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EUROPEAN COMMITTEE FOR THE CONSERVATION  
OF NATURE AND NATURAL RESOURCES

Group of consultants -  
halophilic vegetation

OUTLINE OF THE STUDY ON  
EUROPEAN SALT MARCH AND SALT STEPPE ECOSYSTEMS

by

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## INVENTORY ON EUROPEAN SALT MARSH AND SALT STEPPE ECOSYSTEMS

Outline by K.S.Dijkema, based on the meeting of the Group of Consultants - halophilic vegetation at Strasbourg, 21-11-80.

### 1. Introduction

The Council of Europe is preparing a series of reports on threatened biotopes in Europe. On the basis of these reports a Network of Biogenetic Reserves will be proposed. The main purpose of a biogenetic reserve is "to preserve the biological balance and ensure the effective conservation of one or more terrestrial or aquatic habitats, biocoenoses or ecosystems". The Council of Europe aims at securing their functions as gene-reservoir and life-support system for the benefit of future generations.

The inventory is mainly a desk study and will be carried out in 1981 and 1982 by a Group of Consultants- halophilic vegetation, consisting of Mr P. Doody, Drs. K.S.Dijkema, Prof. Dr. J.-M.Gehu, Prof. Dr. B.Heydemann and Prof. Dr. S.Rivas-Martinez. Dijkema has accepted the function of coordinator-editor.

### 2. Circumscription of the area

- Member states of the Council of Europe, and Finland.
- Ecosystems to be included: salt plant communities of sedimentary coasts and inland areas with attention to the zoological component.
- To be excluded: sub-litoral and litoral seagrass vegetation, embankments, shingle beaches, beaches with tidal drift communities, cliff and rocky coasts and inland brackish peat.
- Upper limit in the tidal zonation: about extreme high water spring (the *Agropyron-Rumicium crispum* with salt plants included).
- Upper limit in estuaries: an average of 3 à 10 ‰ S (the *Phragmites* with salt plants included).

### 3. Contents and planning

The table of contents is given as appendix. It consists of:

Chapter 2 - General ecological description and classification of the halophilic ecosystems, based on existing references and knowledge.

Ch. 2.2 (Dijkema) deals with the main halophilic biotopes (eg. estuarine-, wadden-, lagoonal-, beach plain-, and bog type for coastal salt marshes).

Ch. 2.4 (Gehu & Rivas-Martinez) and 2.5 (Heydemann) - on a lower hierarchical level- deals with the salt plant- and fauna communities. Ch. 2.4 will be based on a revised scheme of Beeftink (1977). Ch. 2.5 includes invertebrates and vertebrates and is based on plant communities and ecological zonation.

Ch. 2.2, 2.4 and 2.5 form the starting point for chapter 3, and therefore have to be written soon (in draft form as soon as possible, deadline june 1981).

Ch.2.3 deals with the biogeography of species and ecosystems, with special attention to endemes. The phytogeographic ch. 2.3.1 will be written by Beeftink and the zoographic ch. 2.3.2 by Heydemann. This work has to be started in august 1981.

Chapter 3 - Past and present distribution and state of halophilic ecosystems with maps, based on a questionnaire to be sent to local European experts.

The questionnaire and a list of local experts will be drafted by Dijkema and Beeftink (to be sent before august 1981). As the questions will be based on the classifications of chapter 2, these should -in draft form- be available as soon as possible. Information will be collected about eg. distribution, past and present surface, geomorphological, botanical and zoological characteristics, endemic and threatened species and communities, past and present state, threats, important sites. The organisation and eventually visiting of local experts will be done by Dijkema.

The processing of the obtained information (plus compilation of references) to chapter 3 has been distributed among the members

of the Group of Consultants according to the appendix:

Dijkema will do the northwestern Atlantic- and inland areas and make a proposal for an outline map, Gehu and Rivas-Martinez the southwestern Atlantic- and Mediterranean areas and Heydemann adds information on the zoological aspects. Doody is preparing an inventory of the British salt marshes, which will fit into this report very well and will be available by the end of 1981. Dijkema did the same for the Danish, German and Dutch Wadden Sea area. A draft of ch. 3.3.1 on the Wadden Sea area must be finished in august 1981. The other parts of chapter 3 have to be started in august 1981.

Contact-men for special areas might be Dr. Thanheiser for the Arctic area, Dr. E.van der Maarel for the Baltic area, Prof. Dr. G.Wendelberger for inland areas and Dr. S.Pignatti for the Adriatic area.

Chapters 4 and 5 - Use, threats, management and conservation of halophilic ecosystems, based on chapter 3.

The outline of these chapters will be discussed at the second meeting of the Group of Consultants in August 1981. The intention is to derive the information for chapters from chapter 3.

#### 4. Time schedule

as soon as possible	2.2 in draft form	Dijkema
" " " "	2.4 in draft form	Gehu & Rivas-Martinez
june 1981	2.2 deadline	Dijkema
" "	2.4 deadline	Gehu & Rivas-Martinez
" "	2.5 deadline	Heydemann
august 1981	questionnaire	Dijkema & Beeftink
august 1981	3.3.1 in draft form	Dijkema
august 1981	2.3.1 started	Beeftink
" "	2.3.2 started	Heydemann
" "	3 started	all consultants
august 1981	4 & 5 proposal	meeting of consultants
end of 1981	British inventory	Doody

EUROPEAN SALT MARSHES AND SALT STEPPES

		Authors	Time schedule
1 p	<u>1. Introduction</u> (with definition) . . . . .	Dijkema	
30 pp	<u>2. Description of salt marsh and salt steppe ecosystems in Europe</u>		
1 p	2.1 Origin . . . . .	Dijkema	
4 pp	2.2 Development and classification of main biotopes		
	2.2.1 Coastal salt marshes . . . . .	Dijkema	june 1981 deadline
	2.2.2 Inland salt marshes and salt steppes		
10 pp	2.3 Biogeography		
	2.3.1 Phytogeography . . . . .	Beeftink	} .. aug 1981 started
	2.3.2 Zoogeography . . . . .	Heydemann	
10 pp	2.4 Salt plant communities: ecological classification . . . . .	Gehu & Rivas-Martinez	} june 1981 deadline
5 pp	2.5 Fauna: ecological classification . . . . .	Heydemann	
30 pp	<u>3. Situation of salt marsh and salt steppe ecosystems in Europe</u>	fauna component by Heydemann	
	3.1 Introduction . . . . .	Dijkema	
	3.2 Northern-European salt marshes		
	3.2.1 Arctic area (Greenland, Iceland, northern Scandinavia) . . . . .	Dijkema	} aug 1981 started
	3.2.2 Baltic area (eastern Sweden, Finland, Western Germany) . . . . .	Dijkema	
	3.2.3 Western Skandinavia and Scotland . .	Dijkema&Doody	
	3.3 European Atlantic salt marshes		
	3.3.1 Wadden Sea- and Delta area . . . . .	Dijkema	aug 1981 draft
	3.3.2 England, Wales and Ireland . . . . .	Doody&Dijkema	} aug 1981 started
	3.3.3 France and Iberian peninsula (till Lisboa) . . . . .	Gehu&Rivas-M.	
	3.4 Mediterranean salt marshes and salt steppes		
	3.4.1 Western-Mediterranean- and Adriatic area . . . . .	Gehu&Rivas-M.	} aug 1981 started
	3.4.2 Eastern-Mediterranean area (Greece, Turkey, Cyprus) . . . . .	Gehu&Rivas-M.	

3.6 Inland salt marshes and salt steppes

3.6.1 Northern Europe (Great Britain, Central  
Germany) . . . . . Dijkema & ...

3.6.2 Southeastern Europe (Neusiedler See) Dijkema & ...

3.6.3 Turkey . . . . . Dijkema & ...

} aug 1981  
started

3.7 Selection and evaluation of valuable areas

15 pp

4. Use and threats of salt marsh and salt steppe  
ecosystems in Europe

4.1 Use

4.2 Effects

4.3 Threats

4.4 Decline

} aug. 1981  
proposal

15 pp

5. Management and conservation of salt marsh and  
salt steppe ecosystems in Europe

5.1 Significance for nature conservation

5.2 Nature management measures

5.3 Protective measures taken

5.4 Protective measures to be taken

5.5 List of areas for a biogenetic network of reserves

} aug 1981  
proposal

2 pp

6. Conclusions and actions to be taken

7. Bibliography