Biosphere Reserve Kristianstads Vattenrike®

ARISTIANSTADS JUNIO

ACTIVITIES 2008



Kristianstads Vattenrike Biosphere Reserve



The sandy grasslands at Ripa west of Åhus are one of the thematic landscapes that form the focus for work in the Biosphere Reserve.

There are biosphere reserves all over the world. These protected areas, officially recognised by the UN agency UNESCO, demonstrate how to tackle the practical challenges of combining nature conservation with development.

Kristianstads Vattenrike Biosphere Reserve, established in 2005, 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 town 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: approx. 71,000 incl. approx. 30,000 in the Kristianstad urban region. (Total population of municipality: 77,000)

Species worthy of preservation: 20 globally red-listed species, including corncrake and great raft spider, and some 60 EU listed species, including thick-shelled river mussel and sand pink (*Dianthus arenarius*). Around 700 nationally red-listed species in all, a high figure compared to other areas of Sweden.

Approx. 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 species have been recorded. At least 38 different species of fish have been caught in the inland waters: 32, including European catfish and

loach, spawn in fresh water.

Development projects: Local projects include biogas for municipal buses, wetlands ecotourism and the development of products from the wet grasslands. Biological and recreational values are being developed hand in hand on one golf course in the sandy grasslands.

Zoning: The area's status as a biosphere reserve has not led to any new rules or directives. Zoning is a tool for prioritising and creating resources for working together with local residents, financial backers, etc. to avert threats and develop the natural values of the core areas and buffer zones.

Thematic landscapes: Ten thematic landscapes with high natural values have been identified. Work will progress to all ten themes, but to date the main focus for conservation, development and support has been on the wetlands. Now, however, projects on the sandy grasslands have also commenced in earnest.

Cover photo: Marsh Harrier, Patrik Olofsson/N

Researchers at Lund University are investigating the migration patterns of the Marsh Harrier by fitting transmitters to birds in Kristianstads Vattenrike and tracking them by satellite to their overwintering regions in West Africa.

The year in review - 2008

In 2008 a great deal of new information about various species and types of landscape was compiled and published, a decision was made to build a Naturum® visitor centre, and Crown Princess Victoria visited the biosphere reserve.

Summer water levels in the River Helge å, Lake Hammarsjön and Lake Araslövssjön returned to more normal levels after the extreme highs in the summer of 2007. On 30 September the water level was so low, in fact, that the flow was upstream as far as Lillö, more than 20 kilometres inland.

2008 saw the publication of several new works in the Biosphere Office's 'Vattenriket in Focus' series. Inventories of insects, fungi and birds on the sandy grasslands yielded very encouraging results, and wetlands inventories have added significantly to the fund of knowledge we are building up.

The results show clearly that, to preserve the region's unique values, future work needs to be based on the thematic landscapes. The sandy grasslands around Åhus, Horna, Ripa and Åsum are among the most worthy of preservation in all of Sweden, with very large numbers of rare and endangered species. For their long-term survival, all these unique species are dependent on habitats that are used simultaneously for various purposes, from small-scale extensive agriculture to recreation, outdoor pursuits and eco-tourism. Cooperation with those who own and use the land, like the farmers in Ripa, the golf club in Åhus and the riding club in Åsum is crucial to success in this respect.

Last year's scares about brown water in the wetlands and this year's concerns about dead trees, mostly alders and birches, have led some people to fear that the values of Kristianstads Vattenrike are being eroded. This is not so.

At the same time as we cannot ignore these alarming reports – they are a rallying call for action and for prudence in the way we use ecosystem services –white-tailed eagles are again starting to nest locally, fishermen report seeing young catfish, and the rare underwater slimy-fruited stonewort has made a return.

Because spreading information and encouraging people to explore and experience local natural values are at the very heart of our activities, we have published a 76-page guide to excursions in the biosphere reserve and conducted several guided trips as part of the 'Improve Access for Everyone' project. We have also hosted national conferences on the sandy grasslands and wetlands. And it was a special privilege to take Sweden's Crown Princess Victoria on a guided trip on the River Helge å.

Numerous research projects from archaeology to ornithology and systems ecology are also being carried out in the biosphere reserve. And, as one of the interviewees in the survey of the wet grasslands' ecosystem services said,

"It's wonderful to be able to invite friends from other parts of Sweden to experience such a beautiful and exclusive natural environmental, so close to the heart of Kristianstad."

Svan- Et Megum

Sven-Erik Magnusson

Coordinator Kristianstads Vattenrike Biosphere Reserve



The Weather year - 2008

2008 was another warm year for Kristianstad and Sweden. The mean temperature for the year reported on Weather On-line was 9.7°C, equalling the records from 2000 and 2007. The first three months of the year were very mild and December was the coldest month.

The temperature dropped below freezing on a mere 51 days, which made the winter even milder than 2007, when there were just 54 days of frost. When 2009 began, almost three years had passed since Kristianstad last experienced 'winter' (a mean daily temperature below 0°C for 5 consecutive days) back in March 2006.

There is much to suggest that this is a clear trend. While local variations in weather from year to year can be great, the impact of rapid global warming now seems indisputable. In contrast, however, to climate models that also predict much greater precipitation in the future, so far we have seen no signs of this in and around Kristianstad.

You can now keep track of the weather hour by hour via Weather On-line. And, starting in 2009, it will also be possible to make day-by-day comparisons with previous years.



This picture was taken on 11 February 2008, a day with a top temperature of 7.5°C and a water level 1.08 metres asl. Weather On-line enables us to turn back the clock to check the weather conditions on any given day.

Nine new publications

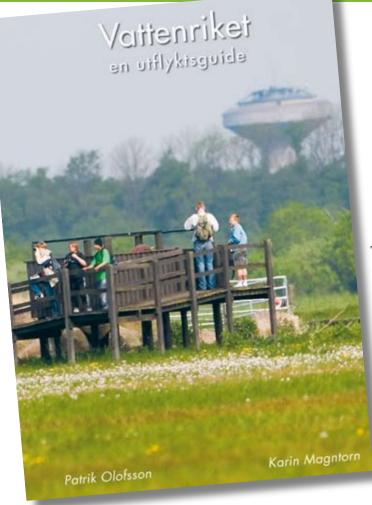
Nine new titles in the series 'Vattenriket in focus' were published by the Biosphere Office in 2008. These works are one way to collate and distribute the results of inventories and studies carried out in the biosphere reserve. The entire series can be downloaded via the literature link on Kristianstads Vattenrike's Swedish homepage.

The following studies were published in 2008 (in Swedish, some with an English abstract):

- 2008:01 Visitor's Guide to Vattenriket. Patrik Olofsson and Karin Magntorn
- 2008:02 Inventory of Tawny Pipit at Ripa sands, Horna sands and Sånnarna in 2007. Patrik Olofsson
- 2008:03 Ornithological inventory at the former Åsumfältet artillery range at Norra Åsum. Patrik Olofsson
- 2008:04 Inventory of solitary bees and red-listed insects at Åsumfältet and around the old Everöd-Lyngby railway crossing in the summer of 2007. Mikael Sörensson

- 2008:05 Inventory of Gasteromycetes in Kristianstads Vattenrike Biosphere Reserve, autumn 2006 – winter 2007. Sven-Åke Hanson (Ramlösa Natur konsult)
- 2008:06 Diked-in land along the lower reaches of the River Helge å. Basic data, wetland potential and future. Peter Berglund
- 2008:07 Evaluation of test-fishing in Lakes Araslövssjön and Hammarsjön in 2007. Ivan Olsson and Anders Eklöv
- 2008:09 Aerial inventory of Greylag Geese around Lake Hammarsjön, Lake Araslövssjön and parts of Lake Oppmannasjön and Lake Ivösjön in 2008. Patrik Olofsson





New visitor's guide to Vattenriket

no 2008:01

There is a great deal to discover in Kristianstads Vattenrike, and a guidebook in Swedish published early in 2008 now makes visiting the biosphere reserve's 21 visitor sites easier and more fun than ever.

How to find the various sites and what they have to offer is explained with the help of texts, maps and Patrik Olofsson's photographs.

This is a book that is as useful at home when planning future trips to the area as it is in your rucksack or cycle bag when you are out and about in Kristianstads Vattenrike.

'Vattenriket en utflyktsguide', packed with over 70 pages of information is available from the Kristianstad Tourist Office for SEK 40. The guide can also be ordered via the Tourist Office's homepage.

Vramsån

Likt enorma gröne härsvall prydda av tusentals små vita blommor böljar jättemöjan fram mellau stenar och blonkvatten. Följsamt gungar de uppät fyra meter långa stjölkarna i vattenlinjen. Tungt och rytmiskt i ökonten, mer hetsigt virvlande i de parlande strömförorna.



Jöttemője i Vramsön.
River Water-crowfoot (Ranunculus fluitans) in River Vramsön.

Den gamla badplatsen i Gärds Köpinge är en lättillgänglig besöksplats vid Vramsån. Här flyter ån sakta fram inramad av stensatta kanter och grova kastanjer, Jungfrusländor fladdrar ofta över ån likt små blåglänsande helikoptrar. På flera ställen kan man sommartid se jättemöjans märkliga blomsteräng ute i ån.

Forsärfan är en karaktärsfägel och med lite tur kan man även få se kungsfiskaren pila förbi. På vintern syns ofta strömstarar i forsen. Vid badplatsen finns segelskärmar med information om livet i och kring Vramsån

Vramslin är en av Vattenrikets pärloe. Här finns fortfarande relativt oviteda ästräckor som årligen översvämmas och där meanderbägarna häller på att täl knut på sig själva. Eftersom än är så värdefull har ett flertal

Eftersom ån är så värdefull har ett flerta projekt bedrivits för att gynna den biologiska mångfalden.



VATTENRIKET EN UTFLYKTSGUIDE 65

3 reports highlight Åsumfältet's natural values





2008:03 Ornithological inventory at the former Åsumfältet artillery range at Norra Åsum. Patrik Olofsson

This inventory recorded great variety in the bird population, with a total of 67 species, 53 of which can be considered regular breeders. Old pine forests and numerous forest-edge areas create an unusual environment, well worthy of preservation. The large, thick-trunked trees are home to Woodpecker, Red-backed Shrike, Stock Dove and various raptors. Another characteristic bird is the Wood Lark, with between 15 and 20 singing males.



2008:04 Inventory of solitary bees and red-listed insects at Åsumfältet and around the old Everöd-Lyngby railway crossing in the summer of 2007. Mikael Sörensson

As far as the author and the Biosphere Office are aware, this is the first ever entomological inventory of the area. The inventory, covering some 78 hectares, divided into 20 sections, recorded among its finds 90 species of solitary bee, 21 of them red-listed. Together with another 30 red-listed insect species recorded, this makes a total of 51 red-listed insect species in the area. No less than 13 of these are included in Sweden's National Action Plan. Among the discoveries was the first known occurrence in Scandinavia of Sphecodes longulus, a tiny, 4–6 mm solitary bee.



2008:05 Inventory of Gasteromycetes in Kristianstads Vattenrike Biosphere Reserve, autumn 2006 – winter 2007. Sven-Åke Hanson

As part of the Biosphere Office's work with sandy grasslands, inventories of Gasteromycetes fungi were carried out at Ripa sands, Horna sands, Sånnarna, Rinkabyfältet, Åsumfältet and the old railway crossing at Everöd. In addition to recording a large number of red-listed species, the inventories also categorised several of the sites as among the best in Sweden for Gasteromycetes.

ACTIVITIES 2008

3 reports on fish, birds and diked-in land

In 2008 the 'Vattenriket in focus' series turned the spotlight on a variety of issues – from an aerial survey of the biosphere reserve's greylag goose population to a report on test-fishing carried out during the high water levels in the summer of 2007 and a comprehensive study of diked-in land along the lower reaches of the River Helge å.



2008:09 Aerial inventory of Greylag Geese around Lake Hammarsjön, Lake Araslövssjön and parts of Lake Oppmannasjön and Lake Ivösjön in 2008. Patrik Olofsson

As part of the work with the management plan for Greylag Geese on Kristianstad Plain, aerial inventories of the breeding population around Lake Hammarsjön and Lake Araslövssjön have been carried out from the 2004 season up to and including 2008. In 2007 and 2008 the inventory was extended to the southern shores of Lake Oppmannasjön and the area around the mouth of the River Holjeån in Lake Ivösjön.

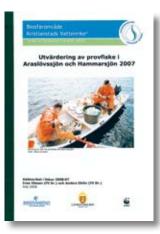
The results show that the population around Hammarsjön fell by 39% from 2004 to 2008, and that the 2008 total of 34 nests by Araslövssjön was the lowest recorded during the inventory period, and well below the record of 86 nests in 2006. The reason for the decline in breeding pairs is unclear, but the trend is the same in all the areas studied (Hammarsjön and Araslövssjön).



2008:06 Diked-in land along the lower reaches of the River Helge å. Basic data, wetland potential and future. Peter Berglund

Summer 2007 brought opportunities to apply to the County Administrative Board for government funding to improve the quality of data used to facilitate the planned expansion of wetland areas far beyond the extent of those that already exist. Transforming diked-in land into wetlands is an effective method for creating new wetland environments.

This study examined 13 diked-in areas currently in use, adjacent to agricultural land along the lower reaches of the River Helge å in the Municipality of Kristianstad, with the aim of assessing their condition and their potential as wetlands. Of owners interviewed so far, two or three part-owners of two separate diked-in areas have expressed an interest in returning these areas to wetland status.



2008:07 Evaluation of test-fishing in Lakes Araslövssjön and Hammarsjön in 2007. Ivan Olsson and Anders Eklöv

Recent years have seen big changes in the lower reaches of the River Helge å system. In the summer of 2007, more than 10 years since the last test-fishing in the waters, it was considered high time to get a picture of the current situation.

The 2007 survey showed that, while the number of species had remained more or less constant since test-fishing in 1995, the total catch was much lower. Unfortunately, the test coincided with summer water levels that were the highest since 1927 in that stretch of the river. As conditions differed so significantly from the previous test-fishing, it is difficult to draw any firm conclusions.

Ecosystem services

We have long suspected that the wet grasslands in Kristianstads Vattenrike are hugely important for biological diversity and recreational activities. Now a new study by two biologists from the Stockholm Resilience Centre has provided us with further documentation about the ecosystem services for which we have the wet grasslands to thank.



The two biologists from Stockholm University, Jennie Svedén and Marmar Nekoro, talk to Per-Inge Olsson, who farms the wet grasslands at Hovby.

Ecosystem services

Without nature's ecosystem services and the products that nature supplies, humankind cannot survive. Most of what nature provides us with, we take for granted, and these services rarely feature in economic analyses. Yet they are crucial to our continued existence.

Ecosystem services are usually divided into four groups based on their function in the ecosystem. Biological diversity can be seen from various perspectives and is usually considered separately. The recent study of Kristianstads Vattenrike's wet grasslands identified ecosystem services in all four groups.

Regulating services

Climate and water regulation, pollination, erosion control, flood control and air quality Provisioning services

Food, water, fibres and fuels, biochemicals and genetic material

Biological diversity

Cultural services

Recreation, aesthetics, educational inspiration, spiritual and religious values and cultural history

Supporting services

Soil production, nutrient dispersal, primary production, water flow and photosynthesis The investigation is a pilot study in Sweden, financed by the Swedish Environmental Protection Agency. The aim was to identify the ecosystem services provided by the wet grasslands in Kristianstads Vattenrike by interviewing various stakeholders, studying the literature and hosting a web-based questionnaire for the general public. This initial study did not put a 'price-tag' on the wet grasslands' ecosystem services.

The biologists from the Stockholm Resilience Centre questioned 18 key stakeholders about the uses and benefits of the wet grasslands. Interviewees related to the wet grasslands in different ways, as farmers, knowledge brokers, individuals involved with hunting, fishing or tourism, and representatives of municipal or regional government or voluntary nature conservation organisations. An additional 50 individuals also answered a web questionnaire. The biologists also studied literature dealing with this specific topic.

The results showed that those interviewed perceive that all groups of ecosystem services (see fact panel, left) are represented in the wet grasslands of Kristianstads Vattenrike. Their answers gave particular prominence to cultural ecosystem services, such as bird-watching, recreation, aesthetics, education and inspiration. In the words of one interviewee,

"It's wonderful to be able to invite friends from other parts of Sweden to experience such a beautiful and exclusive natural environmental, so close to the heart of Kristianstad."

Research into bird migration



HOBBY FALCON WITH A TRANSMITTER PHOTO: PATRIK OLOFSSON

As part of the research into bird migration that is led by Professor Thomas Alerstam at Lund University, transmitters have been fitted to several birds of prey in Kristianstads Vattenrike's Biosphere Reserve in recent years. These studies provided the basis for Roine Strandberg's Ph.D. thesis in autumn 2008, 'Migration strategies of raptors – spatio-temporal adaptations and constraints in travelling and foraging.'



Roine began his studies of raptors in autumn 2002 with a dissertation about the migration of Osprey around Lake Hammarsjön. In the summer of 2004 two Marsh Harriers were fitted with satellite transmitters, the first of some 20 of this species to be similarly equipped.

The data provided by the transmitters have given us many exciting insights into the birds' migratory routes, flying speeds and overwintering areas in West Africa.

In more recent years transmitters have also been fitted to Hobbies and Ospreys from the Kristianstad area.

The Hobby is a real long-distance migrant. Studies show that some of our local birds winter in Zambia, Angola and Botswana in southern Africa: one flew 10,500 km in 63 days.

Even at its wintering site, one of the birds roamed over an extensive area during its stay, presumably foraging for termites and other large insects. Osprey usually migrate to the coast, lakes and rivers of West Africa and, in contrast to the Hobby, remain more or less stationary during the winter.

Although studies of transmitter data from birds in Kristianstads Vattenrike have answered many questions, there is much left to discover. There are still large gaps in our knowledge of our migratory species, but it is hoped that future studies in the biosphere reserve will help to put more pieces of the puzzle into place.

The year in review

January-April 2008



Positive prospects for local eagles

Kristianstads Vattenrike has long been a major overwintering area for Sweden's White-tailed Eagles. The annual census on 5 January recorded 70 White-tailed Eagles and a handful of Golden Eagles. Recently eagles have also bred locally: four pairs of White-tailed Eagles and three pairs of Golden Eagles in 2008. Undisturbed breeding sites and good access to prey are likely reasons for the birds' success. There are even examples of White-tailed Eagles raising three fully fledged chicks, which is highly unusual.

Celebrating the go-ahead for Naturum

On 8 April 2008 the local council gave the go-ahead for Kristianstads Vattenrike's Naturum project. This visitor centre will provide a point of entry to the biosphere reserve, where locals, tourists, conference guests, schoolchildren, researchers and others can meet and experience nature just a stone's throw from the city – a fascinating introduction to exploring the biosphere reserve. 'The building will be a fantastic resource and increase the appeal of Kristianstad for local residents and visitors alike,' says municipal commissioner Bengt Gustafson.





Everyone enjoys an excursion

As reported in previous years, a great deal of effort is being made to improve access at several of the biosphere reserve's visitor sites. Projects include broad new boardwalks, fishing jetties and toilets for disabled visitors. Another aspect of the project to improve access are guided tours to suitable visitor sites. In spring 2008 there were several well-attended guided excursions to Pulken, Norra Lingenäset, Ekenabben and Håslövs ängar. Access to the outdoor museum at Pulken shown here is via a 36-metre long ramp.

The year in review

May-August 2008

80 attend Sandy Grasslands Conference

In May the Biosphere Office arranged a Sandy Grasslands Conference together with the County Administrative Board and Studiefrämjandet, one of Sweden's largest adult education associations. Day One was devoted to lectures with an excursion in the evening. Day Two included a visit either to Vombsänkan or the sandy grasslands around Åhus. Those who chose Åhus were able to visit Kristianstad's Golf Club in Åhus, meet farmers at Ripa sands, hear about an inventory of the Tawny Pipit, and make the acquaintance of the rare *Copris lunaris*, which certainly got the cameras clicking. The final day combined lectures and discussions about biosphere work with an excursion to Rinkabyfältet and Åsumfältet.



Unique rediscovery of slimy-fruited stonewort

Last year Åke Widgren was commissioned by the County Administrative Board to inventory the very rare slimy-fruited stonewort (Nitella capillaris). This underwater algae is red-listed in Sweden and included in the Environmental Protection Agency's national action plan for endangered species. It was last recorded in Sweden in the early 1900s at several sites in north-western Skåne. To the delight and surprise of many people it was rediscovered at two sites in the biosphere reserve – the Hercules Nature Reserve at Skånes Viby, and Pulken, west of Yngsjö.





National Day Celebrations at Åsumfältet

Sweden's National Day was celebrated on 6 June with horse-and-cart rides at Åsumfältet where the Biosphere Office and Nils-Otto Nilsson informed visitors about the natural and cultural values of the region. Nils-Otto had previously compiled a list of the natural and cultural values of Åsumfältet.

All the excursions with the sturdy draft-horse were filled to capacity as many visitors learned more about the unique values of Åsumfältet.

First steps towards Naturum's wetland lake

The first steps towards creating a wetland lake adjacent to the planned Naturum visitor centre were taken during the low-water period in September. A special vehicle on loan from Småland's peat mosses gathered together the willow thickets felled to make way for the 1-hectare lake to be created outside the Naturum building.



The year in review

September-December 2008



A visit from Crown Princess Victoria

Kristianstads Vattenrike was bathed in late-summer sunshine for the visit of Crown Princess Victoria. During an hour-long boat ride on the River Helge å that passed through Egeside, one of the biosphere reserve's wildest areas, she was treated to some wonderful natural experiences and good food, too. A large flock of cranes wheeled overhead and in Yngsjö there were almost as many journalists hoping for a glimpse and a photo of the princess before she continued her visit to Skåne accompanied by the County Governor.



The year in review

September-December 2008

Public concern about dead trees

During the summer the Biosphere Office received numerous calls from members of public who had spotted dead alders and birches in the wetlands and elsewhere. A reporting function on the homepage recorded 25–30 messages from the public that showed that the problem was by no means restricted solely to Kristianstads Vattenrike. There were particularly many reports from along the River Helge å and other rivers in southern Sweden. The pattern of the tree deaths suggests that it was the previous year's extreme flooding and high water table that were the main reasons for this problem





Medieval castle excavated by the River Mjöån

For two weeks in September excavations were made by Kristianstad University College and the Historical Museum at the University of Lund at the ruins of Lyngbyborg Castle by the River Mjöån in Everöd.

The medieval home of a noble family, Lyngbyborg was first recorded in documents from the 1370s and abandoned in the 1560s. This, the first archaeological excavation of this extensive site, focused mainly on the castle mound and revealed remnants of an outer wall that ran along the flat top of the mound. In the north-eastern corner there were remains of a vaulted rectangular cellar. The team also found shards of pottery dating from the High Middle Ages, before the first mention of the castle in documents from the 1370s.

Multifunctional golf course with unique values

Since 2004 Kristianstad Golf Club has worked with the Biosphere Office to develop the recreational values of a golf course in harmony with natural and cultural values.

The fruits of this work were rewarded in December with the Swedish Golf Federation's environmental diploma, and a joint project with the Biosphere Office was awarded SEK 250,000 from STERF, the Scandinavian Turfgrass Environment Research Foundation. The project represents a new approach to a multifunctional use of the sandy grasslands as a golf course and for recreation, public health, education, biodiversity and cultural-historical values.



Contact us at the Biosphere Office

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