

Nature management costs N2000

Anjo de Jong, Martijn van Wijk
team Nature, Forest and Urban Greenery Management

Irene Bouwma
team Crossing Borders

Content

- Introduction
- Method
- Results
- SELS

Introduction

- Natura 2000:
 - EU-wide network of nature protection areas
 - Habitats Directive / Birds Directive
 - The aim of network: survival of Europe's most valuable and threatened species and habitats
- Netherlands:
 - 162 N2000 sites
 - Largely funded by the Min. of Agricult., Nature and Food quality (LNV)
 - Financed through subsidy schemes and State Forestry Service
 - No extra finance for N2000 from LNV

Introduction

- Aim of this study:
 - Quantifying costs for N2000 nature conservation measures, for:
 - + regular measures
 - + restoration measures
- Restrictions:
 - only costs for measures IN the terrain
 - no costs for:
 - + planning and monitoring
 - + recreation, hunting,
 - + measures outside the conservation areas (e.g. water quantity)

Method

- What do we need to know?
 - what habitats are present
 - what is the area of the habitats
 - what is the current condition of the habitats
 - what management measures need to be taken
 - what are the costs of management measures

Method: linking costs per hectare to area per site

- Database N2000 sites (2006)
 - + Area per site
 - + Aimed habitat types, incl cover per site
- Site documents
 - + sub habitats per site
 - + restoration per sub habitat per site (no, modest, full restoration)
- Correction
 - + 1% cover to 0,1% cover
 - + added sub habitat types: 0,1% cover
- What management measures
 - + regular management measures
 - + restoration measures
 - modest restoration: m% - n% per sub habitat type
 - full restoration: x% - y% per sub habitat type

Method: calculation of costs per hectare

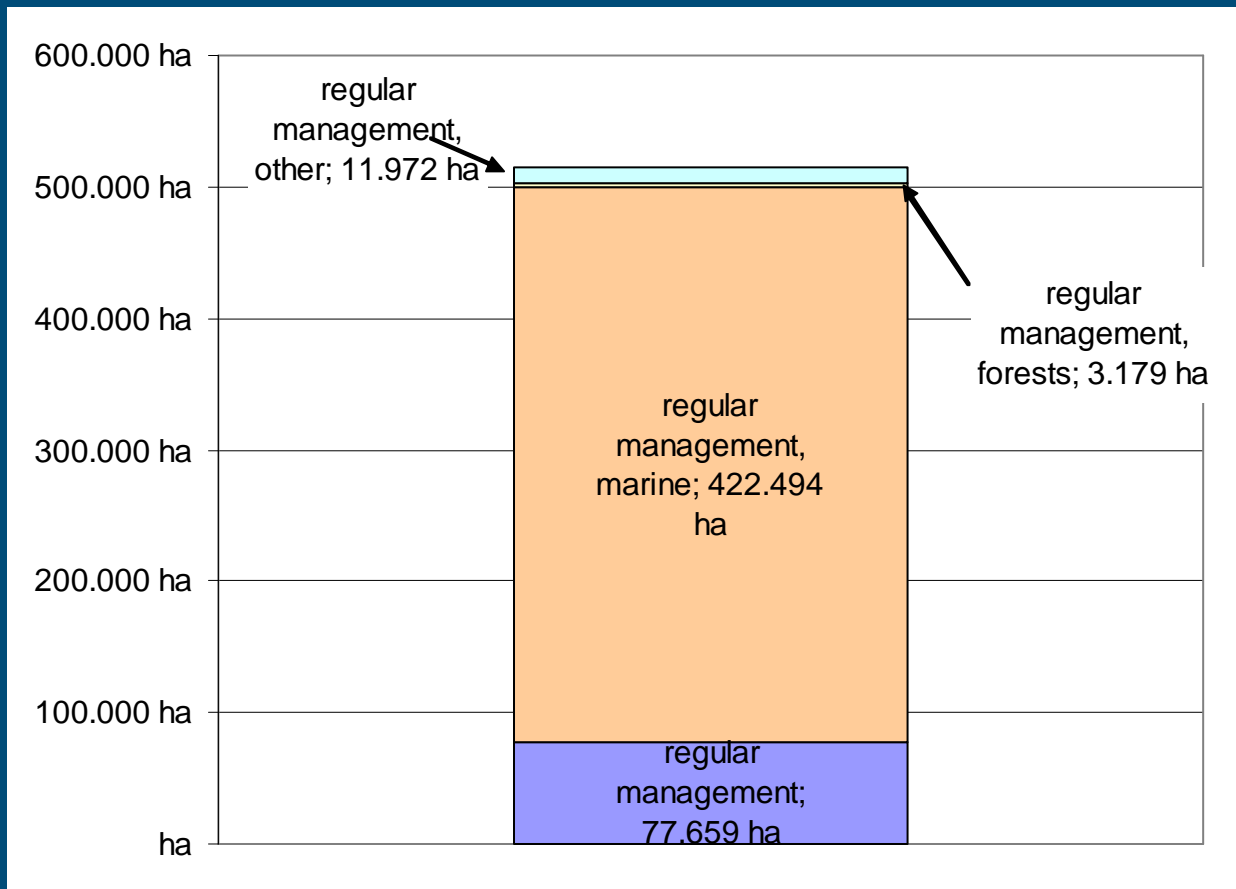
- Per habitat type:
 - description of measures
 - + handbooks, literature
 - + nature managers
 - quantification of measures (frequencies, quantities, e.g. biomass)
 - + handbooks, literature
 - + nature managers
 - + models
 - Costs per measure
 - + database cost standards
 - + nature managers
 - Calculation costs per hectare
 - + $\sum \text{freq} * \% * Q * P$
 - + restoration measures taken in 10 years

Method: example

Humid dune slacks (2190)											
regulier / restorat	Activ. ID	Description	Quantity		time standard	costs per unit	Interval	Onw supervision / rent out	% measure	% activity	Cost/ha/yr
regular	1425	Mowing wet grassland	1,00	ha	1,650	199,00	1	67%	100%	100%	132,67
regular	1429	Oprapen maaisel nat grasland	1,00	ha	2,250	309,00	1	67%	100%	100%	206,00
regular	a2101	Loading	7,50	ton	0,050	3,45	1	67%	100%	100%	17,25
regular	a2102	Transportation grasss	300,00	ton * km	0,003	0,21	1	67%	100%	100%	41,00
regular	a105	Composting	7,50	ton	n.a.	39,80	1	67%	100%	100%	199,00
regular	1194	Transportation fencing material	0,33	100 m	0,300	30,00	15	33%	100%	100%	0,22
regular	1195	Placement of fence	0,33	100 m	1,850	339,00	15	33%	100%	100%	2,49
regular	1236	Placement of gate	0,01	stuk	12,000	583,00	15	33%	100%	100%	0,13
regular	a2015	Supervision catle	151,41	graze day	0,020	0,59	1	33%	100%	100%	29,80
regular	a2017	Healthcare catle	151,41	graze day	n.a.	0,10	1	33%	100%	100%	5,05
regular	a2001	Benefits catle	151,41	graze day	n.a.	-0,15	1	33%	100%	100%	-7,57
restoration	a3000	Sod cutting	1,00	ha	n.a.	4200,00	10	100%	100%	100%	420,00
restoration	a3001	Transportation sods, 2 km	1.600,00	m3 * km	0,004	0,31	10	100%	100%	10%	5,03
restoration	a3002	Application sods on farm land	800,00	m3	n.a.	0,00	10	100%	100%	10%	0,00
restoration	a3003	Transportation sods, 15 km	16.000,00	ton * km	0,003	0,21	10	100%	100%	90%	295,20
restoration	a3004	Composting sods	400,00	ton	n.a.	40,20	10	100%	100%	90%	1.447,20

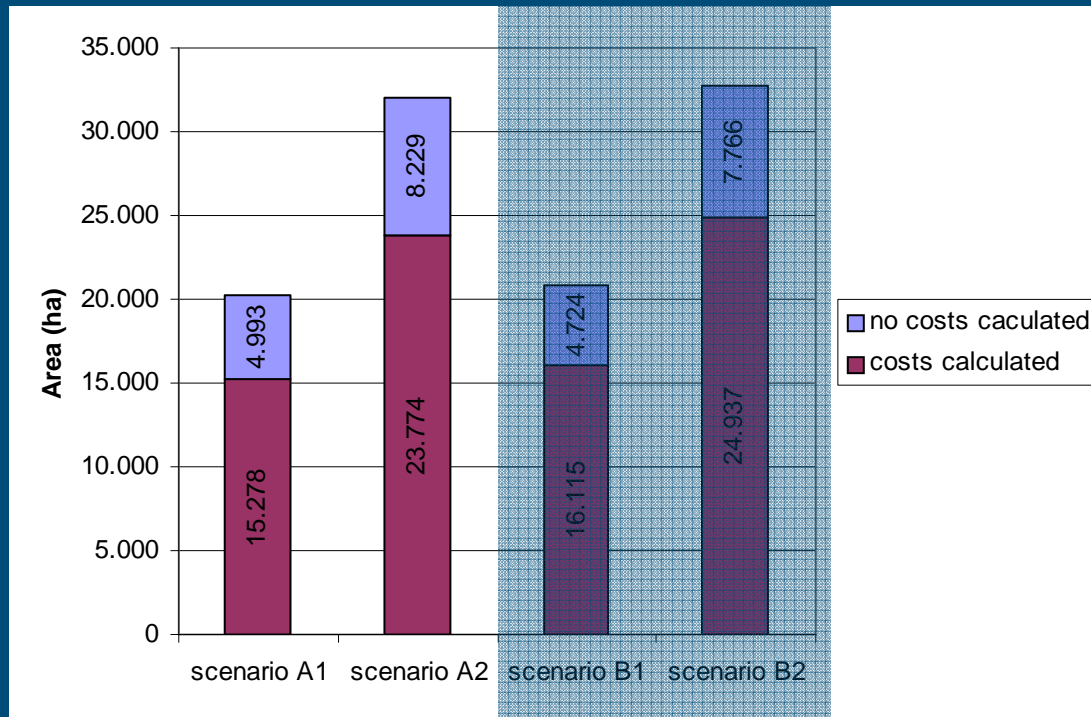
Results: areas

- Ca 78.000 ha regular management measures



Results: areas

- 20.000 - 32.000 ha restoration needed
- 15.000 - 24.000 ha restoration costs calculated



Results: costs

- Costs per year
 - costs for restoration exceed cost for regular management
 - costs for measures outside the site excluded

Regular management measures	€	13.159.136
Restoration (1)	€	16.627.373
Restoration (2)	€	26.224.206

Results: cost vs. LNV budget

- Regular management measures:
 - LNV budget approximates costs
 - + only for measures to maintain habitats
 - + extra finance needed for recreation, monitoring etc.
- Restoration costs
 - nationwide budget $\approx 1/3$ of calculated costs

SELS

- Links with SELS themes
 - data availability (theme 2)
 - valuation of costs (theme 2, 3)
 - financing services (theme 5)