

Biosphere Reserve **Kristianstads Vattenrike®**

A C T I V I T I E S 2 0 1 1



Kristianstads Vattenrike Biosphere Reserve



Although the Vinne is one of the smaller rivers in the biosphere reserve, the surrounding agricultural landscape nevertheless has a huge impact on the river's water quality. Photo: Patrik Olofsson

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.)

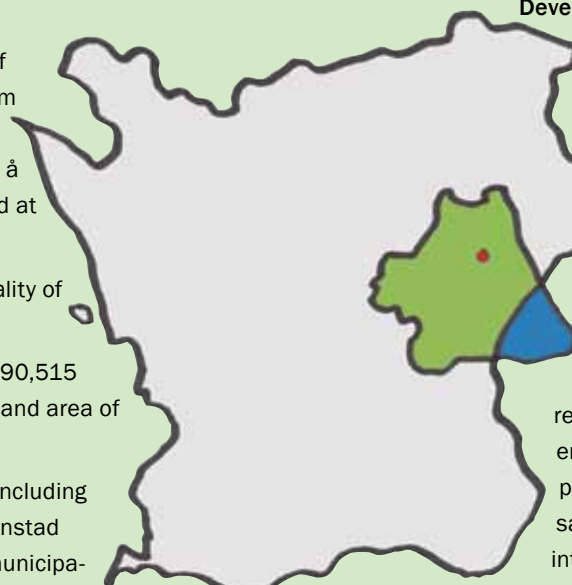
Species worthy of preservation: There are at least 700 nationally red-listed species in the biosphere reserve, a high figure compared to other areas of Sweden. Approximately 30% of red-listed species in the province of Skåne occur in the biosphere reserve. The wetlands are home to 120–130 regular

ly breeding species of bird. In all, some 260 species 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: Numerous local projects include biogas for municipal buses, wetlands ecotourism 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 natural values have been identified within the biosphere reserve. These include valuable wetland environments, the majority of which are protected as a Ramsar site, extensive sandy areas with high natural values, internationally recognised forest habitats and unique flowing water environments.

There are also many nature reserves and Natura 2000 sites within the biosphere reserve. In the future the scope of the work will gradually extend to cover all of these ten theme areas under the maxim: **Benefiting people and nature!**



The year in review — 2011

In its first year the naturum Vattenriket visitor centre was a huge public success, and elsewhere, too, more and more people are becoming involved in Kristianstads Vattenrike biosphere reserve's projects every year.

For the general public, the overwhelming focus of attention in 2011 was the naturum Vattenriket. In its first twelve months of operations the visitor centre welcomed 160,000 visitors – far more than any other naturum in Sweden.

We had always planned to make the visitor centre the gateway to Kristianstads Vattenrike and a meeting place for all the local players whose activities reflect the three functions of a biosphere reserve as defined by UNESCO: conservation, development and support.

The release of 4,000 elvers into the local wetlands exemplifies several of these functions. It helps to conserve the eel population through close cooperation with the authorities and local eel fishers. The men and women who fish for eel raise money for the Eel Fund through initiatives such as eel feasts and take responsibility for their use of ecosystem capital by developing their business activities in a more sustainable direction. We released some of the elvers close to the visitor centre to attract and involve as many people as possible – a good example of how to use an event with broad public appeal to support information and education.

The conference on waders and the annual research conference, Biosfär 2011, are other examples of how UNESCO expects us to support research and education.

For walkers on the Linnérundan Trail, naturum Vattenriket is the natural starting point for exploring the local surroundings. Now ten audio information points have added a totally

new dimension to the trail. At Lillö you can use your smart-phone to listen to the rumble of cannon and former museum director Torsten Andersson's vivid recollections of how he led the work to excavate the castle ruins more than 70 years ago.

Work to conserve and sustainably use and develop the sandy grasslands at Åhus, Horna and Ripa continues. One method that has attracted much attention involves farmers, golfers, the municipal highways department, researchers and others in a variety of projects. When Kristianstad Golf Club in Åhus received international environmental certification on 13 June, it proved that it is, indeed, possible to conserve and develop ecological values while using them sustainably.

The River Vinne, with headstreams in the Municipality of Hässleholm, is under great strain. To help restore the river to health, the Biosphere Office and the environmental health services in Kristianstad and Hässleholm, together with the private landowners concerned, have initiated a major project with a number of specific goals and objectives.

It is more evidence that every year more and more people join us in supporting sustainable development in Kristianstads Vattenrike – not just in lofty words, but by putting theory into practice.

Sven-Erik Magnusson

Sven-Erik Magnusson
Manager, Biosphere Office
Coordinator, Kristianstads
Vattenrike Biosphere Reserve



The weather year — 2011

With a warm spring, wet summer and mild winter, 2011 was a more normal year after the dramatic weather of 2010.

The bitter cold eased at the start of the new year, and the snow that had lain since the end of November began to melt. Snow cover means a cold winter and a late spring. Instead, spring 2011 was fairly normal, starting when mild winds blew in from the west in February. On 7 February Storm Berta ravaged southern Sweden, with gales and winds of 24.1 m/sec in Kristianstad. These were the strongest winds recorded since our measurements started in 1998 – except for during the December 1999 storm and Hurricane Gudrun on 8 January 2005.

The mean temperature in April was 10° C, a record high for April on Väder online, the biosphere reserve's online weather watch. Spring soon turned to early summer. Then, in May, the rain started to fall.

The periods of good weather during the summer, such as that in early June, were few and far between. There was no high-sum-

mer weather and temperatures never reached 30° C. The rains were frequent and heavy.

Summer trickled away, almost unnoticed into a mild and rainy autumn. No real winter temperatures were recorded. The thermometer stayed above zero more or less throughout December: the mean for the month was 4.1° C – a full 9 degrees higher than in December 2010!



Naturum Vattenriket — the first year

Visitor numbers exceeded all expectations

Naturum Vattenriket's first year was a huge success. The visitor centre welcomed no fewer than 149,000 visitors from 108 countries in 2011 – more than any other of Sweden's 29 naturum. The centre's stunning architecture, attractive location in the heart of the wetlands in central Kristianstad, cosy café and packed programme of events really struck a chord with visitors.

Broad programme of events

The aim was to create a meeting place where people of all ages and interests would find something to appeal to them. In 2011, the naturum Vattenriket programme focused on eagles, forests, cranes, seasonally inundated grasslands, climate and research through events ranging from lectures and family activities to concerts and visits from authors. A total of 22,000 visitors took part in guided tours, events and educational activities related to one or more of the 425 items in the year's programme.



PHOTO: ASA PEARCE

A world map full of pins

People from all over the world visited Vattenriket, and during the World Scout Jamboree visitors put pins in 108 of the countries on our world map. Among many enthusiastic comments in the guest book was the following from Kirsten and Erik from Denmark: "Thank you for letting us visit the most beautiful building we've ever set foot in!"



PHOTO: ANNA MATTISSON

Nominations and distinctions galore

The building, the location, the exhibition. Nominations and distinctions rained over naturum Vattenriket, ranging from the local newspaper's culture and entertainment prize and best destination for excursions, to a global architectural competition.

At the World Architecture Festival in Barcelona, naturum was one of eight nominees in the exhibition buildings class.

In the local newspapers, Norra Skåne and Skånska Dagbladet, Kristianstads Vattenrike and naturum Vattenriket were among ten nominees for the title of the year's top destination for excursions in the province of Skåne.

The visitor centre also established its credentials beyond the ecological sphere. The local newspaper Kristianstadsbladet nominated it for the year's culture and entertainment prize. The jury said that naturum Vattenriket "has provided nature and culture with an attractive, new forum for gathering stakeholders and spreading knowledge."



PHOTO: KARIN MAGTORN



PHOTO: KARIN MAGTORN

Inspiration for schoolchildren

Naturum Vattenriket educator Sam Peterson welcomed 83 school classes during the year. Pupils and teachers studied Kristianstads Vattenrike's natural and cultural values in depth and were inspired to go out and explore the area's diverse flora, fauna and landscapes for themselves.

The aims of naturum Vattenriket's educational outreach are to explain the natural and cultural values in the biosphere reserve and the work done by the biosphere office, and to develop the educators' activities.

Valuable sand

In the past, the sandy grasslands of Kristianstad Plain were used for small-scale farming with a rotational system of cultivation and being left fallow. The soils were so poor that they could only be farmed for crops every few years. In the intervening years they were left fallow to develop nutrients and were grazed by cattle. This type of farming has resulted in a varied landscape of croplands, pasture, fallow and areas of exposed sand, creating conditions for highly unusual flora and fauna.

Vegetation in the sandy areas varies depending on the lime and nutrient contents of the soil and how it is used. On fallow land, the vegetation changes over time from scatterings of hoary alison, to brilliant blue seas of viper's bugloss and colourful kaleidoscopes of flowers in the meadows.

Many different kinds of sandy environments are needed to maintain the biological diversity of the landscape. In 2011 the Biosphere Office initiated several local projects to help conserve the sandy grasslands' rare flora and fauna.

Golf club's environmental work approved

In 2011 Kristianstad Golf Club in Åhus (KGK) was awarded international certification by the Golf Environment Organisation (GEO). The Biosphere Office has been very active in the certification work. When the golf club wished to purchase land from the municipality in the early 2000s, one of the conditions was that the club would comply with the international environmental programme. The club has now attained its first objective by gaining environmental certification.

It is hoped that certification will inspire others to focus on the environment by creating a good golf course that is also a recreation area with high natural values.

The environmental work started when the new Åhus Västra course was built, based on good examples from Scotland that minimise the need for water, fertilisers and pesticides. The ideal is a course that is more "golden" than "green" in colour.

Biosphere Office's work in Nordic guide for multi-functional golf courses

The Biosphere Office's cooperation with Kristianstad Golf Club in Åhus features in a new guide for multi-functional golf clubs. The guide describes how golf clubs can work with issues such as collaboration, accessibility, biological diversity and natural values, and includes examples from Denmark, Iceland, Norway and Sweden. Carina Wettemark, a Kristianstads Vattenrike ecologist, wrote the section on biological diversity and on cooperation with the golf club in Åhus.



PHOTO: CARINA WETTEMARK
The flag was raised to show that KGK golf club holds GEO environmental certification.

Work on multi-functional golf courses is based on making the courses accessible to other people besides golfers, showing how the area can be used for educational purposes, and highlighting its cultural and natural values. The guide is called "Multi-functional golfing facilities – an unutilised resource? A concept and compilation of examples".

Greater knapweed saves our bees

Kristianstads Vattenrike, the Swedish Transport Administration and the County Administrative Board in Skåne have received support from Region Skåne's environmental conservation fund to save the threatened hare-footed leaf-cutter bee (*Megachile lagopoda*). As part of the rescue attempt, greater knapweed was sown along certain stretches of road in Kristianstad.

In the 1950s and 1960s, the hare-footed leaf-cutter was fairly common, especially among the many wild flowers in the dry, warm coastal areas of north-east Skåne. Today it is fast disappearing, partly because greater knapweed, the bees' main source of food, has become rarer as land is used for farming or housing or simply becomes overgrown.

In 2011 the Biosphere Office started a project to recreate the sandy grasslands where greater knapweed can thrive. At five separate sites, the ground was burned, ploughed and cleared, so greater knapweed could be sown and planted. While these measures are aimed primarily at saving the hare-footed leaf-cutter, several other insects will also benefit from the more favourable habitat.

Survival help for a rare and delicate species

Sticky sandwort (*Minuartia viscosa*) grows in just one location in Sweden: a pasture close to Lyngsjö. On a nearby verge, this delicate little flower has been given help to disperse its seeds.

The extremely rare sticky sandwort is an unassuming annual that grows well in sandy, lime-rich soil with sparse vegetation. As it is so small, its seeds do not travel far, which makes it dependent on regular disturbances to the soil in its immediate vicinity. Now the Biosphere Office's has lent the tiny flower a helping hand. The moss was scraped away from a 25-metre stretch of the verge, and a similar sized area was raked to create gaps in the vegetation. This work was performed within the framework of the county administrative board's programme of measures to conserve the sticky sandwort.

Researchers studied effect of burning

The Biosphere Office cooperates with several researchers who are working in the area. Tim Schnoor and Anja Ödman from Lund University burned parts of Ripa Sandar for nature conservation purposes. The university will follow up the effects of this work.

Wildflower Day in Åhus attracts the most visitors in Sweden

More than 75 people went on the Wildflower Walk at Kristianstad Golf Club in Åhus on Wildflower Day in 2011 – more than at any of the other events held to mark the day throughout Sweden! Botanist Kjell-Arne Olsson and Kristianstads Vattenrike ecologist Carina Wettemark told visitors about the unusual flora in the sandy areas of the Åhus Västra golf course and along the Sännastigen Trail. The walk was organised jointly by the golf club, the Swedish Society for Nature Conservation, Lund Botanical Society, the Swedish Botanical Society and Kristianstads Vattenrike.



PHOTO: SVEN-ERIK MAGNUSSON
Hydroseeding of greater knapweed along the road to Vä.



PHOTO: GITH HANZON/SLÄNDAN
Creating the right conditions for sticky sandwort to thrive at Lyngsjö.



PHOTO: PÅL-AXEL OLSSON
Researchers from Lund University burn an area for nature conservation purposes at Ripa Sandar.



PHOTO: CLAES G. BENGTSSON
Happy faces from the Wildflower Walk to KGK's golf course and the Sännarna Outdoor Museum.

Wetlands by the River Vinne will improve Hanöbukten Bay

The Municipality of Kristianstad was granted more than six million Swedish kronor for local water conservation projects under the LOVA initiative. One project focuses on the River Vinne and aims to reduce discharges of nutrients into Hanöbukten Bay, while also creating better conditions for life in the river.

The River Vinne currently transports large quantities of phosphorous and nitrogen, which are harmful to the river and the sea. The Biosphere Office and the municipal environmental health department started a new project to reduce nutrient emissions and improve water quality in Hanöbukten Bay.

Establishing wetlands is one way of reducing high nutrient levels in the water. Wetlands can sometimes also be designed so that some of the water can be used for irrigation, thus economising on both water and nutrients.

Protection zones along the river are important for diversity in river fauna. Trees provide shade and food for bot-

tom dwellers, while their roots help to reduce erosion by binding the material in the river banks. Stone and gravel need to be placed in suitable locations to restore spawning grounds for brown trout and other species of fish. This also benefits the thick shelled river mussel, which has been recorded in the River Vinne. Work on a number of these measures began in 2011.

The aim is to create 50 hectares of strategically placed wetlands along the course of the river. One such site is now being created at Adinal. These wetlands will form a phosphorous and nitrogen sink that will reduce the leaching of nutrients into the River Helge å and the Baltic Sea and increase biological diversity.

LOVA - LOCAL WATER CONSERVATION MEASURES

- Government grants since 2009. Municipalities and non-profit organisations submit applications for LOVA grants to the County Administrative Board.
- The River Vinne project received more than six million Swedish kronor, the largest individual grant in Skåne, for measures to be implemented from 2011 to 2014.
- The River Vinne project is run by the Municipalities of Kristianstad and Hässleholm. The aim is to establish 50 hectares of wetlands in the river's drainage basin.

Working to create new wetlands at Adinal. PHOTO: SVEN-ERIK MAGNUSSON

Biosphere Camp participants explore the reserve from source to sea

The Biosphere Office organised Kristianstad's first Biosphere Camp during seven days in June 2011. Twenty-six inquisitive children aged 10-14 took part, led by nature educators Sam Peterson and Andreas Magnusson. Five summer employees served as helpers.

The camp got off to a suitably grand start at Ekenabben with an inaugural speech from a leading local politician and a delicious "biosphere cake". Over the following week, participants explored the reserve's varied aquatic landscapes – from source to sea.

Mornings were devoted to excursions. In the afternoons, participants and leaders gather at the naturum visitor centre to work on the material they had collected, examining and learning more about the plants, insects and other exciting finds.

The camp culminated with an exhibition of photographs, drawings, maps and the participants' own exhibits. Parents, relatives and friends flocked to the visitor centre to see them and to hear the children talk about their experiences from the camp.

One of the Biosphere Camp's aims is to showcase the biosphere reserve's natural and cultural values for children and young people. Hands-on experiences, investigations and encounters make it easier for children to understand the concept of sustainable development and to see Kristianstads Vattenrike Biosphere Reserve as a good example of a place where nature and humans can live in harmony.

” It was great fun being down in the ravine!



"Water detectives" in blue biosphere camp T-shirts.



Children explored the River Mjöån and Åbjär's beech-covered ravine.



"I like electrofishing best! We caught so many fish. It was really fun!"



Paddling in a large canoe was a new experience for many.

” I loved it! We were outdoors by the water such a lot.

” You should arrange something like this for adults, too!



"The eel fisherman was best. He gave us something to eat down by the sea."

THE YEAR IN REVIEW | January–April 2011

**Lions donate telescopes**

Naturum Vattenriket now has two brand new telescopes. The Lions Clubs in Vå, Åhus and Kristianstad wanted to give the visitor centre a really useful present. Together with the centre's director, they hatched the idea of donating two telescopes that visitors can use to watch birds through the large panorama windows. The telescopes are also useful for the centre's field trips.

More cranes than ever – a magnet for visitors

Never before have so many cranes been seen at the same time at the Pulkens visitor site – up to 7,200 birds at one time. Visitor numbers were not far behind either: in just one week more than 3,500 people flocked to see the birds. The “invasion of the cranes” also generated considerable media attention on radio and television, on blogs and in the newspapers – both in Sweden and Denmark.

**Experts meet to save waders**

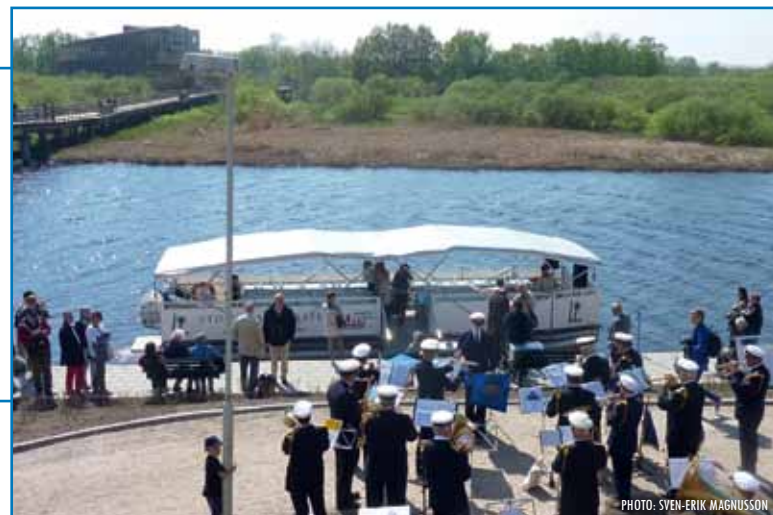
Major efforts to restore and improve the seasonally inundated grasslands in Kristianstads Vattenrike led to a steady rise in wader populations from 1990 to 1997. Over the past 10 years, however, bird numbers here have plummeted, a sombre trend reflected in many other places in Sweden and throughout north-western Europe.

A conference was held in Kristianstads Vattenrike on 14–15 April in an attempt to address the problem. Causes highlighted by researchers included increasing numbers of predators, the shrubification of seasonally inundated grasslands, the drying out of land as a result of ditch drainage, overgrazing, summer flooding and greater pressure on grazing land from geese.

THE YEAR IN REVIEW | May–August 2011

New attraction on the river

Jan Olsson's new “Big Safari Boat” embarked on its maiden voyage in early May. The boat takes up to 55 passengers, 25 of whom can be wheelchair-users. In addition to scheduled trips along the River Helge å during the summer, the boat is also available for group bookings. The new boat is a fantastic asset for everyone who chooses to explore Kristianstads Vattenrike biosphere reserve from the water.

**Sven-Erik Magnusson wins culture award**

Sven-Erik Magnusson, coordinator of the Biosphere Reserve, received Kristianstad Municipality's culture award in 2011 for “with vision, innovation and a resolutely creative mind, highlighting and developing the municipality's overlooked assets”. In its motivation the jury also said, “The broad response to Kristianstads Vattenrike Biosphere Reserve is increasingly positive, and its latest addition, the naturum visitor centre – a golden nest in the reeds – is a spectacular landmark with great visitor appeal.”

**World Scout Jamboree and outdoor forum**

Late July and early August saw more than 40,000 scouts from all over the world gather on Rinkabyfältet. As a complement to the naturum visitor centre, the Biosphere Office arranged an outdoor forum at Ekenabben together with local entrepreneurs and societies. For three days, visitors could hunt for bugs on land and in the water, watch birds, take to the water in boats and canoes, go on a nature trail, meet nature experts, and eat hamburgers made from locally produced meat. It poured with rain, but those who defied the weather gods had the chance to help ring birds and take an evening trip on Lake Hammarsjön with the Landskapet JO eco-tourism company.

4,000 young eels released among the reeds

Reverentially, the plastic boxes of 10 cm-long wriggling elvers (young eels) were carried to the jetty at the naturum Vattenrike visitor centre to be released with help from children from Magleladan preschool. Elvers are released to conserve the species and Skåne County Administrative Board is responsible for the release of all 1.8 million elvers in Sweden. These activities are funded by the Swedish Agency for Marine and Water Management, the European Fisheries Fund and the Eel Fund. The elvers are released in areas that provide the best conditions for survival and growth, before the mature eels migrate to the Sargasso Sea to spawn.

**National MAB workshop with boat safari**

Experiencing and Learning. That was the theme for the year's Man and the Biosphere Programme (MAB) workshop held in the biosphere reserve. The workshop aimed to use experiences as a starting point for seeking knowledge and creating insight.

Participants first experienced a range of activities, including a look at the naturum Vattenriket visitor centre, a walk along the coast, an alternative eel feast and a boat safari in the lower reaches of the River Helge å. These were then followed up by presentations and discussions, indoors and outdoors. Twenty-seven people took part from five Swedish biosphere reserves/candidates, including Kristianstads Vattenrike and Kristianstad University.



THE YEAR IN REVIEW | September–December 2011



PHOTO: JERKER JANSSON

European catfish returns to Kristianstads Vattenrike

For three weeks in August, the Biosphere Office carried out test fishing for European catfish in the lower River Helge å – with excellent results. Nearly all the catfish were either juveniles or one, two or three years old. This suggests that the catfish spawn in the lower reaches of the River Helge å and have succeeded in establishing a population in the area.

Seventeen species of fish were caught, mostly white bream, eel, perch and catfish. Among the more unusual species were gudgeon, carp, chub and European river lamprey. Four signal crayfish were also caught in the traps, and live specimens of thick shelled river mussel were caught in a few locations.

Audio guides along the Linnérundan Trail

Audio guides are now available for walkers on the Linnérundan Trail close to Kristianstad city centre. Per-Erik Tell, a well-known radio presenter, has narrated information for each of the 10 stops along the trail, including the swimming baths in Tivoli Park, the Årummet Nature Reserve, bird life at Isterinäset, the history of Lillö and the city in the wetlands. The audio information points are marked with a blue and white symbol along the route. Visitors can listen using a smartphone via Kristianstads Vattenrike's website, or download the information to an mp3 player.



PHOTO: ÅSA PEARCE



PHOTO: ÅSA PEARCE

Lakes in focus at Biosfär 2011

The Biosfär 2011 research conference broadened its horizons in all directions and across traditional subject boundaries. The day included talks on themes as varied as the threats facing eels, the disappearance of rushes from the lakes and the increasing brownification of the River Helge å, to the return of otters to Kristianstads Vattenrike. Biosfär 2011 was a joint venture arranged by the Biosphere Office and Kristianstad University. This was the second such research conference, held to promote knowledge-sharing and create opportunities to establish new contacts and forms of cooperation.

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