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*EUROPEAN COMMITTEE FOR THE CONSERVATION OF NATURE
AND NATURAL RESOURCES*

*Group of Specialists - Protected areas
(PE-S-ZP)*

23 - 25 March 1994

*Minsmere Nature Reserve
(United Kingdom)*

On-the-spot appraisal

by

Professor Jan LUNDQVIST

1. The European Diploma, Category A, was awarded to the Minsmere Nature Reserve in 1979.
2. The Secretariat did not accompany the expert on his visit to the Reserve.
3. Appendix I is Resolution (79) 13 on the award of the European Diploma; Appendix II contains Resolution (89) 9 adopted when the Diploma was last renewed. Appendix III contains the Secretariat's draft resolution for a possible renewal in 1994.

Minsmere Nature Reserve

(United Kingdom)

On-the-spot appraisal 1993
(Renewal of European Diploma A)
by Jan Lundqvist, Sweden

INTRODUCTION

Order

By letter of 17 April 1993, the Council of Europe Secretariat asked me to carry out an on-the-spot appraisal of Minsmere Nature Reserve in order to consider the renewal of its European Diploma.

Background

At their meeting held on 13 September 1979, the Committee of Ministers adopted Resolution (79) 13 concerning the award of the European Diploma (Category A) to the Minsmere Nature Reserve. On 21 June 1984 and 19 June 1989 the Committee of Ministers renewed the European Diploma (Resolution (84) 6 and (89) 9).

In accordance with article 5 of the European Diploma regulations, annual reports for the years 1989, 1990, 1991 and 1992 have been submitted by the Royal Society for Protection of Birds (RSPB) to the Steering Committee for the Conservation and Management of the Environment and Natural Habitats (CDPE).

Carrying out the appraisal

The on-the-spot appraisal took place on 11 - 12 July 1993. I was assisted by Mr Geoff Welch (Manager of the Reserve), Mr Richard Powell (RSPB Senior Reserves Manager, East Anglia), Mr Graham Hirons (RSPB Ecologist) and Mr Jeremy Clitheroe (English Nature Conservation Officer, East Anglia). Here I would like to express my sincere gratitude to them for helpfulness, effective co-operation and warm assistance.

THE RESERVE

Minsmere Nature Reserve is of outstanding importance for birdlife in United Kingdom, due to a great variety of habitats with reedbed, coastal lagoons, vegetated dunes and foreshore, lowland wet grassland, heathland, woodland and arable. The *Phragmites* reedbed is the second largest in England. The site supports nationally important breeding populations of avocet, bittern, marsh harrier, bearded tit, Savi's warbler, nightjar, woodlark, nightingale, gadwall and pochard. Nationally important numbers of white-fronted goose, teal, red-throated diver and hen harrier occur in winter.

The majority of reserve habitats are semi-natural. For most visitors the focal point is "the Scrape", a series of large shallow lagoons sprinkled with over 50 islands. This man-made habitat was primarily created to provide good breeding and feeding conditions for a great number of species, but it was also designed for visitors to get a nice view of the birdlife. The reserve has become the most famous bird reserve in Britain, where large numbers of people can look at the birds with a minimum of disturbance. To get ideal conditions for the reedbeds and the birds, and as a tool for controlling invading vegetation on "the Scrape", the water level and salinity (0,1 ‰) is controlled by a series of sluices.

The Minsmere Nature Reserve is situated in Suffolk on the North Sea coast 145 km north-east of London.

Further descriptions of the Minsmere Nature Reserve are to be found in the Council of Europe's European Diploma series no 18 and two RSPB folders presenting the Reserve.

STATE OF CONSERVATION

Environment

Based on information given in the Annual reports for 1989 - 1992 and during my visit, I can conclude that no major, but mostly positive changes have occurred in the status of conservation of the natural environment since renewal was given in 1989. The reserve is very carefully managed by the society in accordance with a detailed management plan. Arable land has been purchased to be converted to heathland. No herbicides are used nowadays in the reserve, but the problem of expanding bracken in heathland and woodland has started to cause severe management difficulties.

Facilities for visitors

Visitors can use two dry footpaths, each of 3 km in length, and ten large wooden hides for their studies of birds. Four of the hides are accessible for disabled people with wheelchairs and two of the hides are public, available free at all times. There is also a network of Public Rights of way. A new carpark for 200 cars and two coaches is under construction and will be ready in 1993. The annual number of visitors varies around 60,000, and the buildings for shop/reception and information seem to be very small in peak days.

LEGAL AND LAND STATUS

The reserve was notified "Site of Special Scientific Interest" (SSSI) status under Domestic UK Legislation, the Wildlife and Countryside Act 1981, on 19 May 1989. All proposed development must be approved by the English Nature.

Other titles are:

- Bird Sanctuary.
- Wetland of international importance under the Ramsar Convention: Site 10, Minsmere/Walberswick, January 1976 (English Nature, Suffolk).
- Project Mar, Category A of international interest.

- Council of Europe Diploma, 1979 (details given above).
- Area of Outstanding Natural Beauty: Suffolk Coast and Heaths (Suffolk Coastal District Council, Woodbridge).
- Suffolk Heritage Coast, 1979 (Planning Department, Suffolk County Council, Ipswich).
- Suffolk River Valleys Environmentally Sensitive Area, 1987 (MAFF, Ipswich).
- Special Protection Area, 19 May 1992 (English Nature, Suffolk)

The Minsmere Nature Reserve covers 836 ha and is fully owned by the Royal Society for the Protection of Birds (RSPB). Additional land (226 ha) was purchased in 1989 and 1990.

MANAGEMENT

Management Plan

A draft of the Minsmere Management Plan for a five year period 1993 - 1998 has been compiled. It both presents an overview description of the site and gives an evaluation of conservation values, the management policies and an ambitious programme for both applied management work within 52 units and future research. As the reserve is a Site of Special Scientific Interest (SSSI), category 1, any modification to the Minsmere Management Plan must be approved by the English Nature.

Management activities and problems

The majority of the habitats are threatened by succession, especially the heath and reedbeds which require intensive annual management. Both the reedbeds and coastal lagoons require a sufficient and controlled supply of unpolluted water. The coastal lagoons are an artificial habitat which need considerable management to maintain suitable wader breeding and feeding areas. A programme for habitat restoration/creation of heathland for the arable block has started. Records of all management activities are carefully kept.

Heathland: The 178 ha of heath is managed by scrub and bracken control and heather management by a rotational cutting/burning programme to benefit nightjar, woodlark and important lepidoptera (eg silver-studded blue butterfly).

Arable: Since purchase in 1989, 158 ha of arable land is in the process of being reverted to Sandlings-type heath through continued nutrient stripping and artificial acidification of the soil. The area is now let to a farmer who grows winter barley and linseed. In the future pine chippings and/or bracken mulch and heather clippings, products from the existing heath, will be used for the establishment of *Calluna*. This work will benefit breeding woodlark and nightjar plus providing suitable habitat for stone curlew.

Woodland: The regionally important mixed/deciduous woodland is managed by coppicing, thinning, removal of planted conifers and bracken control to increase the diversity of breeding birds, especially nightingale.

Reedbed: The 165 ha of reedbed and meres is maintained by water control, ditch clearance, scrub removal, rotational cutting of reed and vegetational clearance of the lagoons. The reed cutting is 5 ha per year on a 7 year rotation. This benefits breeding of the nationally important bittern, marsh harrier and bearded tit, and wintering wildfowl. The anti-predator fence around the lagoon system needs to be checked regularly.

Lowland wet grassland: The 43 ha area is managed by grazing, mowing and water control.

Dune ecosystem: The dunes are managed by control of scrub, mowing, grazing and fencing of sensitive areas.

Planned projects

A 27 ha "New Scrape" is planned to be established in the drier eastern section of the reedbed. The existing coastal lagoons will be left to integradual regeneration to a more vital reedbed. The new wetland system will be managed rotationally on a 15 - 20 year cycle, which would benefit both reedbed and lagoon breeding bird communities. From five years after the existing "Scrape" was completed, the number of passage waders and breeding gulls, terns and waders has fallen fairly steadily. This trend is probably related to changes in the abundance of the invertebrates upon which waders feed, together with decrease in the level of dissolved nutrients in the water of the lagoons. Continued recreation of new lagoons will release nutrients to the lagoon system and vitalize the reed in abandoned lagoons.

A two stored building is planned as a new visitor reception centre. It will replace three single story buildings used today, and be placed between the existing and the new car park. The existing car park will be landscaped and used as a nature trail with shrubs and a sand martin cliff. A new tree hide accessible for disabled is planned for next year.

The bracken problem

As pointed out in the annual report for 1992, bracken *Pteridium aquilinum* has increased dramatically in many heathland and woodland areas in the reserve during the last twelve years. Bracken is an invasive "problem" plant, quickly replacing communities that have greater conservation value. For conservation of heathland it is vital both to get rid of the bracken and reestablish the original vegetation. Bracken control is neither easy, quick nor cheap.

Since 1980 (the award of the Diploma), bracken control has been done by mechanical cutting, either using tractor-mounted equipment, brushcutters or hand tools, three times cutting per year. Despite intensive input of manpower, the amount of bracken on the heath has increased significantly. In the long run, it seems impossible to stop expansion of bracken by mechanical cutting.

Three approaches can be used in bracken control, either individual or in combination: Mechanical control, herbicide control or establishment of competitive vegetation. The bracken situation in the reserve now requires the most efficient control, which is herbicide spray in combination with follow-up by mechanical cutting and spot-spraying. The use of the herbicide Asolux (trade name for Asulam - methyl(4-aminobenzenesulphonyl)carbamate) is an accepted

method of managing bracken in English Nature (National Nature Reserves) and RSPB. The seedbank usually gives the heath vegetation back if the litter layer is removed.

Asolux is particularly effective and specific against bracken, *Equisetum* and *Rumex* species. It kills most of the bracken rhizome buds. Asulam has a low toxicity to wildlife and localized and degenerated at the site of application. Soil Persistence is low with a half life of 6-14 days. Residues are usually found in the surface 15 cm soil. When incorporated into soil, asulam had either no, or only a temporary, inhibition of most soil micro-organisms. (From Cooke 1986)

In my opinion, the only way to get acceptable control of bracken in the reserve and prevent bracken invasion in the arable land being converted to heath, is to allow the use of Asolux. The long term effects of bracken "taking over" heath-land vegetation seem more serious compared to use of Asolux.

Education

There is a potential for increasing the visitor numbers from current level of 60,000 to 100,000 per year with the new car park and planned visitor centre. In the hides there are different themes of information for the visitors. The beach information hut has been manned by local volunteers in summer, and a programme of guided walks and events has been successful.

The reserve has potential for increasing the number of visiting school parties, and there is a considerable scope for promoting the reserve as a demonstration site for a wide range of habitat management techniques, especially wetland and heathland. There are limitations both in staffing and facilities for education and interpretation, but these problems will hopefully be solved when the new visitor centre is built.

Research

Monitoring of migrating and breeding birds is continuous, and studies have been made on management of habitat for rare species (bittern, marsh harrier, avocet, nightjar, nightingale, bearded tit, terns and the silver-studded blue butterfly). Inventories of macrolepidoptera and other invertebrates in the lagoons and heather, vegetation in degenerate grazing marsh/reedbed and fish are in process.

The need for scientific research has been pointed out in the Minsmere Management Plan, and the program of specific research projects is very pushing. It focuses on detailed monitoring of key bird species, daily log of all birds, deer and fish populations, invertebrates on the heath, arable land and in coastal lagoons, botanical survey of the whole reserve, plus quality of reed.

Staff and infrastructure

The permanent wardening staff has remained almost unchanged for the last years: The Minsmere Manager, Senior Warden (training), Warden (habitats), Shop Manager, 2 Sales Assistants, Information Warden, 3 part time teacher-naturalists, 3 Assistant Wardens, about 4 residential volunteers and a team of 8-10 Employment Trainees plus supervisor.

THREATS

There are no major threats by man to the Reserve if the management is carried out as adopted in the Minsmere Management Plan.

EUROPEAN DIPLOMA INFLUENCE

The recommendations of the Council of Europe for the management of the Reserve have been incorporated in the Management Plan. The international and national recognition provided by the Diploma has given greater justification in bidding for financial resources to undertake recommended management.

COMPLIANCE WITH THE PREVIOUS RECOMMENDATIONS

Very important management work has been done during the last five years, and the recommendations given in Resolution (89) 9 on the Renewal of the Diploma have been almost completely fulfilled.

1. The number of visitors has been monitored, and 100,000 visitors annually is proposed as an upper limit.
2. There is no use of herbicides in the reserve as recommended.
3. A visitor centre is planned and will probably be built in 1994 to meet with the needs of space for exhibitions and a class/conference room.
4. The number of deer and lagomorphs seems not to be a problem in regeneration of trees in the reserve.
5. There is no military overflying nowadays.

CONCLUSION

The Reserve is in a very good state of conservancy and no major threats are present. The Management Plan is of high quality and there seem to be financial means provided to ensure that all planned management work can be carried out properly.

The recommendations included in Resolution (89) 9) are fulfilled or will be so very soon. In my opinion the state of conservation of Minsmere Nature Reserve now is at least as high as in 1987, when the previous on-the-spot appraisal was carried out.

I strongly support that the European Diploma for Minsmere Nature Reserve (category A) should be renewed for another five years. The following recommendations are proposed:

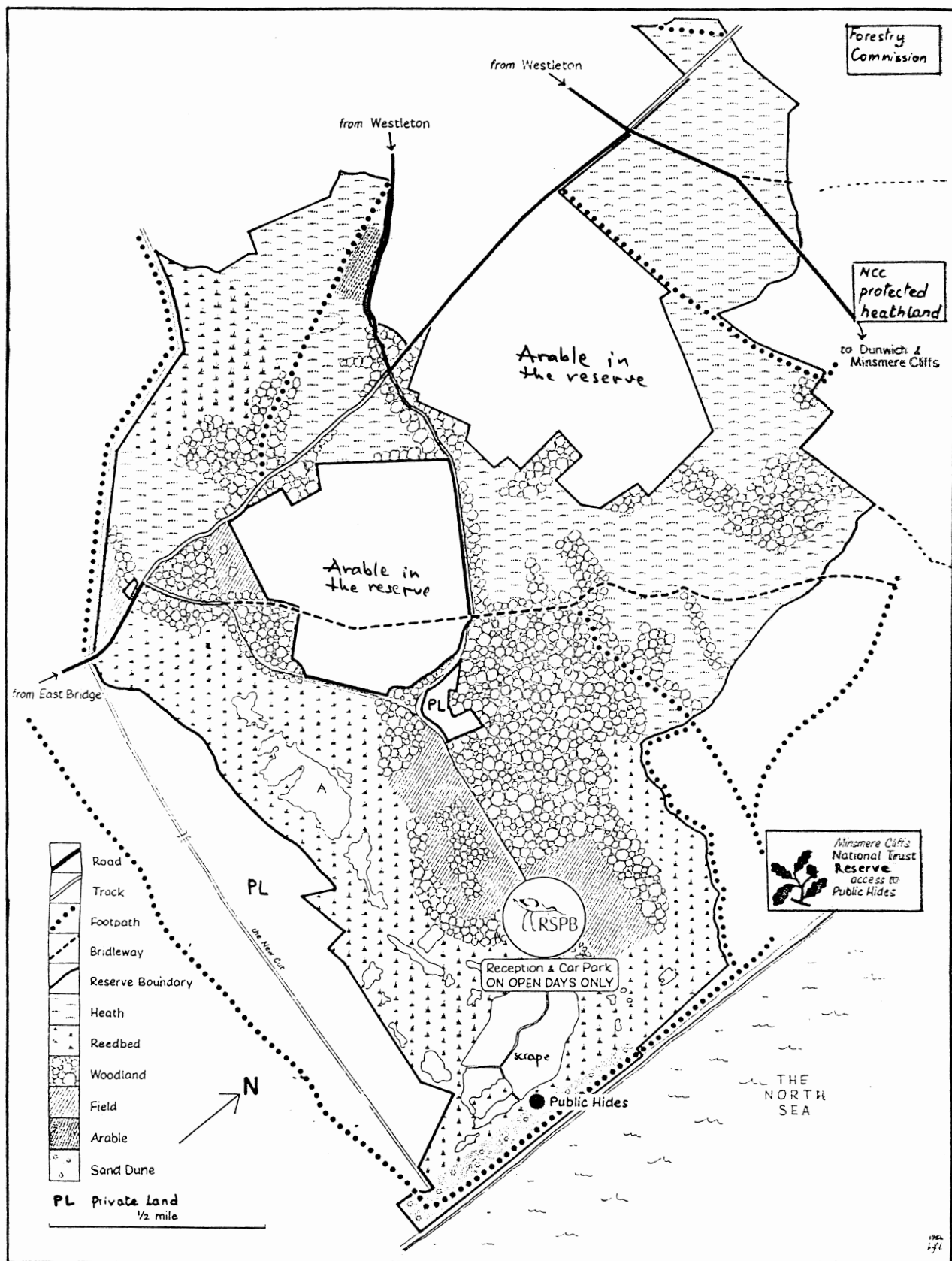
RECOMMENDATIONS

1. The invasion of bracken in heathland has to be controlled by cutting three times per annum, establishment of competitive natural vegetation and, if necessary, periodic selective spraying with Asolux.
2. Except for bracken control with Asolux, no herbicide spraying would be done in the reserve. A careful record would be kept of the amount of Asolux used.
3. Carefully follow the effects of methods used and reduce soil nutrient status and pH in arable land when recreating the Sandlings-type heath.
4. As planned, establish and manage a new lagoon system to get an ideal breeding habitat for especially avocet, terns and passage waders.
5. Build the planned visitor centre and upgrade interpretive and education facilities.

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COUNCIL OF EUROPE COMMITTEE OF MINISTERS

RESOLUTION (79) 13

ON THE AWARD OF THE EUROPEAN DIPLOMA TO THE MINSMERE NATURE RESERVE (UNITED KINGDOM)

*(Adopted by the Committee of Ministers on 13 September 1979
at the 307th meeting of the Ministers' Deputies)*

The Committee of Ministers, under the terms of Article 15.a of the Statute of the Council of Europe,

Having regard to Resolution (65) 6 instituting the European Diploma ;

Having regard to the proposals of the European Committee for the Conservation of Nature and Natural Resources ;

Having recorded the agreement of the Government of the United Kingdom ;

After deliberation,

Solemnly awards the European Diploma, Category A, in accordance with the regulations for the European Diploma, to the Minsmere Nature Reserve (United Kingdom) ;

Places the aforesaid reserve under the patronage of the Council of Europe until 13 September 1984.

COUNCIL OF EUROPE COMMITTEE OF MINISTERS

RESOLUTION (89) 9

ON THE RENEWAL OF THE EUROPEAN DIPLOMA AWARDED TO THE MINSMERE NATURE RESERVE (UNITED KINGDOM)

*(Adopted by the Committee of Ministers on 19 June 1989
at the 427th meeting of the Ministers' Deputies)*

The Committee of Ministers, under the terms of Article 15.a of the Statute of the Council of Europe,

Having regard to Resolution (65) 6 instituting the European Diploma;

Having regard to Resolution (79) 13 awarding the European Diploma to the Minsmere Nature Reserve (United Kingdom);

Having regard to the proposals of the Steering Committee for the Conservation and Management of the Environment and Natural Habitats (CDPE),

Renews the European Diploma, Category A, awarded to the Minsmere Nature Reserve until 13 September 1994, with the following recommendations:

1. The increase in the number of visitors should be monitored and if necessary an appropriate ceiling should be set for each part, depending on its fragility, so as not to impair the qualities of the biotopes under protection;
2. The use of weedkillers for the upkeep of the irrigation canals and the artificial lagoon should be reduced to a minimum, and mechanical means employed instead. A careful record should be kept of the amounts of every chemical used. A close watch should be kept on the chemical quality of all fresh and brackish waters and of the reed-bed and lagoon sediments, in order to monitor the possible effects of plant-protection chemicals used in or around the reserve, and to assemble information on their biodegradability;
3. The reserve's educational role should be enhanced by setting up a nature study centre next to the shop and ticket-office, and visitors should be alerted to the need to protect not only birds but also other rare species of fauna and flora occurring in the reserve;



Forty years
Council of Europe

4. The increase in the number of deer and lagomorphs should be controlled so as to permit natural regeneration in forest areas ; as many parts as possible of the woods damaged in the gales in October 1987 should be designated non-intervention areas ;

5. Appropriate measures should be taken to ensure that military overflying does not interfere with the biological conditions of the reserve ; if possible, it should be prohibited altogether over the lagoon area.

Draft of Resolution (94)

**ON THE RENEWAL OF THE EUROPEAN DIPLOMA
AWARDED TO THE MINSMERE NATURE RESERVE (UNITED KINGDOM)**

*(Adopted by the Committee of Ministers on 19 June 1989
at the 427th meeting of the Ministers' Deputies)*

The Committee of Ministers, under the terms of Article 15.a of the Statute of the Council of Europe.

Having regard to Resolution (65) 6 instituting the European Diploma;

Having regard to Resolution (79) 13 awarding the European Diploma to the Minsmere Nature Reserve (United Kingdom);

Having regard to the proposals of the Steering Committee for the Conservation and Management of the Environment and Natural Habitats (CDPE),

Renews the European Diploma, Category A, awarded to the Minsmere Nature Reserve until 13 September 1999 with the following recommendations:

1. The invasion of bracken in heathland has to be controlled by cutting three times per annum, establishment of competitive natural vegetation and, if necessary, periodic selective spraying with Asolux.
2. Except for bracken control with Asolux, no herbicide spraying would be done in the reserve. A careful record would be kept of the amount of Asolux used.
3. Carefully follow the effects of methods used and reduce soil nutrient status and pH in arable land when recreating the Sandlings-type heath.
4. As planned, establish and manage a new lagoon system to get an ideal breeding habitat for especially avocet, terns and passage waders.
5. Build the planned visitor centre and upgrade interpretive and education facilities.