

University of Groningen

Restoration of salt marshes

Wolters, Harmina

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version

Publisher's PDF, also known as Version of record

Publication date:

2006

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Wolters, H. (2006). Restoration of salt marshes. s.n.

Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

Restoration of salt marshes

“Suddenly the boy looked around him in dismay. He had not noticed that the sun was setting. Now he saw that his long shadow on the grass had vanished. It was growing dark, he was still some distance from home, and in a lonely ravine, where even the blue flowers had turned to grey. He quickened his footsteps and, with a beating heart recalled many a nursery tale of children belated in dreary forests. Just as he was bracing himself for a run, he was startled by the sound of trickling water. Whence did it come? He looked up and saw a small hole in the dike through which a tiny stream was flowing. Any child in Holland will shudder at the thought of A LEAK IN THE DIKE! The boy understood the danger at a glance. That little hole, if the water were allowed to trickle through, would soon be a large one, and a terrible inundation would be the result.”



From: Hans Brinker or the silver skates, by Mary Mapes Dodge

Lay-out and figures: Dick Visser

Photo's cover: Mineke Wolters

Printed by: Van Denderen b.v., Groningen

ISBN: 90-367-2581-X

RIJKSUNIVERSITEIT GRONINGEN

Restoration of salt marshes

PROEFSCHRIFT

ter verkrijging van het doctoraat in de
Wiskunde en Natuurwetenschappen
aan de Rijksuniversiteit Groningen
op gezag van de
Rector Magnificus, dr. F. Zwarts,
in het openbaar te verdedigen op
maandag 1 mei 2006
om 13.15 uur

door

Harmina Elsina Wolters

geboren op 29 oktober 1975
te De Groeve

Promotores: Prof. dr. J.P. Bakker
Prof. dr. W.J. Wolff

Beoordelingscommissie: Prof. dr. M.D. Bertness
Prof. dr. A.J. Gray
Prof. dr. J.M. van Groenendael

Contents

Voorwoord		7
Chapter 1	Introduction	11
Chapter 2	Salt-marsh erosion and restoration in south-east England: squeezing the evidence requires realignment	23
Chapter 3	Salt-marsh restoration: evaluating the success of de-embankments in north-west Europe	39
Chapter 4	Soil seed bank and driftline composition along a successional gradient on a temperate salt marsh	69
Intermezzo 1	Composition of a soil seed bank before and after de-embankment	85
Chapter 5	Astroturf seed traps for studying hydrochory	93
Chapter 6	Plant colonization after managed realignment: the relative importance of diaspore dispersal	107
Chapter 7	Restoration of salt-marsh vegetation in relation to site suitability, species pools and dispersal traits.	123
Chapter 8	Restoration of salt marshes : a synthesis	143
Summary		155
Samenvatting		159
Curriculum vitae		167
List of publications		168