

Biosphere Reserve Kristianstads Vattenrike®

ACTIVITIES 2006



Kristianstads Vattenrike Biosphere Reserve



PHOTO: PATRIK OLOFSSON/N

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. 70,000, incl. 29,000 in the Kristianstad urban region.

(Total population of municipality: 76,000.)

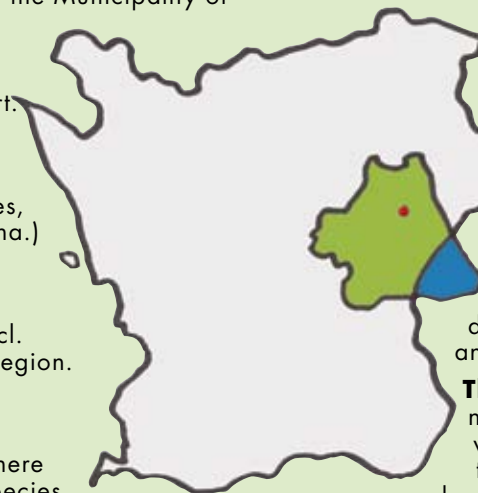
Species worthy of preservation: There are some 20 globally red-listed species, including corncrake and great raft spider, and some 60 EU listed species, including thick-shelled river mussel and *Dianthus arenarius*. In all, there are around 700 nationally red-listed species of flora and fauna. This figure is high compared to other areas of Sweden.

Around 30% of the 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: There are numerous local projects, such as biogas for municipal buses, wetlands ecotourism and the development of products from the wet grasslands.

Zoning: The area's status as a biosphere reserve has not resulted in 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.

Theme areas: Ten theme areas with high natural values have been identified. Work will gradually extend 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 formerly managed under a rotational system of cultivation and fallow have also commenced in earnest.



The year in review – 2006

The first year of our operations as a biosphere reserve is now behind us. While we ourselves have noted a number of changes, it is unlikely that these will become readily apparent to the general public until the Naturum® visitor centre is in place in a few years time.

One thing that no-one can have failed to notice this year, however, are the striking contrasts in weather between hot and cold, wet and dry.

As a concept, the Ecomuseum has had its day and has now been replaced by the Biosphere Reserve and Biosphere Office. But this is not merely a change of name; operations have expanded in both breadth and depth.

Collaboration makes for strength

Increased participation among local residents in a variety of activities has provided us with, for example, information about observed changes in Lake Hammarsjön. People have told us about old methods of cultivation and have collaborated in practical experiments on the sandy grasslands. Locals have also provided practical and theoretical assistance in developing visitor sites in the biosphere reserve and making them accessible to people with disabilities.

There is also a need for local knowledge and involvement to be linked to resources and expertise at regional, national and international level, and the biosphere reserve offers good examples of how all parties benefit from this interaction.

Seeking knowledge and providing information

During the past year we have been able to engage several specialists in preparing various inventories of plants, insects and fungi. This has provided some very valuable insights,

which will be of great value in the future preservation and development of, for example, the sandy grasslands.

One of the highlights of the year was the inauguration of the Sannarna outdoor museum. There are now five outdoor museums in the biosphere reserve, each typically providing on-the-spot information about the surrounding countryside. Using all our senses to experience the landscape is the best gateway to assimilating knowledge and exercising care.

It is not always possible to provide information on site in a biosphere reserve; this became apparent when UNESCO-MAB convened delegates from around the world, including various biosphere reserve coordinators, to a council meeting in Paris. They were eager to find out more about Kristianstad's work in different theme areas.

The work on the Naturum visitor centre has progressed in leaps and bounds during the year and we are now looking forward to the result of the architectural competition – more of which in next year's report.

Sven-Erik Magnusson

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Coordinator

Kristianstads Vattenrike
Biosphere Reserve



The weather year – 2006

Weather On-line has now been running for nine years in collaboration with, among others, the municipality's Department of Public Works (C4 Teknik) and Rolf Sjöberg at the municipality's Child Daycare Services & Education Department, who has also compiled the year's weather reports.

So, what was 2006 like weatherwise? The year began with three cold months, with below-average temperatures in January and February followed by a very cold March. The average temperature for March is normally around +3°C, but the average for this month in 2006 was -1.0°C. This makes it the coldest March (and one of the coldest months to date) in the history of Weather On-line.

In contrast, the summer was warm with record highs in both June and July. July had 25 days with average daily temperatures above 20°C. For July as a whole the average temperature was 21.4°C, making it the hottest month in the history of Weather On-line.

The first few days of August began with torrential rain: 58 mm fell in just a short time on August 2. While the autumn was mild, there were no new records until December, when an average temperature of 6.4°C made it by far the mildest December since Weather On-line began.

To summarise, 2006 started very cold, followed by a warm summer and a mild autumn. The average temperature for the year as a whole was 9.5°C, just a fraction below the figure of 9.7°C recorded in 2000, the mildest year in the history of Weather On-line.



PHOTOS: BIOSPHERE OFFICE

From Ecomuseum to Biosphere Reserve

Operations in Kristianstads Vattenrike began in the autumn of 1989 under the name of Kristianstads Vattenrike Ecomuseum. The name Vattenrike® is a registered trademark. From an organisational point of view, operations came directly under the municipal executive board, which is still the case.

Even if the Municipality of Kristianstad remains our principal, our operations are regarded as both regional, national and international. This is reflected in, for example, financing and agreements.

In 2005 UNESCO in Paris approved Kristianstads Vattenrike as a biosphere reserve, one of 480 worldwide.

A Naturum visitor centre, which will also be the base for the Biosphere Office, is due for completion in autumn 2009.

The changeover from ecomuseum activities to biosphere reserve activities with the Naturum demands a continuous revision of tasks and organisation. The information below reflects the situation in 2006.

Municipal resolutions in 2006

- Kristianstads Vattenrike Ecomuseum renamed as Kristianstads Vattenrike Biosphere Reserve
- The Ecomuseum Office became the Biosphere Office
- The Ecomuseum Director became the Biosphere Office Director and Coordinator of Kristianstads Vattenrike Biosphere Reserve.
- A full-time ecologist (new post) was appointed at the Biosphere Office
- The Consultation Group for Nature Conservation at Kristianstads Vattenrike became the Consultation Group for Kristianstads Vattenrike Biosphere Reserve

PHOTO: SVEN-ERIK MAGNUSSON

The Biosphere Office

Working methods:

Advises on biosphere issues, does not exercise official authority Communicates information; mediates contacts and resources Initiates, runs and supports projects associated with the biosphere reserve

Develops, produces and is responsible for information material: for example, printed matter, web pages and exhibitions, including the outdoor museums and other information at visitor sites

Individuals involved in activities in 2006:

Sven-Erik Magnusson, director and coordinator of Kristianstads Vattenrike Biosphere Reserve, member of the Swedish MAB committee

Karin Magntorn, information officer

Carina Wettemark, ecologist

Hans Cronert, ecologist 50%

Leif Jepsen, facilities director

Göran Vägren, exhibition designer

Tommy Åkerlund (part-time), Göran Frisk (part-time)

Nature Conservation Management, C4 Teknik

Working methods:

Manages visitor sites in the biosphere reserve that are within the remit of the biosphere reserve

Manages and develops land and facilities which form part of the nature reserve or are allocated to serve the aims of the nature reserve and which are state-owned or owned by the Municipality of Kristianstad (including the biosphere reserve itself).

Individuals involved in activities in 2006:

Hans Cronert, coordinator 50%

Bengt-Göran Jönsson, supervisor

Jens Svensson, team foreman

Ingvar Persson, Bengt Carlsson, Andreas Nilsson, nature conservation workers

Municipal labour market resources

An agreement exists to ensure that a supervisor and team of workers are at the disposal of C4 Teknik's Nature Conservation Management.



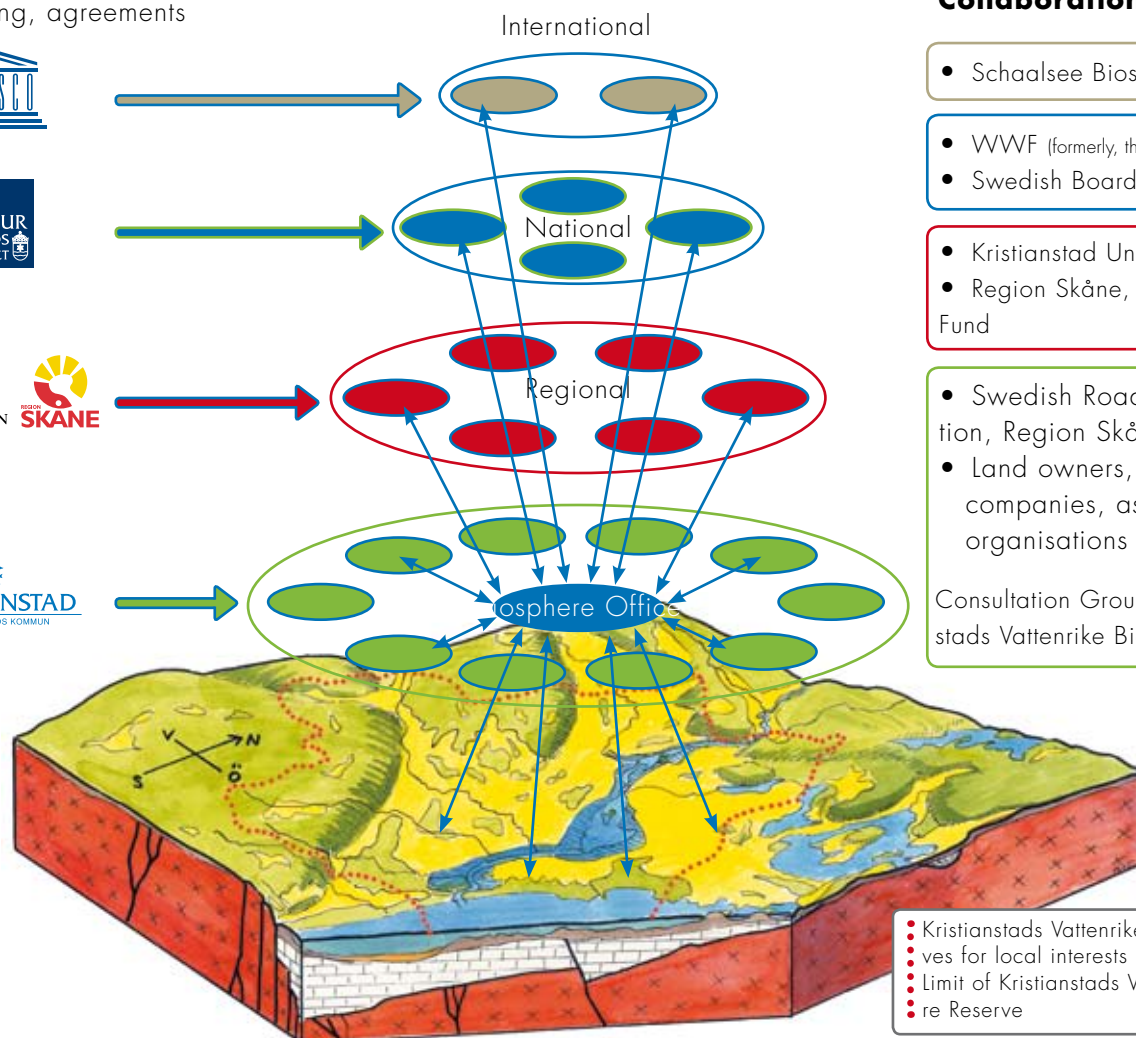
PHOTO: SVEN-ERIK MAGNUSSON

Here Leif Jepsen from the Biosphere Office together with Jens Svensson and Ingvar Persson from the Nature Conservation Management organisation are constructing a project planning platform for a Naturum visitor centre out in the wetlands

Collaboration between local, national and international agencies

The Biosphere Office

Financing, agreements



Examples of projects Collaboration, financing

- Schaalsee Biosphere Reserve

- WWF (formerly, the World Wildlife Fund)
- Swedish Board of Fisheries

- Kristianstad University
- Region Skåne, Environmental Fund

- Swedish Road Administration, Region Skåne
- Land owners, tenant farmers, companies, associations and organisations

Consultation Group for Kristianstads Vattenrike Biosphere Reserve

- Kristianstads Vattenrike and representatives for local interests (advisory body)
- Limit of Kristianstads Vattenrike Biosphere Reserve

Biosphere reserves are model areas for sustainable development. This is where theory meets practice. The biosphere reserve is one arena where local insights and involvement can be combined with national and international knowledge and resources.

The diagram shows how this works in Kristianstads Vattenrike Biosphere Reserve. This flexible yet structured method of working, for example via knowledge exchange between different levels, has attracted attention both nationally and internationally.

Financiers and partners The Biosphere Office:

Comes under the direct supervision of the municipal executive board and its chair. Continuous financing of basic operations with a cooperation agreement between the Municipality of Kristianstad (as principal) and Sweden's National Environmental Protection Agency, the County Administrative Board of Skåne and Region Skåne. Project funding from the National Environmental Protection Agency, Region Skåne, WWF and others. Permanent close collaborative partners include the Nature School in Kristianstad and Kristianstad University.

The Nature Conservation Management organisation:

An operation within the municipal public works department C4 Teknik, which has a collaborative agreement with the County Administrative Board of Skåne.

National and international UNESCO affiliation for Kristianstads Vattenrike Biosphere Reserve

- The Swedish MAB Committee supports and coordinates work in Sweden's biosphere reserves, and forms part of the Swedish Research Council
- The Swedish UNESCO Council coordinates work on UNESCO programmes, and is part of the Ministry of Education and Research
- Man and the Biosphere programme (MAB) is a scientific programme under the aegis of UNESCO, based in Paris
- UNESCO, one of the UN's specialist agencies with responsibility for education, science and culture; based in Paris

Changes in Lakes Hammarsjön

The River Helge å links the two shallow lowland lakes, Hammarsjön and Araslövssjön. The river and the adjacent wetlands are the main artery through Kristianstads Vattenrike Biosphere Reserve. The lakes have been classed as internationally valuable from a nature conservation viewpoint, with many resting birds and a unique underwater flora which has been the subject of a special study by the County Administrative Board over the past year. The lake system is also very important for angling. The river discharges by the sandy shores of Hanöbukten Bay, 15 km downstream from Lake Hammarsjön.

In recent years dramatic changes have taken place in the lakes. The numerous clumps of rushes which previously characterised the lakes, have declined and disappeared over large areas. Many of the nesting wetland birds have diminished substantially in number and are now no longer found across large stretches of the lakes. The water has grown significantly browner in colour in recent years, and at periods it is very cloudy. Finally, the greylag goose has increased substantially in numbers as a breeding bird, which has presumably contributed to the damage to the reed beds. To summarise the situation, the lakes are not healthy.

The question is highly complex: there are presumably a number of underlying contributory factors that include eutrophication, acidification, the ditching and drainage of forests, climate change and expanding flocks of greylag geese. It is a matter of urgency to try to understand what is happening in order to be able



Underwater vegetation in the southern, western and northern parts of Lake Hammarsjön has significant amounts of slime on its leaves and stalks. This is worrying, as deposits like this can inhibit photosynthesis.

PHOTO: NILS CARLSON



During the summer of 2006 an inventory was made of the nesting birds in Lake Hammarsjön. Many of the nesting birds were found. The great crested grebe, for example, 16 pairs in 2006. Today this bird is confined to the lake.

FOTO PATRIK OLOFSSON/N

Hamarsjön and Araslövssjön

to take countermeasures. Otherwise there is a risk of new effects with even graver or more widespread consequences. We documented the discharge of discoloured water into Hanöbukten Bay several summers ago; discoloured water may erode the appeal of important local bathing resorts. Last summer several observations were made of catfish that had fled the river and were caught by fishermen along the coast. The reasons for this exodus remain unknown, but it may be a consequence of the changes described by way of introduction above.

It is important to make use of knowledge that exists locally within the biosphere reserve. For this reason, interviews were conducted during the spring with many parties who share an interest in the watercourses (anglers, professional fishermen, boat owners, nature conservationists and ornithologists). Their perceptions do not entirely tally, which emphasises the difficulties of assessing what is happening.

In view of the uncertainty behind these causal relationships it is important to accumulate and evaluate the knowledge that does exist, to initiate research and to set up an environmental monitoring programme that keeps a close watch on what is actually taking place. The aim is to acquire the information required to determine the kind of forceful measures that need to be implemented. It is important to achieve a national (and international) focus on the problem.



was made and followed up of nesting birds. The number of birds has disappeared or fallen in number. The number has diminished from 46 pairs in 1986 to only a few pairs, more or less exclusively to Herculesviken Bay.

Clumps of rushes in Lake Hamarsjön in the summer of 2006. The dense clumps which previously characterised the lakes have diminished in strength and even disappeared over large areas. Only in Herculesviken Bay do they remain virtually intact.

PHOTO: HANS CRONERT

The sandy grasslands in

Work on the sandy grasslands really took off in 2006 with the opening of the Sännarna outdoor museum just west of Åhus in brilliant sunshine in September. Around 80 people were invited to the opening, when the ribbon was cut by the then Chair of Region Skåne's Environmental Fund, Gunnar Jönsson.

The weekend after the inauguration guided tours for the general public attracted 45 people. The first plot in the demonstration plantation, which was sown in the autumn of 2005, was harvested during the autumn. A new plot was sown with rye in October to show visitors how the rotational system of cultivation and fallow works. The heavy falls of rain in May meant that the rye crop exceeded all expectations.

During the year the municipal executive board has resolved to redesignate a number of municipally owned areas of land – among them, several areas of sandy grassland – as municipally owned nature conservation areas. These include the areas around the outdoor museum and the so-called Frog Pit (Grod-gropen) as well as areas around Horna fure and the airport at Everöd. This is a highly positive development as these areas can now be managed so as to promote natural and recreational values.

Pål-Axel Olsson, a researcher from the University of Lund, is working on measures to restore the threatened ecosystem xeric calcareous grasslands which form part of the sandy grasslands theme area. Measures have been taken on land owned by the municipality around Everöd, but also at Rinkaby-fältet and Lyngsjö.

At Lyngsjö the Biosphere Office has collaborated with the County Administrative Board to ensure that a pasture which provides the sole habitat in Sweden for the very rare small plant *Minuartia viscosa* is now being grazed again. *Minuartia viscosa* is a xeric calcareous grassland plant that is dependent on grazing and disturbances in the soil which ensure that new, calcareous sand is brought to the surface.

A number of inventories have been made during the year to better survey the natural values of the sandy grasslands. Vascular flora on the A3 military training ground in Norra Åsum has been studied by botanist Kjell-Arne Olsson. Rare types of



PHOTO: PATRIK OLOFSSON/N

The splendid horned dung beetle, which excavates passages beneath horse and cow dung in which to lay its eggs, is one of the many rare insects that thrive on the sandy soils.

earthstars, a kind of puffball fungus, have been inventoried by Ramlösa Naturkonsult on Ripa sandar, Horna sand, the A3 site and elsewhere. It seems to have been a very good year for the very rare and endangered earthstars, large numbers of which have been found during the inventory. Around Äleköpinge field researchers found more than 800 examples – a Swedish record.

Entomologist Mikael Sörensson has inventoried solitary bees at Ripa sandar and around Horna fure and Sännarna. He has recorded 74 species of solitary bee, 22 of which are on the red list. Among these is the hare-footed leaf-cutter (*Megachile lagopoda*), which only occurs in Sweden in the area around Åhus.

Other insects have also been partially inventoried and a further 25 red-listed insects have been discovered, including the splendid horned dung beetle.

The fence around Ripafältet needed to be replaced and this led to lichen expert Ulf Arup finding soot lichen on the old fence

The extensive sandy grasslands in the biosphere reserve constitute a highly distinctive landscape with great natural and cultural values.



2006



posts around the field. Soot lichen has its most extensive area of distribution in Sweden around Ripa. It grows primarily on old oak fence posts, and the kindly landowners of Ripafältet have helped by saving many of the old posts with the rare lichen and integrating them into the new fence. Another landowner in Ripa has donated old oak posts to the Biosphere Office, and we hope that these will, in time, contribute to the spread of soot lichen in the area.

Early in the summer the County Administrative Board granted SEK 620,000 to the Biosphere Office to fund work on the sandy grasslands in the biosphere reserve. The application for funds was met in full as part of the Swedish state's investment in local nature conservation. One aspect of the work involves restoring valuable sandy grasslands, and during the autumn pine saplings have been uprooted and two relatively small areas ploughed on municipal land around Horna fure.

The biosphere reserve is affected by several action plans undertaken by Sweden's county administrative boards to protect endangered species. Examples of current programmes are insects on steppe-like dry meadows, wild bees and dung beetles



PHOTO: CARINA WETTEMARK

During the year inventories of earthstar fungi have been made at various sites in the biosphere reserve. Finds of many rare fungi have been made, including the dwarf earthstar on a military training ground in Åsum.



PHOTO: SVEN-ERIK MAGNUSSON

Mikael Sörensson and Carina Wettemark. In his report Mikael assesses the area around Ripa and Horna as one of Sweden's most important habitats for solitary bees. A preliminary inventory produced finds of 40 red-listed insects and indicates that the area has very high natural values

The year in review | January–April 2006

Interviews about the lakes

In the spring Kristianstad University and the Biosphere Office worked together to interview many interested parties in order to accumulate local knowledge about the changes taking place in Lakes Hammarsjön and Araslövssjön. Here representatives for the Swedish Society for Nature Conservation and the local boat club are talking to researchers Lena Vought and Jean Lacoursière.



PHOTO: SVEN-ERIK MAGNUSSON



PHOTO: SVEN-ERIK MAGNUSSON

National and international visitors

There has been a marked upswing in interest in Kristianstads Vattenrike since it became a biosphere reserve. The Biosphere Office has received many enquiries. Tourists are referred to the homepage for information, before exploring the area themselves or with the help of one of the local tourist entrepreneurs. The Biosphere Office tries to find time to deal with the authorities, institutions, researchers, etc.

Here, accompanied by ecologist Hans Cronert, Professor Paul Eagles from Canada is pointing out over the wetlands by the Canal House outdoor museum. Other visits during the year included those by the Ministry of the Environment, the Swedish National Environmental Protection Agency's research section, the Schaalsee Biosphere Reserve and a two-day conference with the Swedish UNESCO council.

May–August 2006

Hosting a national radio broadcast

The entire Naturmorgon nature programme was broadcast from Kristianstads Vattenrike on May 6. Radio reporters Anders Börjeson and Jenny Berntson-Djurvall took a boat trip and explored the Canal House walkway to capture the arrival of spring in the biosphere reserve. The following Saturday's programme included a broadcast from the Nature School, studying the River Vramsån together with students from Köpinge School.



PHOTO: KARIN MAGNTORN



PHOTO: SVEN-ERIK MAGNUSSON

Record season for ecotourism organisers

More and more people are discovering that taking part in one of the ecotourism arrangements offered by our local tourist firms is a great way to experience the biosphere reserve. The 2006 season can be summed up in one word: successful! Tour operators Flodbåten and Landskapet JO had record numbers of visitors.





PHOTO: PATRIK OLOFSSON/N

Researching the marsh harrier

As part of a University of Lund research project into the migration of the marsh harrier, researcher Roine Strandberg has fitted a dozen or so of Kristianstads Vattenrike's marsh harriers with satellite transmitters. During the summer of 2006 a female marsh harrier which had spent the winter in Senegal returned to the same clump of reeds in Herculesviken Bay where she had nested the previous season.

During the autumn Roine and nature cameraman Patrik Olofsson followed the marsh harriers down to Africa and actually spotted one of Kristianstads Vattenrike's marsh harriers in Senegal!

River Vramsån

Summer droughts frequently spark conflicts of interest. 2006 was no exception. Farmers need huge amounts of water for irrigation at the same time as the flora and fauna in the river, many of them very rare and endangered, need water to survive. During the year the first steps have been taken towards the formation of an interest group for the River Vramsån. With such great natural values in and around the river, as well as the interests of fish conservation, farmers, foresters, the owners of small mills and others to consider, it is important to find a forum where questions concerning the future of the River Vramsån can be discussed.

The initiative has been taken by landowners and it is hoped that the group will be constituted during the spring of 2007.



PHOTO: KARIN MAGNTORN



PHOTO: SVEN-ERIK MAGNUSSON

Catches of catfish

Exceptionally large numbers of catfish have been caught during the year in the sea off the mouth of the River Helgeån. The picture shows the largest catch, a 12 kg catfish, by eel fisherman Bo Hellström from Yngsjö, before it was subsequently released back into the River Helge å. Clearly, however, abnormally many catfish are seeking to leave the River Helge å. Is this a further indication of changes in water quality in the river and the lakes? A positive sign on the other hand, is that catfish catches reported from the River Helge å in 2006 indicate reproduction in the years 2002 to 2004, possibly also 2005. The species was re-introduced into the river in 1999, after having been wiped out in the 1960s.

Project funding for the Biosphere Office

In August it became clear that two major Kristianstads Vattenrike projects had attracted state funding as local nature conservation projects. One project enables work on the sandy grasslands to continue, while the other focuses on improving access for wheelchair users to several visitor sites within the biosphere reserve. As a result of this support, seven sites will be improved with new raised walkways, gravel paths, seating, fishing jetties, disabled toilets and signage. A consultative group including wheelchair users with an interest in nature are assisting with the project.



PHOTO: NILS-OTTO NILSSON

September-December 2006



PHOTO: SVEN-ERIK MAGNUSSON

Sannarna outdoor museum opens

In brilliant late summer sunshine Sannarna, the fifth outdoor museum in the biosphere reserve, was opened in front of some 80 invited guests. After Sven-Erik Magnusson and Carina Wettemark (picture) had welcomed the visitors, entomologist Mikael Sörensson shared his view of the value of the sandy grasslands. Then Gunnar Jönsson from Region Skåne's Environmental and Nature Conservation Committee cut the blue and green ribbon and declared the facility open. The Sannarna outdoor museum is located between Åhus and Kavrö: it is sign-posted from Flötövägen.

Naturum® visitor centre

Preparations for the Naturum® visitor centre have continued during the year. On January 18 plans were presented for a facility with exhibitions, conference rooms, café, offices, etc. Naturum® is a collaborative project between the municipality, Sweden's National Environmental Protection Agency, the County Administrative Board and others. During the summer an invitation was sent out to select four architectural partnerships for a competition. On November 6 the four companies selected were invited to a start-up meeting. The picture shows representatives for two of the architectural firms on the western bank of the River Helge å. The platform in the background shows the location of the Naturum® visitor centre and the various floor levels.

PHOTO: SVEN-ERIK MAGNUSSON



PHOTO: SVEN-ERIK MAGNUSSON

Emphasis on information

2006 has also seen an emphasis on information in a broad perspective. Here information officer Karin Magntorn is testing signs in different materials on a group of visitors from the Municipality of Lund. This is one stage in the process of successively replacing information in the field with new working techniques and materials.

During the year a new exhibition corner has appeared in the Tourist Office in Åhus and a set of nine new folders is ready for the coming season.

Different reports from Kristianstads Vattenrike will be compiled as a series of publications, Vattenriket in Focus. The first was published in 2006.

Contact us at the Biosphere Office

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