

# *Biosphere Reserve* **Kristianstads Vattenrike®**

A C T I V I T I E S   2 0 1 4



# Kristianstads Vattenrike Biosphere Reserve



Shallow sandy bottoms strewn with boulders are valuable marine habitats in Vattenriket. They support a variety of bladder wrack and beds of seagrass which are home to small insects and fishes. Photo: Karin Magntorn

**A biosphere reserve is a model area that combines conservation with development. There are biosphere reserves throughout the world, designated as protected areas by the UN agency UNESCO. Kristianstads Vattenrike was established as a biosphere reserve in 2005.**

Kristianstads Vattenrike Biosphere Reserve includes the greater part of the Municipality of Kristianstad, from the forests to Hanöbukten Bay with the rich wetlands of the River Helge å and the urban centre of Kristianstad at its heart.

**Extent:** Greater part of the Municipality of Kristianstad.

**Area:** 104,375 ha. Land and lakes, 90,515 ha; marine area, 13,860 ha. (Total land area of municipality: 134,620 ha.)

**Population:** approximately 75,000 including approximately 35,000 in the Kristianstad urban region. (Total population of municipality: 80,000.)

**Species worthy of preservation:** There are at least 700 nationally red-listed species in the biosphere reserve, a high figure compared to other areas of Sweden. Ca 30% of red-listed species in the province of Skåne occur in the biosphere reserve. The wetlands are home to 120–130 regularly breeding species of bird. In all, some 260 spe-

cies have been recorded. At least 38 different species of fish have been caught in the inland waters: around 30 of these, including the European catfish and loach, spawn in fresh water.

**Development projects:** Wetlands have been established in the

Helge å drainage basin to purify the water reaching the sea and provide spawning grounds to promote biodiversity. The wetlands also allow ecotourism activities and the development of products from the seasonally inundated grasslands. Biological and recreational values are being developed hand in hand on a golf course in the sandy grasslands.

**Thematic landscapes:** Ten thematic landscapes with high values have been identified in the biosphere reserve. These include valuable wetland habitats, extensive sandy areas with high natural values, internationally recognised forest habitats, important marine

habitats and unique flowing-water environments. The reserve also contains many nature reserves and Natura 2000 sites. In future the work will gradually be extended to cover all these thematic landscapes under the maxim: *Benefiting people and nature!*



# 2014 - the year in review

**Vattenriket is given the royal touch, and we look back in history as Kristianstad celebrates 400 years in Vattenriket. The year also focused on strong involvement and interest in the sea.**

The Danish King Christian IV founded Kristianstad in 1614 in the middle of the wetlands to afford the town protection against the Swedes. 400 years later the wetlands are still playing a central role but this time in another kingdom: the Kristianstads Vattenrike Biosphere Reserve.

The lowest three-mile stretch of the River Helge å where it flows down from Torsebro and into the sea reveals a variety of landscapes with high values - an area ripe for sustainable development, in accordance with the UNESCO Directive on biosphere reserves. The King and Queen were treated to the full story when, in brilliant sunshine on 22 May - the day of Kristianstad's anniversary - they visited naturum and a fully-packed hide embedded in the reeds.

Kristianstad's 400th anniversary has been marked in several ways by the Biosphere Office. Many people have heard the acclaimed talk given by the naturum staff on "400 Years in 800 Metres" and have been transported into the exciting world provided by historical maps. Guided tours have ended at the Canal House Outdoor Museum which hosted a new and excellent exhibition during the year.

In November naturum received its 500,000th visitor! There is considerable interest in learning about Vattenriket and biosphere work, as evidenced by the many visitors from near and far.

During the year the Biosphere Office has focused especially on the sea - work which is to continue. Landowners have become involved and wetlands established to reduce the problems associated with nitrogen and phosphorus. An inventory was made of the eelgrass beds off Åhus.

Kristianstad was this year's host for the knowledge project Havsresan (Sea Journey), and Vattenriket its representative. Interesting talks, dives and Maritime Day were all on the programme. The sea is a resource to be safeguarded by us all.

Many have shown commitment and interest, as evidenced by a well-attended breakfast meeting arranged by the Biosphere Office together with the Municipal Trade and Industry Office. Even so, the best way to learn about the sea is to experience it first hand. Although it was not the best of weather, a large number of exhibitors and visitors joined forces at Snickarhaken on Swedish Maritime Day in August. The amount of interest shown in the sea gives us hope in facing the future challenges relating to Hanöbukten Bay.

*Carina Wettemark*

Carina Wettemark  
Manager, Biosphere Office  
Coordinator, Biosphere Rese  
Kristianstads Vattenrike



## The weather year – 2014

**2014 was Kristianstad's warmest year by far since online weather recordings began in 1998. The average temperature rose to 10.4 degrees - a normal level if we lived 600 miles to the south!**

All the months of the year were unusually mild, but March and November in particular stood out in terms of record temperatures. As early as 10/3, for example, the temperature had soared to 16.9 degrees.

We were once again able to enjoy a lovely summer. True, it rained during some of June and August, but those who had planned their holidays in July drew the winning lot. Temperatures did not, however, exceed 30 degrees apart from on a few occasions. This is seen as an advantage by most residents here. The high average temperatures depended mainly on our having a very mild spring and autumn.

A short cold snap between Christmas and New Year was the only time one could say it was cold.

The absence of a true winter usually increases the risk of storms, but in 2014 we were spared these. The highest

wind speed, 17.4 m/s from north-northwest, was recorded on 15/3 during the passing of an intensive cold front. For a time it was therefore slightly more chilly in the north, but temperatures in our parts remained at around 10 degrees in daytime.

Moreover, it was an unusually wet year. Climate forecasts suggest, of course, that increasing carbon dioxide levels in the atmosphere mean it will become milder and wetter. We might need to get used to the idea that the weather in future will be as it was in 2014.

WHEN THE O-RINGEN ORIENTEERS HAD RUN IN THE HEAT THEY WERE ABLE TO COOL OFF IN THE SEA AFTERWARDS.  
PHOTO: KRISTIANSTAD MUNICIPALITY/LINUS JOHANNESSON





*Kristianstad is celebrating its 400th anniversary*

# Naturum is given the royal touch

**In 1614, King Christian IV founded his town where The River Helge å and the wetlands could afford protection. 2014 is Kristianstad's 400th anniversary. We have marked this occasion in a number of ways in Vattenriket. On the town's birthday, 22 May, King Carl XVI Gustaf and Queen Silvia attended its celebrations together with children from the Biosphere Camp, Biosphere ambassadors and the Friends of Vattenriket.**

The King and Queen began their visit by viewing the aquariums, exhibition and Opteryx at naturum. The coordinator Carina Wettemark and naturum director Karin Magntorn spoke about the biosphere reserve and its activities.

After the royal couple had had been fully informed indoors, they stepped out into a hide packed with the Friends of Vattenriket, Biosphere ambassadors and chil-

dren from last year's Biosphere Camp. In the aquariums in front of them they saw glass eels ready for release in The River Helge å.

## **Eel spawn released in the hide**

Both the King and Queen helped to pour out the tiny eels, which are provided by the Eel Fund for increasing the stock in the Baltic. The eels come from English rivers which have a surplus of eel spawn. Our more sparsely populated waters provide a greater chance for these to mature and swim to the Sargasso Sea to spawn.

The sun shone and the nightingales sang for everyone who celebrated the town's birthday at naturum Vattenriket. The following day, the choir Trekvart treated its audience to a musical anniversary salute. The weekend ended with poetry, song and music from the 17th century.



## Anniversary in Vattenriket



PHOTO: BIOSPHERE OFFICE

### Guided tours through a history steeped in water

During 214, naturum's nature guides took their visitors on a historical journey, whose starting point was the water and wetland in the story of the town in Vattenriket. With the help of historical maps and pictures, they pinpointed the water-related events that have had most impact on the town, flora and fauna and people over the centuries.



Topographical map of the Helge å from Kristianstad to the sea, 1750

## History and nature in a new exhibition at the Canal House

Birds, fish and everything in between. This is the subject of the new exhibition at the Canal House. On 30 November the exhibition and the new, accessible boardwalk were opened, an event marked with Christmas songs, speeches, netting water insects and a 'reflector walk'.

The Canal House is Vattenriket's oldest visitor site and lies closest to town. This is the departure point for the Linnérundan trail which heads out into the wetlands. When C4 Teknik decided to provide disabled access to the Canal House boardwalk, it was time for a new exhibition.

Kristianstad's history has a close connection with the water. This is the focus of the new exhibition. It was the wetlands and The River Helge å that convinced King Christian IV in 1614 that this was a good location for his town.

The indoor exhibition at the Canal House looks at the wildlife from birds to fish and everything in between. The exhibition also tracks the water's presence in town in the form of photos and text. The Canal House boardwalk leads walkers away from the Canal House and through osier and reed beds. The 485 long wooden boardwalk has now been renovated and broadened to accommodate both wheelchairs and baby buggies.



PHOTOS: ÅSA PEARCE, KARIN MAGNTORN

# Havsresan

## focuses on the sea

During 2014, the knowledge project Havsresan (Sea Journey), which was celebrating its 25th anniversary, visited Kristianstad which was celebrating its 400th. It was a year packed with talks, dives, and culminated with The Maritime Day. The aim was to promote knowledge about and interest in the sea. The Vattenrike Biosphere Office coordinated the whole operation.

It was an informative year during which Vattenriket focused on the sea. With the help of divers, researchers and many others, new knowledge was acquired about the sea. The project covered a number of activities both at naturum and out at sea.

One of the highlights was the field week in May, when divers spent a whole week searching for new knowledge about what lay hidden in the sea. On 30 August we celebrated the Maritime Day at Snickarhaken in Åhus with fun activities on the beach with divers, researchers, associations and experts on site.

On the day before the Maritime Day, 120 local entrepreneurs and politicians were able to hear talks on the sea as a resource, during a breakfast meeting arranged by the Biosphere Office and the Municipal Trade and Industry Office.

The Maritime Day was a great family day out at Snickarhaken. Exhibitors in the marquee received 600 visitors wanting to know more about the sea. The beach was awash with activity in the form of netting water insects, water experiments, sand sculpture building, a quiz walk, beach hikes, birdwatching and watercolour painting.

Naturum Vattenriket also hosted a series of lunchtime talks during the year. These covered the changing beach, birdlife along the coast, bladder wrack and eelgrass beds, shipwreck discoveries, sunken stone age landscapes, ghost nets and the future of the Northern pike in the Baltic. Havsresan formed part of Kristianstad Municipality's 400th anniversary celebrations.



PHOTO: HAVSRESAN

During the Havsresan field week in May, around 20 voluntary divers examined Hanöbukten Bay.



PHOTO: KARIN MAGNTORN

Naturum Vattenriket explored life under the surface together with school classes and visiting bathers.



PHOTO: KRISTIANSTAD MUNICIPALITY / CLAES SANDÉN

120 entrepreneurs attended to hear what a fantastic resource the sea is for our community.

### What is Havsresan?

Havsresan is a knowledge project run by Lund University which has been bringing together since 1990 associations, businesses, organisations and agencies via their activities connected to the sea.

Each year it collaborates with a host municipality. In 2014 it was the turn of Kristianstad Municipality. The project is based on gathering new and existing knowledge about the sea and disseminating information. The idea behind this is to promote knowledge and involvement and also the will to manage the sea well.



Havsresan



## The Maritime Day



# Eelgrass and bladder wrack galore

**Eelgrass and bladder wrack galore. These results have been produced by marine biologist Lena Svensson from the diving operations off the Åhus coast arranged by the Vattenrike Biosphere Office.**

In the last week of May, around 40 divers gathered in Åhus as part of the Havsresan project. One of these was the marine biologist Lena Svensson. She was commissioned by the Vattenrike Biosphere Office to search the bottom for eelgrass and bladder wrack.

She then compared the results with an eelgrass inventory compiled by the County Administrative Board in 2004. At that time eelgrass had been found on all the sites explored north of Åhus.

Lena examined the bottom with a video camera. The results proved positive. She found eelgrass galore, strong and healthy and producing numerous shoots, on all the sites

where they had been found during the last inventory ten years ago. They had not, however, spread as deep down.

Eelgrass is an important species located on shallow sandy bottoms in the sea. It forms a root felt which stabilises the sand to minimise erosion. Moreover, it provides protection and food for many organisms and is a nursery for fish spawn.

Lena's investigations also found an abundance of bladder wrack galore. Bladder wrack forms a three-dimensional substrate, providing a home to many creatures, primarily small crustaceans which are eaten by fish.



PHOTO: SAM PETERSON



PHOTO: PATRIK SVENSSON



PHOTO: JONAS DAHL

## A better balance in The River Helge å and Hanöbukten Bay

Kristianstad Municipality together with the Skåne County Administrative Board received 15.7 million kronor from the Swedish Agency for Marine and Water Management to create better habitats in Helge å and Hanöbukten Bay during 2014-2017. The Biosphere Office is project coordinator, but there are

several stakeholders in charge of implementing the twelve sub-projects: the Environmental and Health Protection Agency, Town Planning Office and Biosphere Office in Kristianstad Municipality, and the Skåne County Administrative Board and the Water Conservation Association for West Hanöbukten Bay.

# Vattenriket in Fokus

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

## Publications in 2014

### Kristianstads Vattenrike Biosphere Reserve: Activities 2013

Author: Biosphere Office

Reference number 2014:01

### Strandängsfåglar i Vattenriket - Häckfågelkarteringar och simultanräkningar

Author: Hans Cronert.

Reference number 2014:02

### Naturvärdesinventering av Åsums fure

Author: Nils-Otto Nilsson, Ekoscandica Naturguide AB.

Reference number 2014:03

### Sandmarker vid Åhus - Rödlistade arter och uppföljning av insekter 2012-13

Author: Krister Larsson.

Reference number 2014:04

### Provfiske efter mal i Nedre Helgeån 2013

Author: Jonas Dahl, Biosphere Office.

Reference number 2014:05

### Flyginventering av grågås i Hammarsjön och Araslövssjön samt delar av Oppmannasjön och Ivösjön

Author: Patrik Olofsson Eco Images.

Reference number 2014:06

### Bland sjögräs och tång i Hanöbukten

Author: Lena Svensson, Biosphere Office.

Reference number 2014:07



## The year in review



PHOTO: KARIN MAGNTÖRN

### Reopening of the Åsums ängar Outdoor Museum

April saw the reopening of the Åsums ängar Outdoor Museum. The renovated birdwatching tower and new exhibition gleamed in the sun. Around 60 people were there to hear archaeologist Bertil Helgesson and birdwatcher Thomas Lindblad talk about the site's exciting natural and cultural history.

Åsums ängar is one of the Vattenriket visitor sites closest to town. A place in a cultural landscape created over many centuries, and a wonderful spot for birdwatching. The areas around Lake Hammarsjön have been used for hay-making and grazing. The scythe and muzzle have created fine seasonally inundated grasslands attracting many birds. This is the subject of the new exhibition, for which Patrik Olofsson has taken the photographs and the artists Tina Lundgren and Carl Christian Tofte have created the illustrations.



PHOTO: SAM PETERSON

### Education and ecology in collaboration

A unique collaboration has given pupils and teachers an insight into biosphere work. During the spring, around 90 fourth and fifth-year pupils at Tollarp School and their teachers were able to see their local area through new eyes and participate in the ecologists' work. At the same time, the limnologist Jonas Dahl was given help in studying the state of health of the watercourse and where the obstacles to fish migration lay. This collaboration benefits the watercourse and highlights the natural values in the school's vicinity. After an introductory talk on the streams, pupils and teachers together with Jonas Dahl and nature educator Sam Peterson set off to carry out practical work at Klintabäcken and Linnekullabäcken. The pupils were able to net and examine the categories of wildlife living in the streams and at the same time practise "reading nature". There was then a final meeting at naturum to summarise their observations and study the insects found in the river to see if and how the watercourse has been affected by man.



PHOTO: JOSEFARK

### Enjoyable visit from the Coordinator of the EuroMAB Network

In June, Vattenriket received a visit from Meriem Bouamrane, Coordinator of EuroMAB at UNESCO in Paris. She declared that Kristianstads Vattenrike has made great progress. During the day, she was able to meet many key figures in biosphere work: civil servants, farmers, golfers, ambassadors, the Friends of Vattenriket etc. It was Meriem's first visit to the Kristianstads Vattenrike Biosphere Reserve, and she was satisfied with what she found. "I have long been inspired by the work being done in Vattenriket and wanted to come and see your wonderful biosphere reserve which has been held up as an example in many different international contexts. Keep up the good work!"



RINKABY SKJUTFÄLT. PHOTO: ÅSA PEARCE

### New information site in the sand

There is a huge boulder on the Rinkaby firing range displaying the words "Discover life in the sand". Photographs, maps and text relate the history and natural values of this sandy expanse. The new information site is a part of the EU project Sandlife. The flora and fauna supported by the sandy areas in southern Sweden are under threat and need help. Sandlife is tasked to ensure that the overgrown areas of sandy soil are opened up for the benefit of people and flora and fauna and also to help spread knowledge. The Vattenrike Biosphere Office is responsible for ensuring the sub-project establishes new information sites, to be ready in Vattenriket during the summer. There will be one at the Rinkaby firing range and one in the Friseboda Nature Reserve. Just a few strides beyond the information sites the visitor is faced with a carpet of sea pink, Breckland thyme, English stonecrop and field-cow wheat. And a little further away is a glimpse of the beach and the sea.

## The year in review

### O-Ringen in a paradise for insects

The military training ground at Åsumfältet was packed with 20,000 orienteers for O-Ringen. The tramp of so many feet benefits the many unusual flora and insects in the area. Åsumfältet is one of the areas most rich in species in southern Sweden in terms of insects, including rare species such as the robber fly. The explanation lies in a varied landscape where many different habitats exist within a limited space. It is a fine mosaic of open fields, old pine, sunlit fringes of forest and sandy paths. Many insects that have vanished in other areas thrive at Åsumfältet.

The Vattenrike Biosphere Office invited orienteers who were interested to go on a field hike to see the unusual flora and fauna at Åsumfältet. Vattenriket's ambassadors were also at the campsite to talk about Vattenriket and provide tips on places to visit.



PHOTO: ÅSA PEARCE

### Mussels galore in The River Helge å

The Vattenrike Biosphere Office has inventoried the number of mussels in The River Helge å. Last summer an inspection was carried out of the stretch of river between Torsebro and Kristianstad. Divers found six of Sweden's seven species of freshwater mussel.

We already know that the freshwater pearl mussel lives in Vramsån and its tributaries. The limnologist Jonas Dahl can now state that the other three red-listed species of freshwater mussel in Sweden are found in The River Helge å. Moreover, the number of mussels was surprisingly high.

The freshwater mussel risks being displaced by the impact of hydroelectric power which makes it harder for fish, on whom the mussel depends, to migrate up and down the river. The discovery of this mussel is an indicator that The River Helge å ecosystem is functioning fairly well.



PHOTO: JONAS DAHL

### Spawning gravel to aid the salmon

There used to be salmon in abundance in The River Helge å, but since the stationing of the power station at Torsebro in 1909 the salmon's presence in the river has dwindled. Water pollutants dating from the 1960s were one reason why almost all the salmon disappeared. During the past 50 years the water quality has steadily improved. At the start of the 21st century, salmon spawn was released into The River Helge å tributaries. In order to multiply, the salmon needs spawning gravel. An inventory showed a complete absence of spawning gravel in the stretch of rapids downstream from Torsebro power station. The Vattenrike Biosphere Office has now introduced gravel at Torsebro with the aid of funding from the County Administrative Board, the Swedish Agency for Marine and Water Management, the Swedish Anglers Association and the Lower Helge å Fish Conservation Area. Spawning gravel benefits many species of fish dependent on gravel and flowing water for spawning, and also mussels and birds.



PHOTO: JONAS DAHL

### Önnestad now has water on its doorstep

At Bockebäcken in the centre of Önnestad a new wetland area and walking trail with information boards have been created. These measures are part of a major project (LOVA) intended to reduce nutrient leaching and improve the water quality in Vattenriket's streams and rivers. The Bockebäcken project collaborated with the Environment and Health Protection Agency, C4 Teknik, Agenda 21 Kristianstad and the Vattenrike Biosphere Office.

One rainy day in September, a hundred preschool children from Önnestad joined forces to open the new facility. They will hopefully gain lots of pleasure from the new barbecue areas and netting sites which make Bockebäcken easily accessible for all Önnestad residents.



PHOTO: ÅSA PEARCE

## The year in review



PHOTO: ANDERS PÅLSSON

### US town planners on a visit

An American handbook presents Kristianstads Vattenrike as a good example for sustainable planning in Louisiana's coastal areas. The reason is the biosphere reserve's work in emphasising the value of the wetlands for biological diversity, recreation and flood protection. In September, a delegation came from Louisiana to Vattenriket to see this work with their own eyes. Their visit gave them an insight into the way Kristianstad Municipality addresses resilience, biological diversity, recreation and urban planning in relation to The River Helge å and the wetlands bordering the river. A joint presentation was given of the work done in sustainable development by Kristianstad Municipality, during which the measures taken by the Biosphere Office, Town Planning Office and rescue services were demonstrated and discussed.



PHOTO: ÅSA PEARCE

### Naturum's 500,000th visitor

On 10 October 2014 naturum Vattenriket received its 500,000th visitor. It was 4-year old Idun from Iceland who stepped inside with her grandfather Gert Lennander. Naturum Vattenriket is a popular outing whenever Idun visits her grandfather.

"Coming here gives me such pleasure and a real boost," he says.

The pleasure was even greater when naturum director Karin Magntorn presented Idun with flowers and a gift voucher.



PHOTO: KRISTIANSTADS KOMMUN

### Vilan's wet grassland is the subject of biosphere planning

Kristianstad Municipality has received a grant from "the Delegation for Sustainable Cities" to conduct a preliminary study of measures for promoting sustainable urban development in the northwestern part of Vilan - on its wet grassland. The Town Planning Office is running the project, whose aim is to spark discussion on sustainable urban development in Kristianstad by using this wet grassland as an example. Informing this work are the values found in the biosphere reserve. A combination of conservation and development is being used in the preliminary study to test new methods and knowledge. A series of workshops were held in the autumn. The Vattenrike Biosphere Office has played an active role in the workshops, and coordinator Carina Wettemark is part of the working group. This is where representatives from trade and industry and the Municipality are getting together to identify the goals, criteria and principles for sustainable urban development on Vilan's wet grassland.

#### Contact us at Vattenriket

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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).

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