

*Biosphere Reserve*

# Kristianstads Vattenrike®

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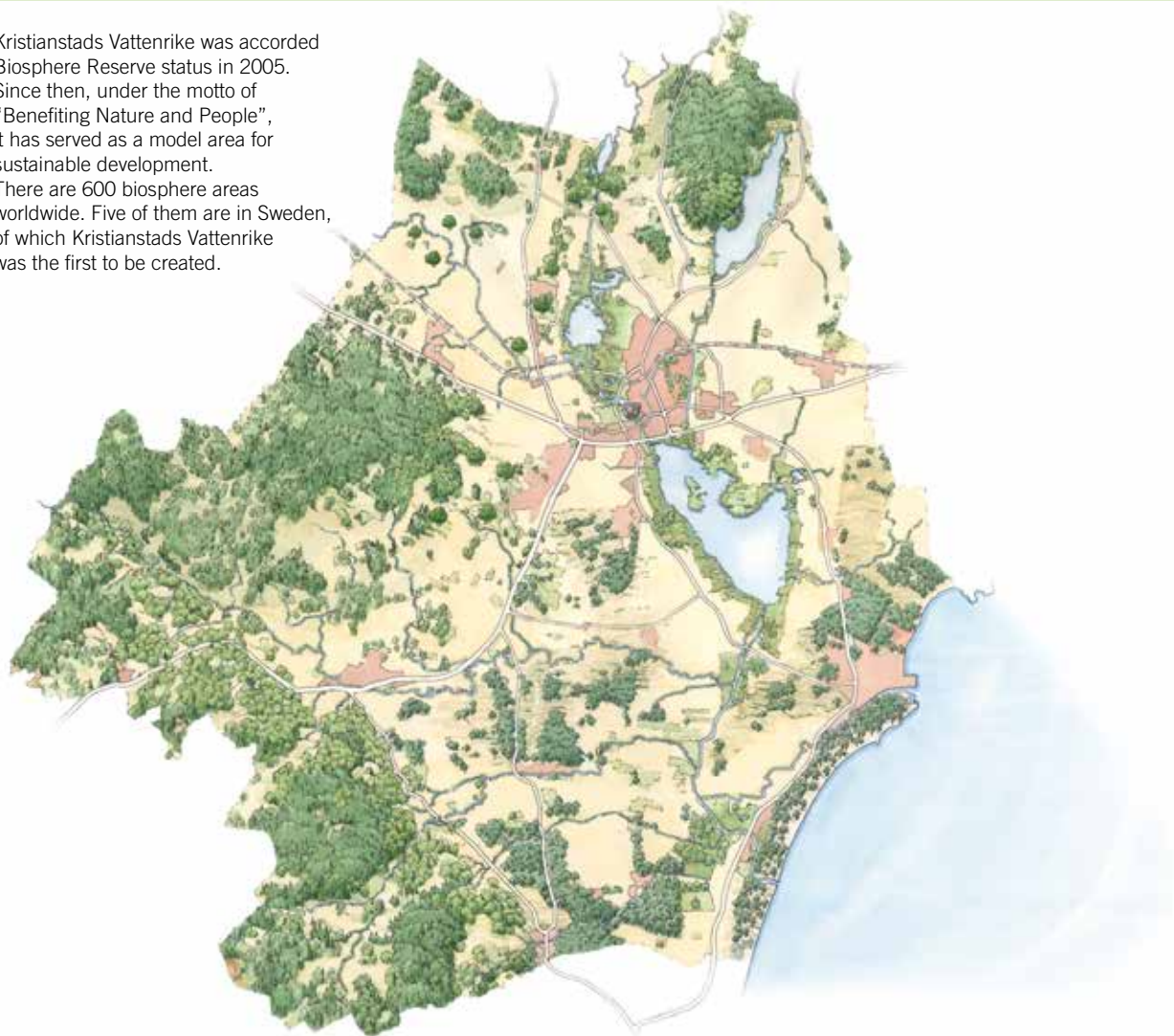
United Nations  
Educational, Scientific and  
Cultural Organization



Man and  
the Biosphere  
Programme Sweden

# Kristianstads Vattenrike Biosphere Reserve

Kristianstads Vattenrike was accorded Biosphere Reserve status in 2005. Since then, under the motto of "Benefiting Nature and People", it has served as a model area for sustainable development. There are 600 biosphere areas worldwide. Five of them are in Sweden, of which Kristianstads Vattenrike was the first to be created.



Illustrator: Carina Lindkvist Naturcentrum AB

**Kristianstads Vattenrike Biosphere Reserve is in north-eastern Skåne. This rich cultural landscape, formed by nature and people, is endowed with almost every type of natural habitat to be found in Sweden.**

The majestic River Helge å is a central feature of the area, expanding into the lakes of 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 habitats for flora and fauna. The reserve is exceptionally rich in diversity and a refuge for many threatened species. Here, in less than two tenths of one percent of the area of Sweden, live no less than 20% of Sweden's red-listed species!

We want Kristianstads Vattenrike to remain a haven for nature and people. Our various projects give flora and fauna a helping hand and people an opportunity to use and enjoy natural values without destroying them. One way we do this is through research and sharing new insights. We conduct

inventories, publish reports, work with researchers and hold conferences.

We collaborate with 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 climate change and other challenges.

Enabling people to experience nature inspires them to help conserve it. We have created 21 visitor sites with observation towers, marked trails and outdoor museums. The jewel in our crown is the naturum Vattenriket visitor centre with exhibitions, meeting rooms and a restaurant. Here we explain how the biosphere reserve works and encourage visitors to explore the area for themselves.

We are delighted with the results of our efforts. At the Pulken visitor site cranes, visitors and farmers co-exist in harmony. Catfish have been successfully reintroduced into the river and otters fish close to the naturum. Today the wetlands are no longer seen as a problem, but as a resource.

# 2015 – The year in review

**With a major report to prepare for Unesco and two important anniversaries to celebrate, 2015 was an eventful and busy year for the biosphere reserve.**

Kristianstads Vattenrike, Sweden's first biosphere reserve, celebrated its 10th birthday in 2015. The Periodic Review we duly submitted to Unesco details how we have met requirements to set a good example in sustainable development through our own efforts to conserve, develop and provide logistic support for the values of the area. Under the maxim "Benefiting Nature and People" we selected 10 good examples from 10 years to demonstrate the scope of our activities.

One key aspect of our work is to gather and spread information and transform this into action. Inventories were made of bladder wrack, of mussels and of birds on the seasonally flooded grasslands. Results of the restoration of spawning gravel at Torsebro were followed up. Sandy nature reserves were inaugurated with pomp and ceremony. And 50 hectares of new wetlands were created as part of work to improve water quality in Hanöbukten Bay.

We celebrated our 10th anniversary in appropriately wet conditions in September. It was a day with "something for everyone" – good food from the wetlands, interesting interviews on the biosphere sofa, visits from Biosphere Camp kids, music, qigong and soap bubbles galore! We see collaboration as the key to success, and a recent resilience assessment conducted by researchers from Stockholm University confirms this.

Naturum Vattenriket, Sweden's most popular naturum visitor centre, celebrated five successful years in 2015. Over 20,000 people took part in the year's "Calm by Nature" programme, which included new activities such as qigong and "forest bathing".

It was a record-breaking year in many ways. Despite record low water levels the good news was that test-fishing netted a record 13-kilo catfish, proof of the success of the reintroduction programme. There were record numbers of otter observations close to the naturum and we also were honoured with visits from the brilliantly plumaged kingfisher.

This bodes well for the new year, and our new theme of diversity and eco-system services. Kristianstads Vattenrike covers barely two tenths of one percent of the area of Sweden, yet is home to 20% of Sweden's red-listed species. This high figure is a measure not only of diversity, but also of the great responsibility we have. We have every reason to be proud of our biosphere reserve. Let us work together to develop and conserve it for future generations.

*Carina Wettén*

Manager, Department for Biosphere Activities and Sustainable Development.  
Coordinator, Kristianstads Vattenrike Biosphere Reserve.



## The weather year 2015

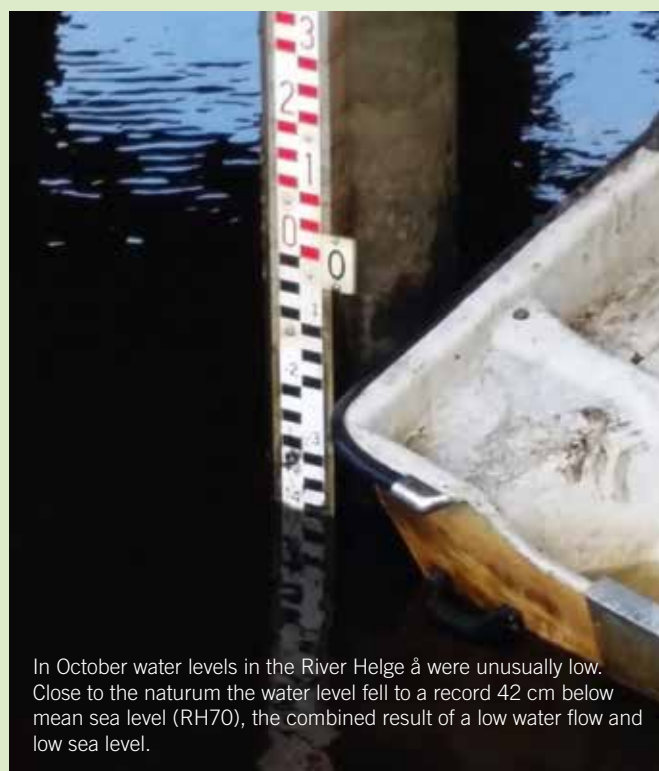
**We can look back on yet another mild year, with no snow cover to speak of during the first months of the year and a lowest temperature of just -5.3°C on 3 February.**

**The storms of 10 January and 20 February were more like autumn storms.**

A non-existent winter turned into a long spring with the third coolest May since our records began in 1998. The summer of 2015 is unlikely to be remembered as one of the best. The weather around Midsummer itself was typically Swedish!

There was a very brief heatwave on 5 July and slightly more stable summer conditions in mid-August, but otherwise rain was an all too regular feature of the summer weather.

Autumn was very mild with little change until November: the temperature fell to -6.9°C on 23 November (the coldest day of the year!) before Storm Gorm arrived six days later. However, Gorm was less intensive in and around Kristianstad than in the west of Skåne with relatively modest wind speeds of 22.8 m/s. The year ended with a green Christmas and a green New Year.



In October water levels in the River Helge å were unusually low. Close to the naturum the water level fell to a record 42 cm below mean sea level (RH70), the combined result of a low water flow and low sea level.

# Celebrating 10 years as a bio

**Food, interviews, music and bubbles! There was something for everyone to enjoy when Kristianstads Vattenrike Biosphere Reserve celebrated its tenth on 12 September.**

A decade has passed since Unesco granted Kristianstads Vattenrike biosphere reserve status. For ten years we have been working to conserve and develop the values of the area in ways that benefit both nature and people.

The anniversary was marked in various ways during the year, but the main celebration took place at naturum on 12 September. Heléne Fritzton, Chair of Kristianstad's Municipal Executive Board, opened proceedings by recalling her pride in signing Kristianstads Vattenrike's application for Unesco biosphere status ten years ago.

## Bubbling with enthusiasm

Johanna MacTaggart of Sweden's national MAB Committee praised the work done in Kristianstad, citing the role it has played in developing the Swedish biosphere programme along innovative and highly successful lines.

As the formalities were concluded with loud cheers, clouds of biosphere bubbles billowed over "the nest in the reeds". Meanwhile Amina Olsson, Peo Fredholm and Ellen Taylor filled the air with the aroma of their cooking, artist Carl Christian Tofte set to work on a water-colour, and freelance journalist Per Erik Tell interviewed guests on the biosphere sofa.

## The people behind biosphere work

Visitors heard about raising beef cattle on the local

wet grasslands and about the Crane Group, two good examples of biosphere work founded on dialogue and collaboration. They heard about research into working methods. About the biosphere reserve's appeal as a tourist destination. About Biosphere Camps. And about the return of the catfish; Kristianstad-born singer Pernilla Andersson released a catfish into the River Helge å before treating the audience to a musical interlude.

Then there was a "diversity walk" with biologist Nils-Otto Nilsson, qigong with Åsa Ottosson, Handel's Water Music with the Christianstad Symfoniker, a Biosphere "Olympics" for the young at heart of all ages, and an opportunity to see pictures from Patrik Olofsson's new book project, *Mitt Vattenrike*.

## More celebrations during the year...

In a "Learn about Biosphere" lecture series during the year several experts talked about their work. First out was Biosphere Coordinator Carina Wettemark, who gave numerous examples of Kristianstads Vattenrike's work on projects to conserve and develop the values of the area through dialogue and collaboration.

Good examples of this work were highlighted in a special feature in *Tidningen Kristianstad*, in a dedicated publication and on the homepage. A multi-touch screen reviewing the biosphere reserve's first 10 years was produced for the naturum. And spring saw the launch of a new Kristianstads Vattenrike profile product, a droplet of water designed in glass by Studio Glashyttan i Åhus as a symbol for the reserve and its activities.



Studio Glashyttan i Åhus:  
The Vattenrike water  
droplet.

## Periodic Review for Unesco

Every biosphere reserve is required to undergo a "Periodic Review" every ten years so that Unesco can confirm that activities are meeting the criteria laid down.

Kristianstads Vattenrike's review was published in Kristianstad's Civic Centre and at the naturum visitor centre in March 2015. After approval by the Municipal Executive Board and Municipal Council, and subsequent ratification in September by the Swedish National MAB Programme, the review was submitted to Unesco in Paris for final approval by the board of the International Coordinating Council of the MAB Programme in March 2016.



# osphere reserve



Our hardy visitors appreciated the gift of rain capes.



Pernilla Andersson



Christianstad Symfoniker performed Handel's Water Music



Peo Fredholm, Amina Olsson and Ellen Taylor tempted visitors with sweet and savoury tastes from Kristianstads Vattenrike.



# New Vattenriket wetlands – oases for

**Little ringed plover, Eurasian curlew, shelduck, osprey, marsh harrier. On a Sunday excursion to the new Hamiltonhill wetlands in May ornithologists sighted 53 species in just a couple of hours.**

Wetlands are crucial for biodiversity in the agricultural landscape, as oases for insects, plants, birds and animals. Molluscs and insect larvae thrive along the margins and in the muddy bottoms and provide food for foraging birds.

One glorious May morning, on their first excursion to the new wetlands at Hamiltonhill, members of North-East Skåne's Ornithologists' Club were delighted to see how quickly the birds had found the site.

Hamiltonhill is one of a number of recently created wetlands in Kristianstads Vattenrike. Biosphere reserve limnologist Jonas Dahl is the man tasked with applying for grants and liaising with landowners to create wetlands like these at suitable sites.

Landowners had repeatedly ditched the area around Hamiltonhill and built dykes in attempts to cultivate

the land, but time after time they had been forced to pump out the constant influx of water. So, for landowner Anita Bärnheim, it was not a difficult decision to allow the area to revert to wetlands.

The Biosphere Office has excavated some 150 hectares of new wetlands in the River Helge å drainage basin. Work at Hamiltonhill, whose 57 hectares make it one of the largest of the new wetlands, was completed a year ago. It is fed by surface run-off from the surroundings and drainage water from the adjacent fields.

Wetlands have the capacity to absorb huge volumes of water, evening out fluctuations in flow rates and inhibiting nutrients from leaching from arable land into the sea.

In 2015 the Biosphere Office received LOVA local water management grants to fund even more wetland projects. Five new wetland sites were created during the year.



## New spawning gravel gave rapid results

**A year ago the Biosphere Office spread gravel at Torsebro to help restore salmon-friendly conditions in the River Helge å. Electrofishing shows the initiative has produced quick results.**

There used to be plenty of salmon in the river but in the last century hydro plants and pollution almost wiped them out. However, water quality has improved over the past 50 years and around 10 years ago salmon parr were released in the Helge å tributaries.

Salmon need spawning gravel to

reproduce. As there was none downstream from the Torsebro power plant, the Biosphere Office spread new gravel there in 2014. Test-fishing in 2015 confirmed the success of the initiative. Around thirty parr proved that the salmon had clearly wasted no time in finding the gravel the previous autumn.

Work to restore rivers and streams continues. In 2015 gravel was spread on four sites in the Linnekullabäcken brook to help brown trout to spawn. This also benefits mussels which are dependent on the trout as host fish.



# plants, insects and birds

*Work to improve water quality in local watercourses continued throughout 2015. Five new wetlands were created and spawning gravel was spread in rivers and streams. Follow-ups point to positive results from earlier initiatives.*



## Bladderwrack thrives in Hanöbukten

**Armed with a water telescope and camera, marine biologist Lena Svensson inventoried seaweed around islands and shallows along the municipality's coast. She found plenty of bladderwrack from Revhaken to Takholmen.**

Lena assessed the presence of seaweed and the growth of filamentous algae on weed and rocks at specific GPS coordinates.

From Revhaken and further north, healthy bladderwrack that showed

an abundance of vesicles was in good supply. Less common, however, was its cousin, serrated wrack; Lena did not find as much she had expected on the banks a little further out to sea, but the colonies she did find were large and healthy.

At many sites both types of wrack were covered in thick, growth-inhibiting layers of filamentous algae, perhaps as a result of insufficient populations of the crustaceans that feed off the algae and keep them in check.



# Calm by nature – with naturum's help



Qigong on the rooftop terrace was a popular pastime every Thursday in the summer.



Foto: Bo Nilsson

Autumn's "forest bathing" walks at Forsakar were a well-attended success.



**We are fortunate to have such fantastic nature so close at hand in Kristianstads Vattenrike. Nature is balm for both body and soul – as demonstrated by the qigong sessions, forest walks and lectures arranged by naturum.**

Research shows nature has a calming effect in our hectic daily lives. Naturum Vattenriket's theme for 2015, "Calm by Nature", offered many opportunities to unwind and get close to nature through various sensory experiences.

Lectures and guided field trips were both scheduled and bookable services. The purpose was to show how important experiences of nature – in theory and in practice – are for health and wellbeing.

Qigong on the rooftop terrace of the naturum visitor centre overlooking the lake and reed beds was a real success; it attracted a total of 327 participants, many of whom returned week after week.

## **"Forest bathing" and nature adventures**

Activities continued in autumn in the beech forest by Forsakar waterfall with "forest bathing" (shinrin yoku as it is known in Japan), which combines leisurely walks through the forest with relaxing exercises accompanied by the sigh of the wind and the rustle of the leaves.

Forest bathing and nature adventures around the naturum enabled hundreds of people to explore their surroundings, discover nature's many tiny miracles and practise using their senses to experience the "here and now".

Åsa Ottosson led several qigong sessions and Marcus Hedblom from the Swedish University of Agricultural Sciences lectured on the importance of birdsong for urbanites.

A quiet corner has been created inside the naturum where visitors can listen to birdsong while enjoying the view.

# Sandy grasslands with a long history

Three new nature reserves west of Åhus were inaugurated in 2015 – the municipal reserves of Sännarna in the south and Horna Sandar in the north, with the national Horna grushåla in between. These sandy grasslands teeming with diversity can now be conserved for future generations.

The long history of the sandy grasslands west of Åhus provides ideal conditions for unique flora and fauna. The new reserves were officially opened on 2 June, National Biosphere Day, with speeches from Carina Wettemark (Coordinator for Kristianstads Vattenrike Biosphere Reserve), Carl Älfvåg (Deputy County Governor), Anna-Kerstin Larsson (Chair of the Municipal Council), and Christel Jönsson (Chief Executive Officer of Kristianstad Municipality).

The day's events also included a visit from Kristianstads Vattenrike's own "Carl Linnaeus", a demonstration of horse-drawn ploughing, a nature walk with biologist and sandy grassland expert Krister Larsson, and pyramid cake and coffee.



## Vattenriket in Focus

Vattenriket i fokus ("Vattenriket in Focus") is the Biosphere Reserve's series of booklets (ISSN 1653-9338), in which reports and inventories commissioned by or conducted in cooperation with the Biosphere Office are published. All the reports are available in Swedish at [www.vattenriket.kristianstad.se/fokus/](http://www.vattenriket.kristianstad.se/fokus/).

### Publications in 2015

**Kristianstads Vattenrike Biosphere Reserve: Activities 2014**

Author: Biosphere Office  
Reference number 2015:01

**Provfiske i Helgeåns avrinningsystem 2014**

Author: Håkan Östberg.  
Reference number 2015:02

**Stormusslor i Helge å – en dykinventering**

Author: Håkan Östberg.  
Reference number 2015:03

**Forskningsmiljön Man & Biosphere, Health HKrs miljöforskning i Biosfärområde Kristianstads Vattenrike**

Editor: Ingemar Jönsson.  
Reference number 2015:04

**Provfiske efter mal i Nedre Helgeån 2014**

Author: Jerker Vinterstare.  
Reference number 2015:05

**Kan gullstånds hålla stånd?**

Authors: Kjell-Arne Olsson & Håkan Östberg.  
Reference number 2015:06

**Häckningsframgång hos rödspov och tofsvipa på Håslövs ängar och Isternäset 2015**

Authors: Mirja Ström-Eriksson & Richard Ottvall.  
Reference number 2015:07



## The year in review



### Sandy grasslands opened up at Nyehusen

Work continued in 2015 to restore the open, flower-rich sandy grasslands in order to conserve their unique flora and fauna. On one site between municipal land and Slättens väg at Nyehusen dwarf mountain-pine and small pines were removed in collaboration with the landowners. Between the sandy patches that have been exposed once more after 50 years of overgrowth are pine groves and old stunted pines that give shelter and add character to the area. The flora and fauna of the sandy grasslands in and around Åhus is unique. At Nyehusen no less than 48 species on the Swedish red list have been recorded. Many are very rare and have their core areas in Sweden here. Previous initiatives in the sandy grasslands around Åhus have led to a rapid rise in diversity. Insects and flowering plants proliferate when the sand is exposed and lit by the sun. People also benefit when thickets of pine are cleared to open up new areas in which to walk.



### Pulken attracts cranes and crowds

The 2015 "Spring Crane Season" saw record numbers of both cranes and onlookers. There were 8,600 cranes at Pulken on 28 March. An early start to migration from overwintering sites in south-west Europe and good flying weather saw 450 cranes rest overnight at Pulken as early as 8 March. Their numbers were constantly augmented by new arrivals, while cold weather and northerly winds meant that more birds stayed than flew north. On 19 March diversionary feeding commenced on adjacent land to protect agricultural crops. The spring sowing had begun, so it was crucial to avoid crop loss. A long feeding period and large numbers of resting cranes meant that a record 45 tonnes of grain were spread at the feeding station close to the observation tower. Guides from naturum and the ornithologists' club were on hand to provide binoculars and information for the 15,000 visitors (another new record!) who flocked to witness the year's crane dance.

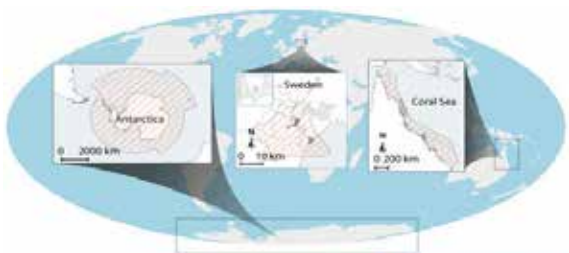


### New viewing platform at Forsakar

The Forsakar Ravine, one of Kristianstads Vattenrike's visitor sites, has attracted visitors from far and wide since the early 1900s. In recent years, however, the risk of falling trees has prompted Skåne's County Administrative Board to advise visitors not to follow the path into the ravine. Local residents regretted losing the opportunity to approach the waterfall and sought help to solve the problem. A working group comprising residents and representatives from the municipality and county administration set about improving access to the ravine. Paths and steps to the upper falls were rebuilt, and the idea was born of a viewing platform from where people could look down on the lower falls. In autumn 2013 the County Administrative Board gave the Municipality of Kristianstad a 720,000 kronor grant to build the platform. It was opened in May, a new attraction that now enables visitors to enjoy the beautiful view in safety.

### Vattenriket in international research

Researchers at the Stockholm Resilience Centre have compared the management of the natural values in Kristianstads Vattenrike, Australia's Great Barrier Reef and Southern Ocean fisheries. Their analysis of the effect of ecosystem services in the three areas shows the positive effects that work in Kristianstad has had on the area's natural capital. This success owes much to key individuals and bridge-building organisations such as the Kristianstads Vattenrike Biosphere Office, to trust and cooperation between authorities and local resource-users, and to a holistic approach that takes the entire ecosystem into account. The researchers emphasise that adaptive governance must not only be designed to suit the place and all who live there, but must also constantly evolve and adapt to changing conditions. The report was published in the highly respected journal, PNAS, Proceedings of the National Academy of Sciences.



## The year in review

### More new Biosphere Camp adventures

For two weeks in the summer some 30 children and teenagers had the opportunity to enjoy, appreciate and marvel at what nature has to offer in Kristianstads Vattenrike. The theme for the year's camp was "Benefiting Nature and People", the same motto that was adopted for the biosphere's other tenth anniversary celebrations. Participants could learn to canoe, sample medieval life in the ruins of Lillö Castle, dye yarn with plant dyes, weave wicker baskets, visit a farm on the sandy grasslands and a fisherman on the coast, paint watercolours and much more besides. And there was, of course, plenty of opportunity for bathing, playing or just chilling. One day the focus was on cooking outdoors, with a 3-course vegetarian meal served by naturum staff in the "Glade" restaurant. As the camp drew to a close, an exhibition in the naturum's auditorium showed all the interesting and exciting things camp participants had done.



### Masses of mussels in the River Helge å

In 2015 the focus was on the southernmost stretches of the river. Mussel populations here are good; divers found up to 300 mussels in the one-square-metre areas inventoried. Six of Sweden's seven species of large freshwater mussel were represented. This shows that the river environment is healthy, with good fish populations, as the larvae of the mussels live on the gills of fish. Mussels are key to a riverine ecosystem, as they filter out plankton, bacteria and organic material. No mussels were found, however, immediately downstream of the River Vramsån – probably because the influx of seawater renders the water too saline. The inventory is the first of its kind in the River Helge å. Work began last year between Torsebro and Lake Hammarsjön and the results are more or less the same in both inventoried areas. Next year Jonas and his divers will move further north, between Torsebro and Knislinge.



### Two records in test-fishing for catfish

Kristianstad Vattenrike's fifth test-fishing of catfish yielded new records in terms of both numbers and size. The largest of the 130 catfish caught in the 25 double fyke nets between Torsebro and Lake Hammarsjön measured 130 centimetres and weighed 13.1 kilos. Most of the catch consisted of yearlings about 10 centimetres in size. However, no juveniles spawned in 2015 were caught; this may be a consequence of the cold, rainy summer. Over two weeks fish were measured, weighed and had a small fin sample taken before being returned to the water. Fin samples have been preserved in ethanol for later analysis. In addition to the catfish, a further 14 species were caught, including other giants such as an 11 kilo sea trout and a salmon weighing just under 6 kilos.



### Record low water in the River Helge å

The autumn left no one in any doubt about the variations in water level in Kristianstads Vattenrike. On 23 October the water gauges at naturum recorded 42 cm below mean sea level. According to the new Swedish measuring system (RH2000) that is still 33 cm below mean sea level. This is one of the lowest levels ever measured and the result of a combination of factors: abnormally low rainfall upstream led to a reduced inflow, while the water level at sea was approximately 50 cm lower than usual due to the atmospheric pressure and wind direction. The low water level was particularly evident around the naturum, where crows sat on the kingfisher poles and fed on mussels in the mud banks around the shrinking naturum lake. Water levels are shown every day on the Kristianstad Vattenrike website. Last winter's change to the RH2000 system means that new water level data are 9 centimetres below the old RH70 readings.



## The year in review



### Improved access to Linnérundan Trail

Late in the year there was a flurry of activity at several sites along the Linnérundan Trail. After the municipal advisory committee for disabled people, the municipal senior citizens' council and disability consultants were invited to share their thoughts about the trail, the path was widened and gritted and a new picnic area with improved access was created. Ramps were added to the bridge over the River Helge å and at Lillö to facilitate access for electric wheelchairs, wheelchairs and prams. The observation platform at Isterinäset was widened and fitted with a ramp. The adaptations made by Kristianstads Vattenrike and the Department of Public Works enable more people to experience the wetlands, the birds on the seasonally flooded grasslands and the ruins of the medieval castle at Lillö. Work began in 2014 with the adaptation of the boardwalk at Kanalhus and the erection of a fence to separate walkers from grazing land at Isterinäset.



PHOTO: PATRIK OLOFSSON/N

### Sweden's favourite naturum is 5 years old

The naturum visitor centre first opened its doors on 27 November 2010. Since then some 620,000 people from near and far have acquainted themselves with our fish, birds and otters, enjoyed the view, ridden in the Opteryx and learnt about work in the biosphere reserve. Visitor numbers made this Sweden's favourite naturum in 2014 – and they are continuing to rise: 117,001 visitors in 2015 and 19,940 participants in 462 scheduled activities. Success is due to a varied programme of events, proximity to a major urban area and year-round opening hours. Among many groups visiting naturum and the biosphere reserve in 2015 were Kristianstad Municipal Executive Committee, the Swedish MAB Committee and Waddensee Biosphere Reserve. There were study visits from the universities of Kristianstad and Lund and from the Stockholm Resilience Centre, all eager to learn about the working methods and natural values of the biosphere reserve.



### Otters and kingfisher around the naturum

Early in the year regular visits from a kingfisher proved popular among naturum visitors, but as the year drew to a close it was otters that attracted the crowds. A female and two pups caught fish and frolicked in the nearby reeds. Shortly before Christmas we built a platform and a place for the otters to rest in the day. Now, with a little good fortune, visitors can see both kingfisher and otters in the naturum lake. Both feed on small fish. An adult otter eats 1–1.5 kilos of fish a day; presumably it is the ready accessibility of this food that attracts them to the naturum. Until the 1950s otters were common in Sweden, but then their numbers dwindled. The trend was reversed in the 1990s and now otters are making a comeback. There are an estimated 2,000 nationwide but they remain rare in southern Sweden. That makes it extra exciting to have a family of otters so close to the naturum, where people can watch their antics.

#### Contact us at Vattenriket

Carina Wettemark, Coordinator, Kristianstads Vattenrike Biosphere Reserve, Manager, Department for Biosphere Activities and Sustainable Development, tel +46 (0)44 136486, [carina.wettemark@kristianstad.se](mailto:carina.wettemark@kristianstad.se)

Åsa Pearce, Information Officer, tel +46 (0)44 136462, [asa.pearce@kristianstad.se](mailto:asa.pearce@kristianstad.se)

Read more about Kristianstads Vattenrike, naturum, local flora and fauna, visitor sites and the biosphere reserve at [www.vattenriket.kristianstad.se](http://www.vattenriket.kristianstad.se).

Postal address: Department for Biosphere Activities and Sustainable Development, Kristianstads kommun, SE-291 80 Kristianstad, Sweden

#### Text, photos and production

Kristianstads Vattenrike Biosphere Reserve

Text: Åsa Pearce and Carina Wettemark.

Additional material written by: Rolf Sjöberg.

Photos: Biosphere Office otherwise credited.

Layout and production: Ebba Trolle