

Kristianstads Vattenrike Biosphere Reserve Activities 2020



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

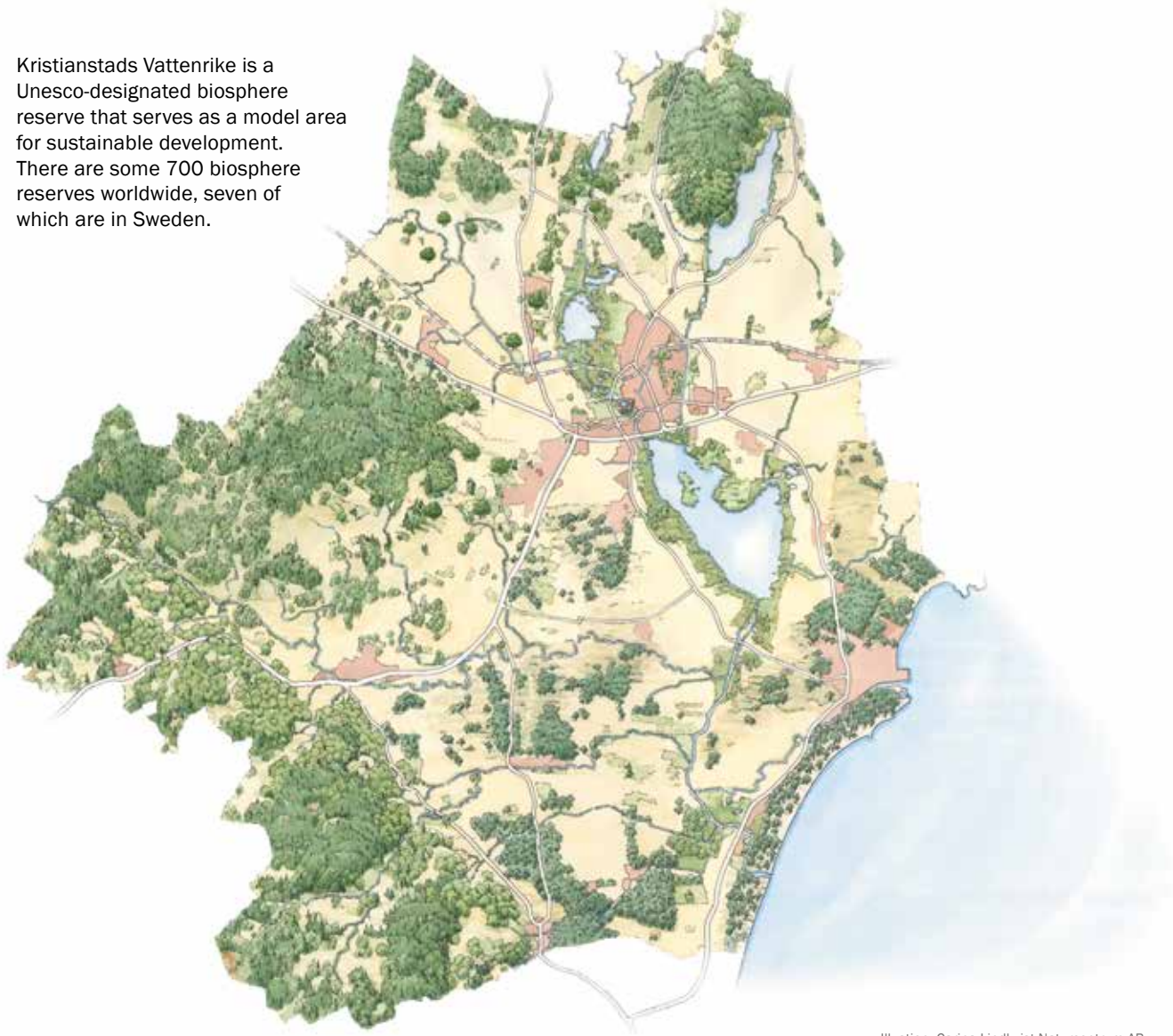


Illustration: Carina Lindkvist Naturcentrum AB

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.

2020 – The year in review

The pandemic cast a long shadow over 2020. We have had to learn to stay an eagle's wingspan away from our fellow humans, but as the great outdoors have become more important than ever as a place to meet family and friends, we have striven to adapt rather than cancel Vattenriket activities. Digital solutions, like a virtual version of our annual Biosphere Research Conference, have been a success. We have produced a new film about Vattenriket with Infab Kommunikation and are proud of our 'Rising Star of the Year' award received at the Guldjubiläum business community gala.

Work on our 'Explore Vattenriket' theme continues. The first stretch of the SL6 sub-trail of the Skåneleden trail was opened in glorious weather on 22 May, Biodiversity Day and the anniversary of the city's founding in 1614. Many people have already walked the trail, and our nature interpreters have been out and about to show visitors other fascinating Vattenriket destinations. We have also produced new information, including a 'Fishing in Vattenriket' map, to make exploring easier.

Together with WWF, the Stockholm and Västernorrland County Administrative Boards and the Swedish Anglers' Association we have received funds to help restore the ailing Baltic Sea to health. After

careful preparations we now look forward to planting eel grass, creating pedagogic tools and learning more about the fragile habitats of Baltic Sea life forms.

Future Week saw a much appreciated clean-up in Vattenriket with help from many of the societies that support biosphere reserve work. Communication materials were produced and boxes filled with free litter bags were set up.

In the autumn naturum celebrated its birthday after ten fantastic years of fascinating encounters, shared knowledge and passionate engagement. A new app was released and we launched the 'I love Vattenriket' campaign with the Friends of Vattenriket that enables residents, visitors and companies to show their appreciation for Vattenriket for a very modest cost.

Despite the pandemic, much has been as usual. New wetlands have been created to improve water quality and retain more water in the ground, and results are being evaluated by Lund University to see how we can develop our work. Trees and shrubs have been cleared at Näsby fält in the interests of both visitors and biodiversity. In many places the sand has been disturbed to help pollinators, and flowering strips have been sown in fields as part of the 'Let Skåne Blossom' project.

A new Biosphere Reserve action plan has been produced for 2021–2025, with five focus areas and a clear emphasis on contributing to the global SDGs of Agenda 2030 by finding local solutions to global challenges.

I look forward with confidence to 2021, which has been proclaimed Outdoor Recreation Year. What could be better in times when 'it's in to be out'? Welcome to Vattenriket.



Carina Wettemark

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

Mural celebrates Vattenriket and sustainability

A kingfisher was among the motifs when artist Lula Goce created Kristianstad's first house wall mural.



10th anniversary of naturum Vattenriket

Since it opened on 27 November 2010 the naturum Vattenriket has welcomed over a million visitors to its displays and activities. The 10th jubilee was celebrated with an exciting new augmented reality animal app, live broadcast speeches and a light show on the exterior of the building.

The idea of a visitor centre first evolved in the late 1980s, but the decision to build a naturum was not taken until 2005, when Kristianstads Vattenrike became a biosphere reserve. Today the naturum Vattenriket is unique among the 30 or so in Sweden in serving as the gateway to a biosphere reserve.

Success was a fact from day one. By the end of its first year the naturum Vattenriket was already Sweden's most popular. It has topped the visitors' league ever since, welcoming visitors from more than 100 countries – from prime ministers and royalty, celebrated centenarians and new-born babies to the many Kristianstad residents

who come to experience and enjoy 'their' Vattenrike.

Rich in many ways

For Vattenriket the past decade has been rich in species, knowledge, ideas, experiences, fun – and water! There have been numerous highlights, not least when the city hosted a competition to select Sweden's entry for the 2018 Eurovision Song Contest. The kingfisher on the naturum signpost donned a glitter hat in honour of the occasion, and Vattenriket's own favourite singer was chosen – the skylark!

Work continues non-stop to inspire interest in nature. By welcoming visitors and en-

couraging them to discover the area's natural values, our long-term aim is to mobilise support for more sustainable development – from an iconic building and a fantastic site in the heart of the city, at the heart of the wetlands.

Corona-safe celebrations

Although the pandemic ruled out a big birthday party, the naturum still handed out three presents on its tenth birthday. A new free app, Silurus, introduces Vattenriket's characteristic species. Speeches were broadcast live from the naturum on Vattenriket's Facebook page. And as darkness fell, the building was illuminated like a beating blue-green heart in the midst of the wetlands.

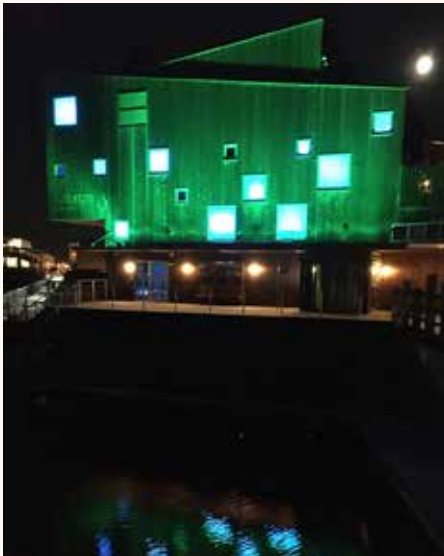




The display on the bridge. The past 10 years have been rich in many ways – rich in species, knowledge, ideas, experiences, fun and water!



The Silurus app. Augmented reality brings some Vattenriket stars to life in your mobile.



The naturum lit up the darkness with a pulsating heartbeat of blue and green lights.



For our next jubilee we hope to invite Kristianstad residents to a proper party!



10th anniversary

Due to circumstances beyond our control celebrations will be held in private.

Naturum Vattenriket
Kristianstad *virtually*

New high-profile campaign

To celebrate the jubilee, the 'I love Vattenriket' campaign was launched in collaboration with Friends of Vattenriket.

The campaign enables Kristianstad residents, visitors and companies to demonstrate their commitment to the aims of the biosphere reserve.

'I love Vattenriket' makes membership in and sponsorship of Friends of Vattenriket attractive and helps the association collect money to support biosphere reserve activities.

Campaign profile products – T-shirts, babies' bodysuits, umbrellas, etc. – are on sale at naturum, and corporate sponsors can use the slogan in their marketing.



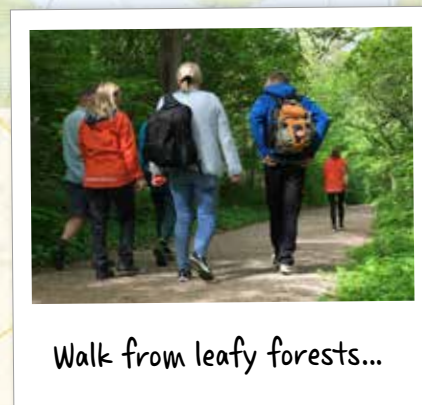
First section of the Skåneleden trail SL6 Vattenriket opens

Leafy forests, cool waters, undulating fields and endless sandy beaches. The first stretch of the Skåneleden trail SL6 Vattenriket, inaugurated on 22 May passes through Vattenriket's fantastically rich and diverse nature.

A resident's initiative to create a Vattenriket trail sparked the idea of a hiking trail from Bökestad in the north to Drakamöllan, 150 kilometres to the south. The SL6 trail is the perfect complement to our 'Explore Vattenriket' theme. Inspiring people to experience nature is a key factor in changing attitudes towards sustainable development.

The SL6 Vattenriket section of the Skåneleden trail will be completed in three stages. First to open, on 22 May 2020, Biodiversity Day and the anniversary of the foundation of Kristianstad, was a 55-kilometre section from Norra Lingenäset to Nyehusen. Starting in leafy forests the trail follows the River Helge å and Lake Hammarsjön shoreline through rich farmland to the sandy beaches of Hanöbukten Bay.

The trail links Vattenriket visitor sites
The trail passes a dozen or so Vattenriket visitor sites, with information about the local surroundings, boardwalks and observation towers. In the villages are various places to eat and sleep. Proximity to urban areas and public transport is important. The



Walk from leafy forests...

trail provides a new reason to visit the area and complements other activities for local residents.

Inauguration in glorious spring

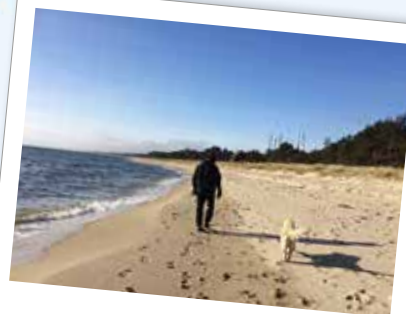
The trail was officially opened (in modest style due to the corona pandemic) beneath a canopy of fresh green leaves at Norra Lingenäset amid a carpet of wild garlic flowers and to the accompaniment of cheerful birdsong. Speeches by leading councillor Pierre Månsson and Anna Jähnke, chair of the Regional Development Committee, were broadcast live on Facebook. The trail is a Biosphere Office led project in collaboration with the Municipal Executive Office, Culture & Leisure Administration, Public Works Dept. and Region Skåne.



Live-broadcast inauguration



... beside water, over wetlands ...



... all the way to the sea.



An eagle's wingspan away

A lecturer and a camera in an empty auditorium. In these corona times Biosphere 2020 was broadcast live on Facebook. Nor was the research conference the pandemic's only casualty.

The start of the corona crisis coincided with the arrival of the cranes at Pulken. The car park remained open in 2020, but instead of the usual festivities with crane wardens in place, grilled sausages and thousands of birdwatchers, visitors had to manage on their own.

The naturum adapted activities to welcome visitors indoors and outdoors – at the corona-safe distance of an eagle's wingspan. With many programme items cancelled, social media and digital nature interpretation activities played a bigger role than ever.

As the great outdoors became a refuge and a rendezvous for many people during the pandemic, naturum staff shared tips on social media about their own favourite Vattenriket sites to encourage more to enjoy nature's unique benefits.

Many followed this advice. A Kristianstad University study showed that Kristianstad residents spent more time outdoors during the pandemic: 40 % of respondents said they were now spending more time in natural surroundings, and many said that the best and safest place to relax, re-energise and meet family and friends was outdoors.



The big Vattenriket clean-up

In the city, in the countryside and in the sea. Litter is a growing global problem. During autumn's Future Week we 'spring-cleaned' Vattenriket.

Litter-bag boxes were put up at visitor sites and along the Skåne Trail as part of activities organised with the help of various associations and societies. The week began with a clean-up around the naturum and rounded off with a 'Trash Concert' for the whole family.

Cigarette ends, cans, bottles, bikes, tyres and a wrought-iron table were just a few of the items removed during Future Week by around 300 litter-picking heroes.

Activities included everything from 'plogging' to litter-picking dog-walks and canoe trips. Divers cleaned the river bed by Tivoli Park, and in Åhus volunteers of all ages filled 30 plastic sacks with litter from the land and sea.





Flowers in farmland – an ecosystem boost

Kristianstads Vattenrike Biosphere Reserve was part of the 'Let Skåne Blossom' project in 2020. Some 40 local farmers sowed pollen- and nectar-producing plants along the edges of fields and on fallow land to lend a helping hand to bees and other beneficial insects.

The Biosphere Office also sowed 1.5 hectares of flowering plants (buckwheat, lacy

phacelia, clover, bird's-foot trefoil, ribbed melilot and caraway) on municipally owned fallow land beside the E22 motorway by the Ängamöllan industrial estate and by the approach road to Sweden's Lowest Point.

Flowers in farmland benefit the entire ecosystem. More insects mean more pollination and more food for birds. Flowering strips provide protection for wild game and food for game birds and other seed-eaters. And flowers also beautify the landscape.

The 'Let Skåne Blossom' project is run by HIR Skåne with seed-corn sponsored

by companies and stakeholders that include Vattenriket, The Absolut Company, Lyckeby, Lilla Harrie Valskvarn, Pågen, Skånefrö, Nordic Sugar, Datalogisk and the County Administrative Board of Skåne. In 2020 around 250 farmers in Skåne provided land and sowed seeds on 600 kilometres of flowering strips and 200 hectares of fallow land.



Sandy grassland project ends

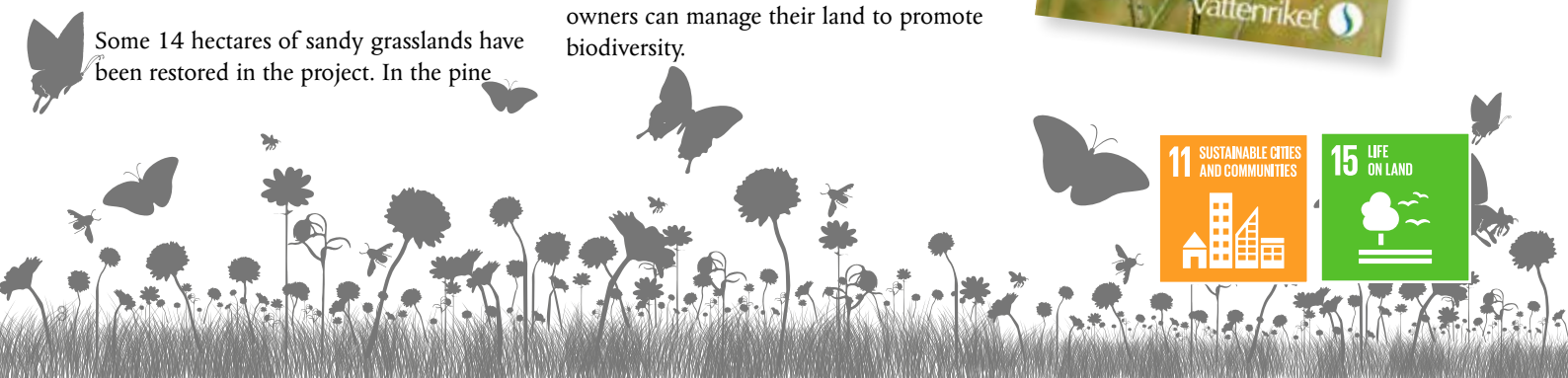
Vattenriket has long worked to conserve and develop the area's valuable sandy grasslands. Sand exposed to the heat of the sun provides a home for species adapted to extremes of temperature, drought and disturbance – a habitat that has become increasingly rare.

'In the sand near to you', a 5-year LONA project to inform and inspire about methods to manage Vattenriket's sandy grasslands close to the coast, came to an end in 2020.

Some 14 hectares of sandy grasslands have been restored in the project. In the pine

groves and sand dunes south of Palmér's väg in Åhus, trees were thinned, bushes uprooted and turf removed to expose the sand. A year later rare sand pinks had already begun to colonise the newly exposed patches of sand. Conservation measures were also implemented at Nyehusen and Horna. Insect inventories have been made in all restored areas.

Advice was given to 20 private homeowners and several field trips were made to explain about the geology, cultural history and unique diversity of the sandy coastline. The LONA project was partly state-funded through the Swedish EPA and the County Administrative Board of Skåne. In 2020 we produced a folder explaining how landowners can manage their land to promote biodiversity.



Bream time

Marinated bream, salted bream, fried bream. Bream flavoured with ginger, dill and saké. Creativity galore at the Krinova Food Jam.

Food-lovers from restaurants and Kristianstad University prepared and sampled food made with raw ingredients from Kristianstads Vattenrike Biosphere Reserve.

Bream, one of the species selectively fished to improve water quality in some Vattenriket lakes, was just one of the ingredients in a Food Jam designed to arouse interest

in some of Vattenriket's under-exploited raw ingredients.

Gourmets, producers, chefs and other foodies gathered to devise and gauge the potential of new dishes for restaurants and caterers using locally produced and alternative protein sources



Food Jam at Krinova



More flowing tresses in the River Vramsån

The Biosphere Office anchored clumps of river water crowfoot beneath stones in the River Vramsån to try to spread this rare aquatic plant from Gärds Köpinge to Tollarp.

Vattenriket's Vramsån and Mjöån rivers are the only Nordic sites for river water

crowfoot. To strengthen populations of this rarity and benefit other species, attempts have been made to mimic the plant's natural propagation process, where clumps and stems break off in the fast-flowing current and root in new sites. Initial work funded by WWF in 2018 has since continued under the auspices of the Biosphere Office.

River water crowfoot creates habitats and ecosystems for other species. Crustaceans,

caddis worms and mayfly larvae dwell amid the plant's long, trailing tresses and attract hungry brown trout.

River water crowfoot also helps to oxygenate the water through photosynthesis and, when decorated with white flowers, the undulating green clusters are a beautiful addition to the river's natural charms.



The year in review



Follow-up of wetlands creation projects

Since 2011 the Biosphere Office has presided over the creation of a total of 250 hectares of new wetlands at 60 sites. Now Lund University researchers have selected nine locations to study how effectively the wetlands reduce brownification, eutrophication and the amount of organic carbon that is transported into the Baltic Sea. After slightly less than a year of tests the indications are that the reduction in organic carbon is sufficient to take the first steps towards a long-term improvement in oxygen levels in the sea. As oxygen consumption in the water is highest in spring and early summer, retaining water in the landscape at these times may prove effective. To further improve knowledge about the processes that hold the key to breaking down organic carbon and reducing brownification, we have also initiated collaboration with Kristianstad University to examine the role of turnover time in these processes. It is hoped that the results of this follow-up work can be used to optimise future water improvement measures.



A family of wooden otters settles by the naturum

In recent years the otter has acquired almost iconic status for the naturum Vattenriket. Many passers-by have caught a glimpse of one or more otters hunting for fish in the reed beds, the naturum pond or the river in winter. So, when play sculptures were ordered to welcome visitors at the entrance to the naturum, the choice of animal was obvious. The trio of wooden otters – mum and her two pups – arrived just in time for the February mid-term school break and were an immediate success with visiting families. The otters were hardly in place before children, clearly fascinated by the friendly otter faces carved into oak logs, approached to stroke, hug and clamber on them. After a competition was launched to find suitable names, the otters are now known as mother Mutter, Kristianstad otter Uttu and fish-foraging Luttra.



February was a real high-water mark

Changing water levels, flooding and then receding from the wetlands, are a defining feature of Vattenriket. The mean high water level is 1.40 metres above sea level (m asl), but some years the waters rise much higher. In late February 2020 Kristianstad's epithet as 'the City in the Wetlands' proved particularly apt, as the River Helge å peaked at 2.09 m asl, only the second time it has topped 2 metres since 2000 (2.24 m asl RH2000 in 2002, and 2.04 m asl RH2000 in 2007)*. South of Torsebro the low-lying landscape extends all the way to the sea, so any rise in the river's water level has an immediate effect. The rising waters inundate the grasslands and wetlands flanking the river, totally transforming the landscape from one day to another. As well as acting as a natural water reservoir, the seasonally flooded grasslands deliver valuable ecosystem services such as animal fodder, recreation and a rich flora and fauna.

**High water according to Sweden's previous national height system (RH70) was 2.15 m asl in 2002 and 1.95 m asl in 2007.*



Animated film brings Lillö Castle to life

Once upon a time Lillö was a 5-storey, whitewashed stronghold in the middle of a Danish wetland. Today only vestiges of this majestic castle remain, but its history still fascinates. In 2020 we brought Lillö to life in various ways. A new animated film shows Lillö in 1650 to give a sense of what the castle looked like in its glory days, before it was destroyed in 1659 after Skåne became Swedish. Back then Lillö was full of life, home to the area's most powerful families and their servants, animals and craftsmen. To coincide with the release of the film our nature interpreters produced a brand new guide concept based on storytelling that helps give an idea of what the castle looked like, why it was destroyed and what daily life there involved. The film can be seen on Vattenriket's YouTube channel, the homepage or by scanning this QR code.



The year in review

Predator control measures to protect waders

In autumn 2019 the County Administrative Board, the Biosphere Office, the Swedish Association for Hunting and Wildlife Management and local hunters began collaboration on a predator control programme to protect the highly vulnerable populations of wading birds at key Vattenriket sites. The focus is on Hovby, Håslövs ängar, Ister-näset, Hercules and the old municipal rubbish tip, all prime areas of seasonally flooded grasslands with grazing and haymaking. After February's well-attended lecture on fox calling, the corona pandemic caused other planned activities to be cancelled. Nevertheless, traps and game calls were purchased for hunting rights holders, students at Önnestad Agricultural College constructed a tunnel trap and a Norwegian ladder trap, and nuisance wildlife management measures were sanctioned for red fox, badger, crow, pine marten, jackdaw, magpie and rook. As predator control during the breeding season can offer effective protection for threatened waders, it is anticipated that breeding success will improve.



Photo: Patrik Olofsson/N

Swedish National Commission for Unesco visits Vattenriket

Vattenriket showed itself from its very best side when Anna-Karin Johansson, new Secretary General at Sweden's National Unesco Commission, visited in connection with the biosphere reserve's 15th birthday in September. The sun shone from a clear blue sky, and lapwing and grey heron were sighted during the boat trip on the River Helge å. Anna-Karin was fascinated by the close proximity of the natural and urban landscapes in Vattenriket. She also praised the breadth of Vattenriket's activities, from family events to research conferences and reports. The role of a biosphere reserve, she said, is to showcase good examples of sustainable development and to create and disseminate knowledge. She concluded by saying that Unesco is proud of the work done by biosphere reserves and that Vattenriket is a leader and a pacesetter in this field.



Prestigious award for promotional film about Vattenriket

The Biosphere Office and Infab Kommunikation AB were awarded the 'Rising Star of the Year' prize at the 2020 Guldjubel business community gala for their film, 'Explore Vattenriket'. The motivation was: 'Appealing and attractive – inspiring the desire to visit and explore Vattenriket.' To mark Vattenriket's 30th jubilee in 2019 the Municipality of Kristianstad and the Biosphere Office produced a film to attract more visitors by showing the unique diversity of local environments, the many natural adventures awaiting in Vattenriket and, last but not least, Vattenriket's proximity to the city of Kristianstad and the everyday lives of its residents. In the film the River Helge tells the story of its life and its surroundings as viewers travel downstream from Lake Araslövssjön to Lake Hammarsjön, stopping to take a look at the naturum, Tivoli Park, Ekenabben and other local jewels. Finally the river invites the audience to come and experience all this for themselves.



River Vramsån fills the naturum during mid-term break

In 2020 Nosaby School's art and design classes worked together with the naturum's nature educators to learn about ecology and derive creative inspiration from the River Vramsån's swirling waters. Excursions to the Vattenriket visitor site at Gärds Köpinge in spring enabled pupils to investigate and document life in the river. These insights into Vattenriket's rich biodiversity inspired pupils to use various techniques and materials to create their own animals, plants and environments. The results were subsequently exhibited in the naturum during the autumn mid-term break, when visiting families could make the acquaintance of an ancient pike, a gigantic freshwater crustacean and other fascinating fishes and fantastic insects.





Sandy areas cleared and ploughed to preserve rarities

The Biosphere Office received extra state funding for nature conservation measures to protect threatened wild bee populations. Of the 2.8 million kronor (€ 275,000) handed out by the County Administrative Board of Skåne 286,000 kronor (€28,000) was earmarked for a project with Kristianstads Vattenrike Biosphere Reserve. The Biosphere Office added a further 57,000 kronor (€5,600). Suitable areas were chosen at Sännarna, Degeberga, Rinkaby, Vå/Mosslunda and Kristianstad Golf Club in Åhus. During the autumn patches of sand were exposed on private land and nature conservation fund land between Rinkaby and Horna, and the Biosphere Office and Public Works Dept. planted 1,000 plug plants of kidney vetch, sheep's-bit, greater knapweed and wild thyme on the Sännarna and Horna sandar nature reserves. The restoration project has resulted in a total of 1 hectare of new exposed sand at eight separate sites in Vattenriket.



Wood-mould boxes provide homes for beetles

There is a severe shortage of habitats for animals, fungi, lichen and mosses that are dependent on dead wood, hollow trees and ancient, large-girth trees. Oaks are especially valuable as they are of use to many different species, both during and after their lifetime. It can take up to 200 years for an oak to acquire the right characteristics, so it is important that there are oaks of all ages in the vicinity. This is why oak saplings were planted at Näsby fält in Vattenriket. It takes time before newly planted trees and thinned populations are mature enough to house the multitude of species that seek a home in old oaks. To complement this initiative the Biosphere Office purchased 9 wood-mould boxes. These were put in place in December; two at Ekenabben and seven at Näsby fält. These artificial habitats provide a good solution for many species that live in hollow trees. Before long we expect the wood-mould boxes to be teeming with insects, birds and bats.



New Action Plan for 2021–2025 now in place

During the year we have been working on a proposal for a new action plan, based on the goals of the Unesco biosphere programme, Kristianstad Municipality's vision and strategic road map, and the Swedish Environmental Protection Agency's national guidelines for naturum visitor centres. The plan, which has already received the backing of the Consultation Group for Kristianstads Vattenrike Biosphere Reserve, lays the basis for our activities for the next five years. The County Administrative Board of Skåne praised the plan for its clear, simple structure with five focus areas that are described in both general terms and through specific activities. The Board wrote, 'All the focus areas have clear links to Agenda 2030, which is positive. This is a well-formulated programme that is easy to understand and interpret.' The Municipal Executive Committee is expected to approve the Action Plan at its first meeting of the year in January 2021.

Kristianstads Vattenrike Biosphere Reserve
– benefiting nature and people

Read more on our homepage, where you will also find contact details
vattenriket.kristianstad.se