoing to assess the health of Lake Hammarsjön. Summer's test fishing reveals changes in the composition of the fish population.

Vattenriket limnologist Andreas Jezek and biology student Marie Andersson spent the summer test-fishing at 24 sites in the lake. By identifying, measuring and weighing species, they were able to assess the balance between predatory fish and plankton-eaters.

Comparisons with figures from previous surveys in 1995, 2007 and 2010 show a shift from just a few large predators to many small plankton-eaters. White bream numbers fell from 44 percent of the catch in 1995

to just 14 percent in 2018. Bleak did not figure in the 1995 survey but constituted one third of the catch in 2018.

In September Lake Hammarsjön's benthic fauna was studied at five sites. The result was generally good, with the exception of a site off Pynten. Here, where surface run-off from the city's main drainage channel and water from the water treatment plant is released, only a small number of species were found, primarily those that thrive in nutrient-rich environments. There is much to suggest that the changes are linked to brownification and eutrophication.





Hand-netting. Young and old used hand nets and aquascopes to explore life below the surface.



Raise-to-read signs. Smart new lift-up signs describe the River Vramsån's natural and cultural values.



Information boards. The display boards by the foot of the bridge have been supplemented with new information.

River Vramsån's biodiversity celebrated

The UN has designated 22 May 'International Biodiversity Day' – an ideal occasion to inaugurate a new exhibition of the River Vramsån's natural and cultural values.

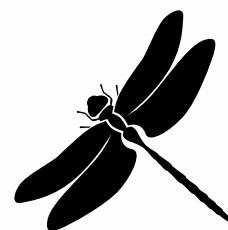
The day's activities included the inauguration of a remodelled River Vramsån visitor site in Gärds Köpinge, a species-rich spot that attracts many visitors. Mussels and river water crowfoot thrive in the clear, healthy water, as do numerous fishes and insects.

There are hand nets here, and nature educator Sam Peterson is often on site to lead tuition in one of Vattenriket's outdoor classrooms. Now new signs and information boards tell the story of this old bathing site, the mill and the local flora and fauna.

Some 50 visitors listened as local resident Sven Olsson reminisced about life down by the river in years gone by. Ecologist Karin Hernborg then talked about the river's rarer species and how Vattenriket is helping them. There was also a walking quiz, accordion music and refreshments.

On the path to the waterfall Vattenriket nature interpreter Erik Kohlström talked about the riverbank's insects. Limnologist Anders Jezek spoke of the river's many mussels and showed pearls taken from the river. By the falls Sam Peterson went hand-netting with pupils from Gärds Köpinge School.

It was a memorable day, when the diversity and natural values of Vattenriket were celebrated in a variety of ways.



A new Vattenriket website

In 2018 the Vattenriket website, first launched in 1996, was given a makeover. It now works as well on a mobile phone as on a computer or tablet. And it's easier to find your way around.

Biosphere Office information officer Ebba Trolle remodelled the website adding new content and using new technology to ensure the site works well on all types of screens.

One of the ambitions was to meet the needs of two large target groups: firstly,

visitors to the Vattenriket biosphere reserve and to naturum, and secondly those eager to learn more about biosphere activities and our work as a biosphere reserve. So, dedicated portals for the naturum visitor centre and for the Discover Vattenriket theme now help visitors plan their trip to the area.

Various good examples of the biosphere reserve's work are showcased here and one section is devoted to Vattenriket's characteristic species.

The new website was launched ahead of the peak holiday season, a time when many potential visitors traditionally search for information about Kristianstad Vattenrike



The year in review



Vattenriket wetlands analysed from space

Vattenriket took part in a unique research project that uses satellite images from the SWOS project (Satellite-based Wetland Observations Service) to improve the efficacy of wetland monitoring programmes. SWOS is a consortium of partners in research, academia and business from 23 countries that is active at 50 wetland sites.

The project provides opportunities to monitor changes in both water levels and water quality. Preliminary results reveal that satellite data can quickly show the extent of surface water at a certain water level. The new satellite images are useful when assessing the effect of various measures in the drainage basin. It is hoped that they will also provide new information about the factors behind brownification. Satellite images are very useful for the remote sensing of wetlands, as they reveal changes in land cover and vegetation, surface water dynamics and water quality.



High hopes for Sweden's Lowest Point

In the early spring Sweden's Lowest Point was given new information boards in a light-hearted style and a photo point.

Extreme geographical locations exert an irresistible attraction. After climbing Sweden's highest point, Mount Kebnekaise, many people feel tempted to explore the other extreme – Sweden's lowest point, 2.32 metres below sea level and a Vattenriket visitor site. When Denmark's King Christian IV founded Kristianstad in 1614 this spot lay below the waters of Lake Hammarsjön. In the 1860s, however, when more agricultural land was needed to feed a rising population, work started on draining Nosaby Bay. An English engineer, John Milner, built an embankment and pumped out the water from the bay to turn the lake bed into farmland. The area where material was excavated to build the embankment has since become what are now the Ekenabben alder carrs.



Skåne County Governor visits Vattenriket

Skåne County Governor Anneli Hulthén visited Vattenriket at the height of what has become known as 'the crane season'. She was impressed by biosphere coordinator Carina Wettemark's and naturum director Karin Magntorn's descriptions of the biosphere reserve's activities, which she believes set a good example for how other municipalities can adopt a holistic approach to their work on green infrastructure. One focus was the declaration of intent signed by Kristianstad Municipality and the County Administrative Board of Skåne regarding Kristianstads Vattenrike Biosphere Reserve. The delegation also saw migrating cranes at the Pulken visitor centre, an example of biosphere work that benefits both nature and people. Nature conservation coordinator Hans Cronert explained how cranes are fed at Pulken to minimise damage to newly sown fields. This initiative enables thousands of visitors to see the birds eat and dance close to the birdwatching tower.



Sand Life concludes with a handbook

A handbook on how to manage sandy grasslands marked the conclusion of the Sand Life project. Vattenriket ecologist Karin Hernborg was one of the authors. The book traces the history of southern Sweden's unique sandy grasslands, describes their unique flora and fauna and details how the environments can be restored and managed to conserve biodiversity.

The idea for the project was hatched at a conference in Kristianstads Vattenrike in 2008. The County Administrative Boards in Skåne, Halland and Kalmar received 70 million Swedish kronor in EU funding to conserve the sandy grasslands and provide information about the areas' high natural values. This resulted in 12 outdoor museums (two of them in Kristianstad, at Östra sand and Friseboda) and a handbook. The project also paved the way for large-scale conservation measures that included excavations, burning, clearing and deforestation.

The year in review

Senior Citizens' Day at the naturum visitor centre

Visitors attending the naturum's 'Senior Citizens' Day' could test their skills at fulling wool, enjoy 'forest bathing' and sample dandelion syrup. The annual event is arranged jointly by municipal social services and the naturum visitor centre.

The naturum's Brita Nilsson explained and demonstrated how nature's ecosystem services can be used in everyday life.

The event meets two of the targets in the 2016–2020 Action Plan: fostering the feel-good factor and making Vattenriket accessible and welcoming for everyone. That means continuing to develop Vattenriket as a refuge and source of relaxation in order to improve public health and quality of life – not least for our senior citizens. Senior Citizens' Day is part of the municipality's work to demonstrate the opportunities that advanced age presents to focus on health, exercise and good food.



Carina Wettemark speaks during Almedalen Week

Hanöbukten Bay's health is giving cause for concern. The reasons are complex.

Biosphere coordinator Carina Wettemark shared new approaches to improving the situation at a seminar hosted by the Swedish Institute for the Marine Environment during summer's traditional 'Almedalen Week' of socio-political debate on the island of Öland. Brownification, skinny cod and sick flounder are signs that the natural environment in the bay, as elsewhere in the Baltic Sea, is suffering from the impact of land-based processes.

The seminar cited Vattenriket's work as a good example of how to help clean up the Baltic. Dialogue and collaboration are the keys to success. Vattenriket is a neutral arena that works with both local and global organisations, highlighting problems, providing new insights, seeking funding, taking action, evaluating results, sharing ideas and engaging people in issues of concern to Hanöbukten Bay.



Work to promote waterborne recreation intensifies

In 2010 the Biosphere Office devised a plan to enable visitors to enjoy Vattenriket from the water. Since then several measures have been implemented, including an access-for-all jetty in Kristianstad's Tivoli Park and a map for canoeists.

Soon there will be even more opportunities to enjoy the River Helge å and the lakes. Work was given a boost as part of the preparations for the new 'Discover Vattenriket' theme. A trip on the river on M.V. Silurus together with representatives from the Department of Public Works, the Culture & Leisure Administration and the Municipal Executive Office led to several new projects. The buoyage in Lake Hammarsjön will be repositioned, the potential to develop the canoe launch site at Kavröbro will be investigated and there will be a review of new landing sites for canoeists.



Naturum features large at World Conference

Naturum Director Karin Magntorn visited Sicily for a conference for Unesco Designated Sites that brought together 21 visitor centres from Europe's world heritage sites, biosphere areas and geoparks to air and share their best ideas and experiences.

In her presentation Karin emphasised the naturum's location in the heart of the city, but also in the heart of the wetlands. Her comment about how Vattenriket has become something of an icon for Kristianstad as a whole generated a great deal of interest among attendees.

The conference included presentations from all of the visitor centres, group discussions and a visit to the world heritage city of Palermo. The conference proceedings will be published with good examples, hints and advice to assist future visitor centres in their work.





Vattenriket arena for climate-themed art project

'Man and Biosphere – On the Edge' saw artists and researchers liaise with the Biosphere Office in a project led by artist Caroline Mårtensson. One of the underlying ideas was to give global climate issues a local focus.

Biosphere coordinator Carina Wettemark saw the project as an exciting meeting between art and science, set in the arena of the biosphere reserve. The project, which included concerts, film shows, coastal hikes and city walks, has left a permanent mark in the form of 'Living Fossils'. The artist liaised with the biosphere office to choose four species sensitive to the effects of climate change. Their likenesses were then sand-blasted into small boulders placed here and there in Kristianstad. One of these 'living fossils' now stands by the naturum Vattenriket visitor centre.



New boardwalk, hide and bridge for naturum

In the autumn a new gateway to the naturum was erected, complete with information about the biosphere reserve, the visitor centre and its immediate surroundings. Also, following a suggestion from a local resident, work began on a pedestrian bridge over a busy main road on the Linnérundan Trail. Work also commenced to realise plans that had been on the drawing board since the naturum first opened, as a boardwalk and hide took shape in the reed beds south of the visitor centre. Naturum director Karin Magntorn and nature conservation coordinator Hans Cronert produced sketches for the hide and forced a path through the reeds where the boardwalk was to be. This will add extra appeal to the area, providing new views of the naturum and city close to the naturum pond and its kingfishers and otters.



Publications in the Vattenriket i fokus series (in Swedish)

2018:01 Biosfärområde Kristianstad Vattenrike. Activities 2017, Biosphere Office.

2018:02 Vattenriketleden – en förstudie, Håkan Östberg, Biosphere Office.

2018:03 Provfiske efter mal i Helge å 2017, Andreas Jezek, Biosphere Office.

2018:04 Sammanställning av provtagning av vattenkemi i Bivarödsån och biflöden 2014 -2016, Jenny Hedin, Naturvårdsingenjörerna AB.

2018:05 Hammarsjön - bottenfauna 2018, Marika Stenberg och Kajsa Åbjörnsson, Ekoll AB.

Kristianstads Vattenrike Biosphere Reserve
– benefiting nature and people

For more information and full contact details see our homepage
vattenriket.kristianstad.se