



Niedersächsisches  
Umweltministerium

Naturschutzstation Dümmer



# The creation of a source

Experiences from LIFE „Rewetting of Lake Dümmer Lowlands“

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# Dümmer?

Where the hell is that?





**Location of the  
project area in  
Germany**

*Dümmer*

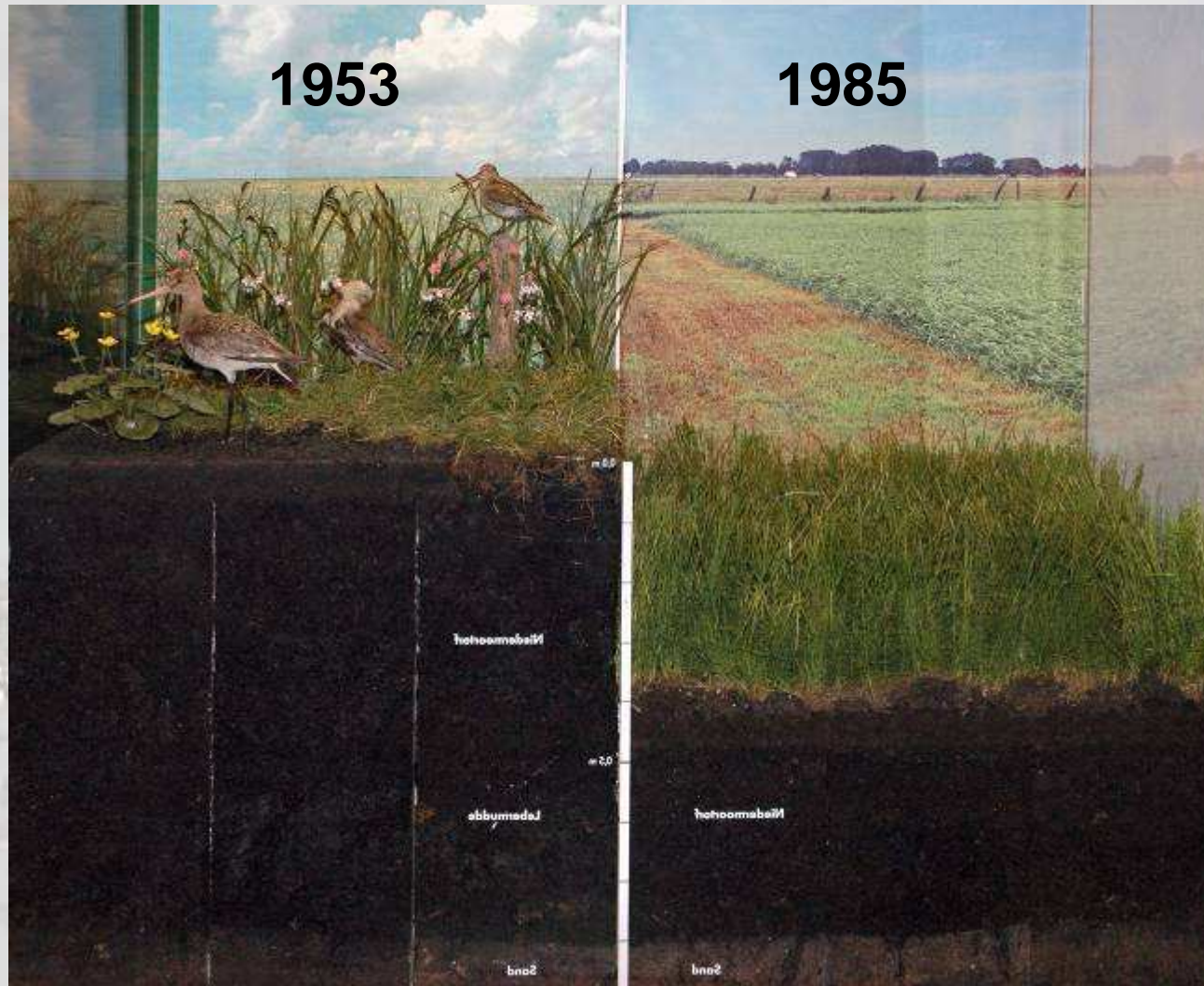




Confluence of Hunte and Dümmer



## drainage – peat mineralisation- decline of meadow birds




Shrinkage  
of peat  
layer

**Aim is the regeneration of wet grassland and the conservation of meadow birds**





**SPA = 4 560 ha**

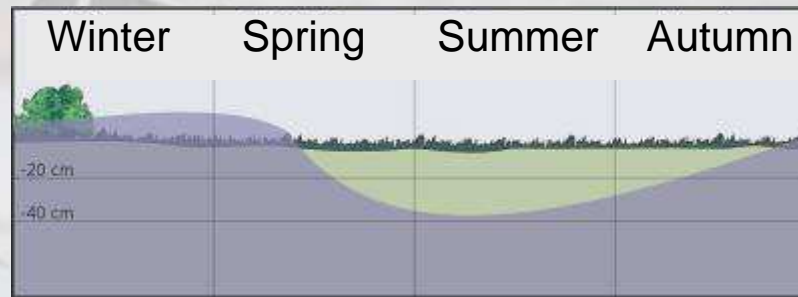
 Land purchase 1987-2007  
(2 500 ha)  
40 000 000 Euro

 Remaining private land





# Flooding of fens during winter season by adjustable weirs







# 140 local farmers maintain wet grassland after breeding season has finished





## Flowering meadows after perennial flooding:



Marsh Marigold (*Caltha palustris*)



Lady's Smock (*Cardamine pratense*)

- Number of migratory birds is increasing
- >10 disappeared breeding species came back

White Stork (*Ciconia ciconia*)

Pintail (*Anas acuta*)

Shoveler (*Anas clypeata*)

Garganey (*Anas querquedula*)

Spotted Crake (*Porzana porzana*)

Corncrake (*Crex crex*)

Ruff (*Philomachus pugnax*)

Redshank (*Tringa totanus*)

Short-eared Owl (*Asio flammeus*)

Bluethroat (*Luscinia svecica*)

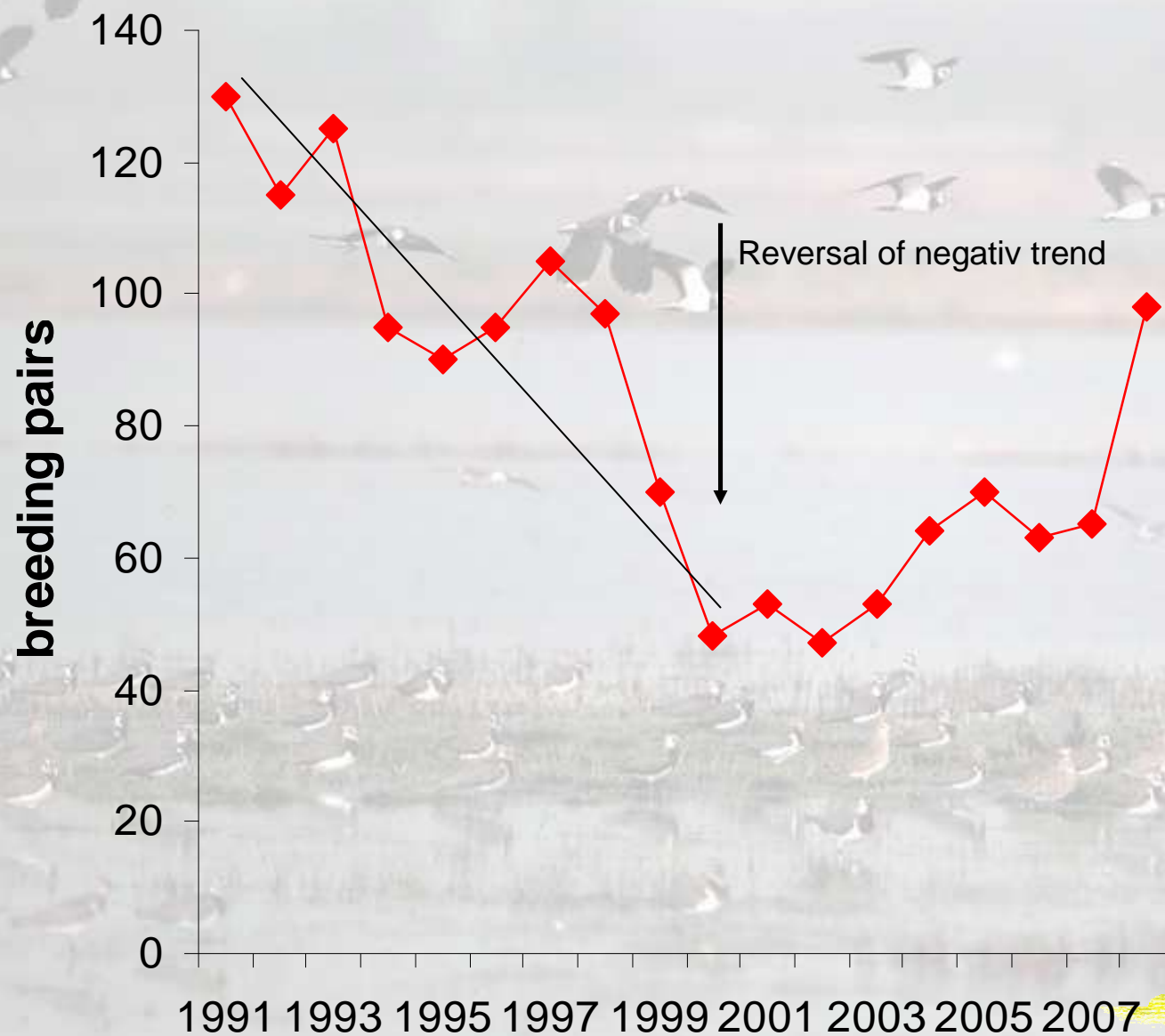
Sedge Warbler (*Acrocephalus schoenobaenus*)





- Number of migratory birds is increasing
- >10 disappeared breeding species came back
- Remaining meadow birds have increased

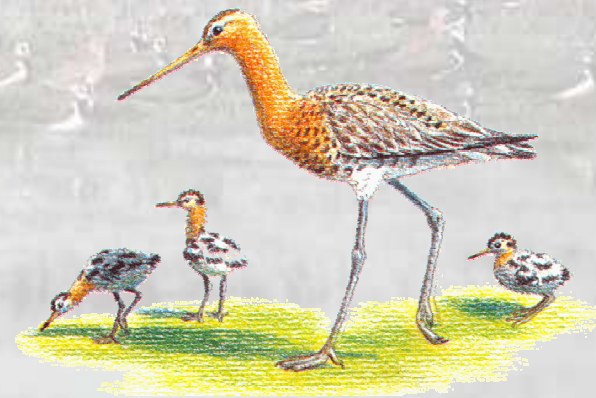
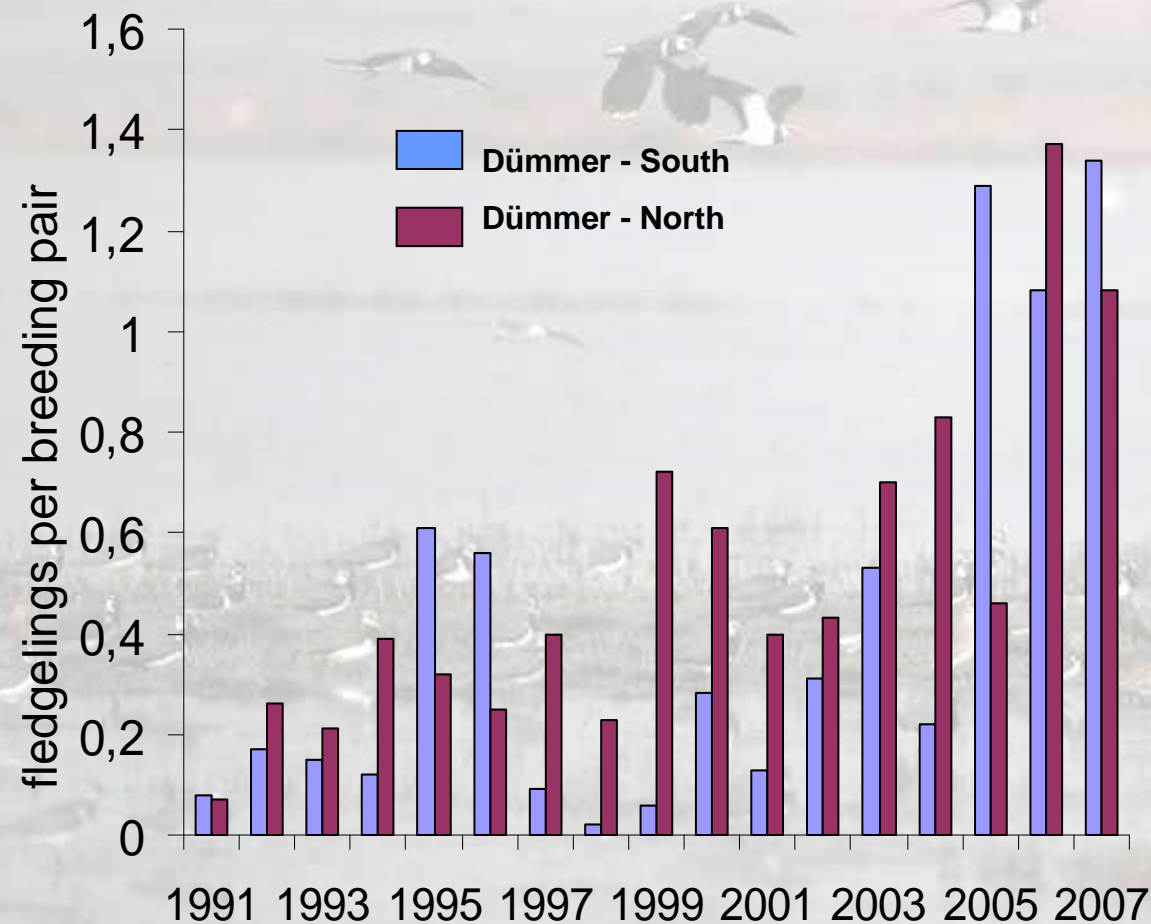






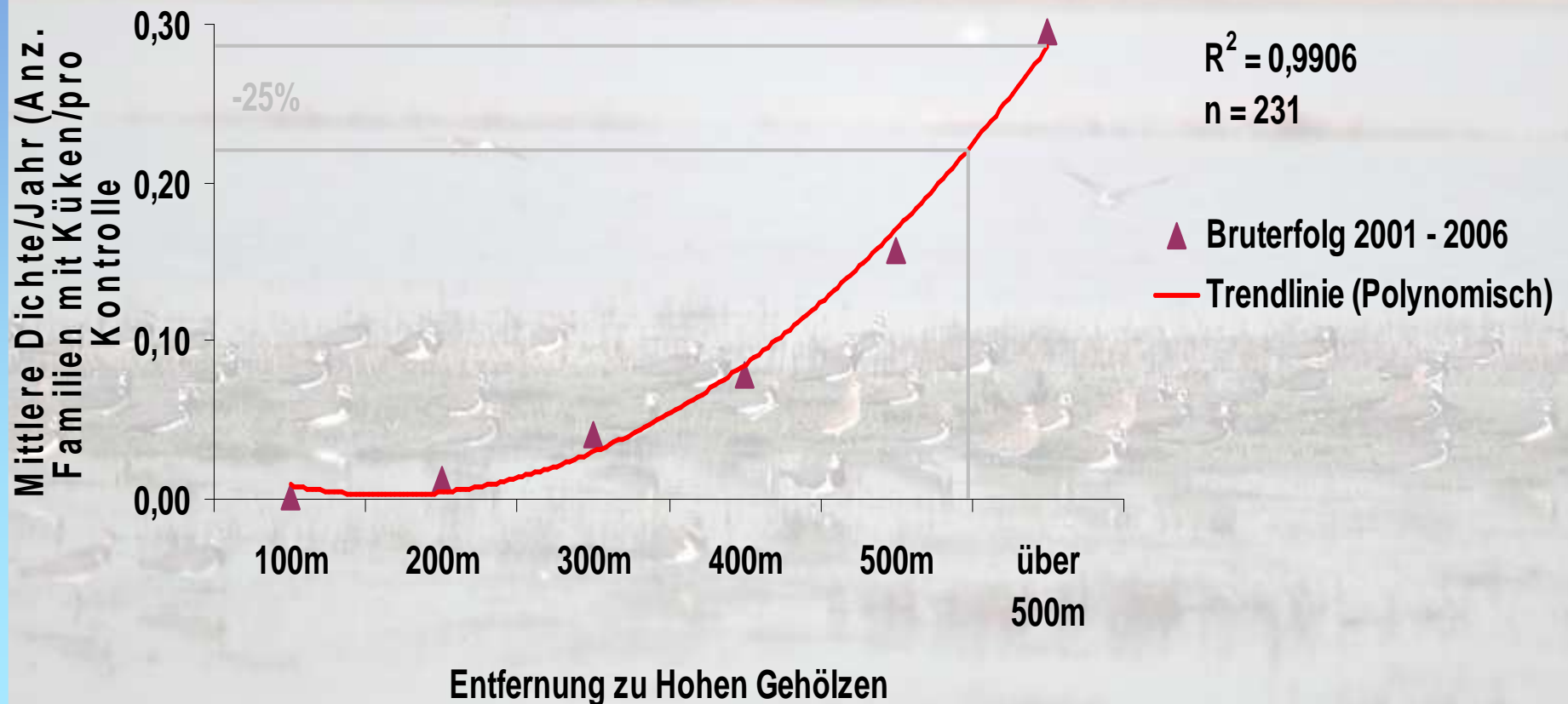
# Reproduction - from sink to source

Godwit (*Limosa limosa*)



# Impact of openness on breeding success

Uferschnepfe Osterfeiner Moor 2001 - 2006  
Potentieller Bruterfolg Hohe Gehölze



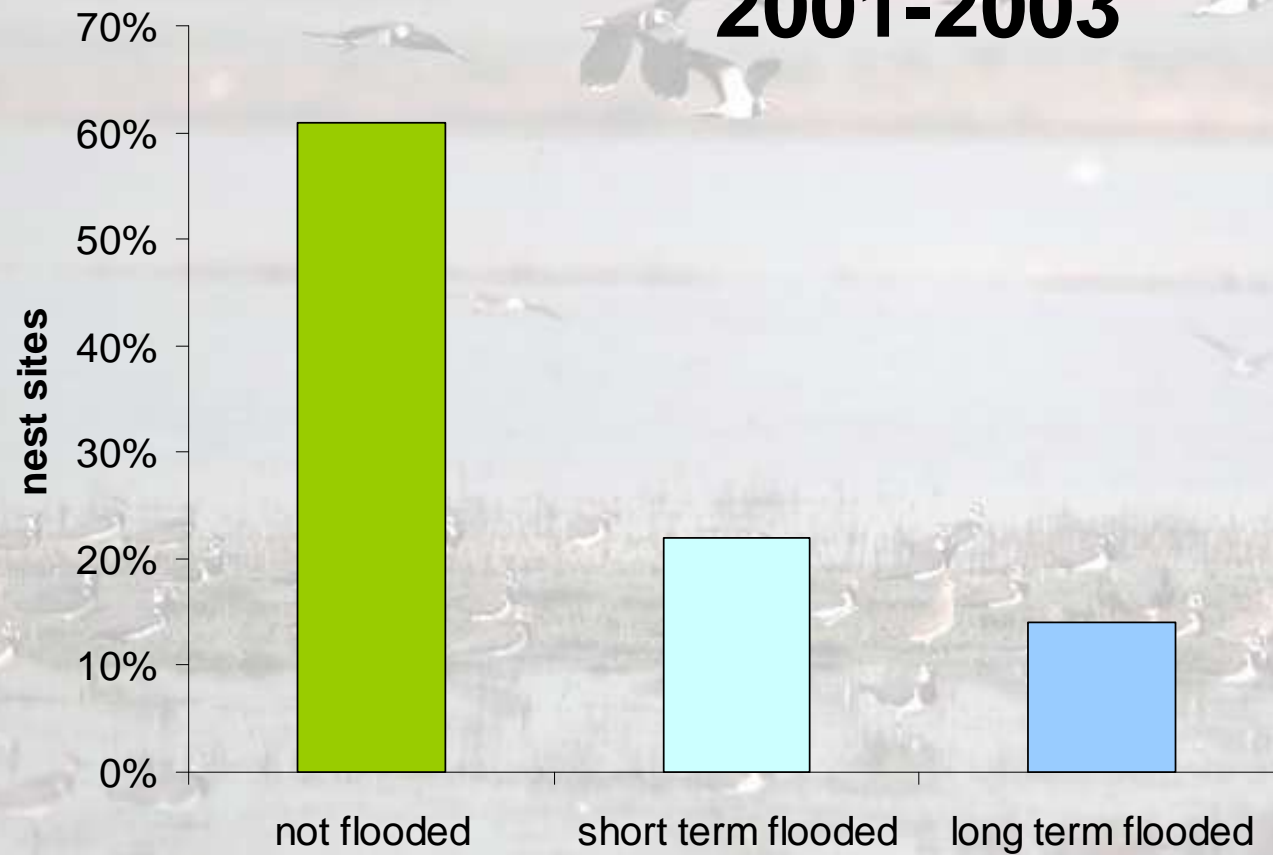


## Duration of flooding (Dümmer South)

	<b>not flooded</b>	<b>short term flooded</b>	<b>long term flooded</b>
<b>time</b>	no	December- March	December- May (July)
<b>duration</b>	no	4-6 weeks	6-8 months

## habitat selection of nest sites (Dümmer South)

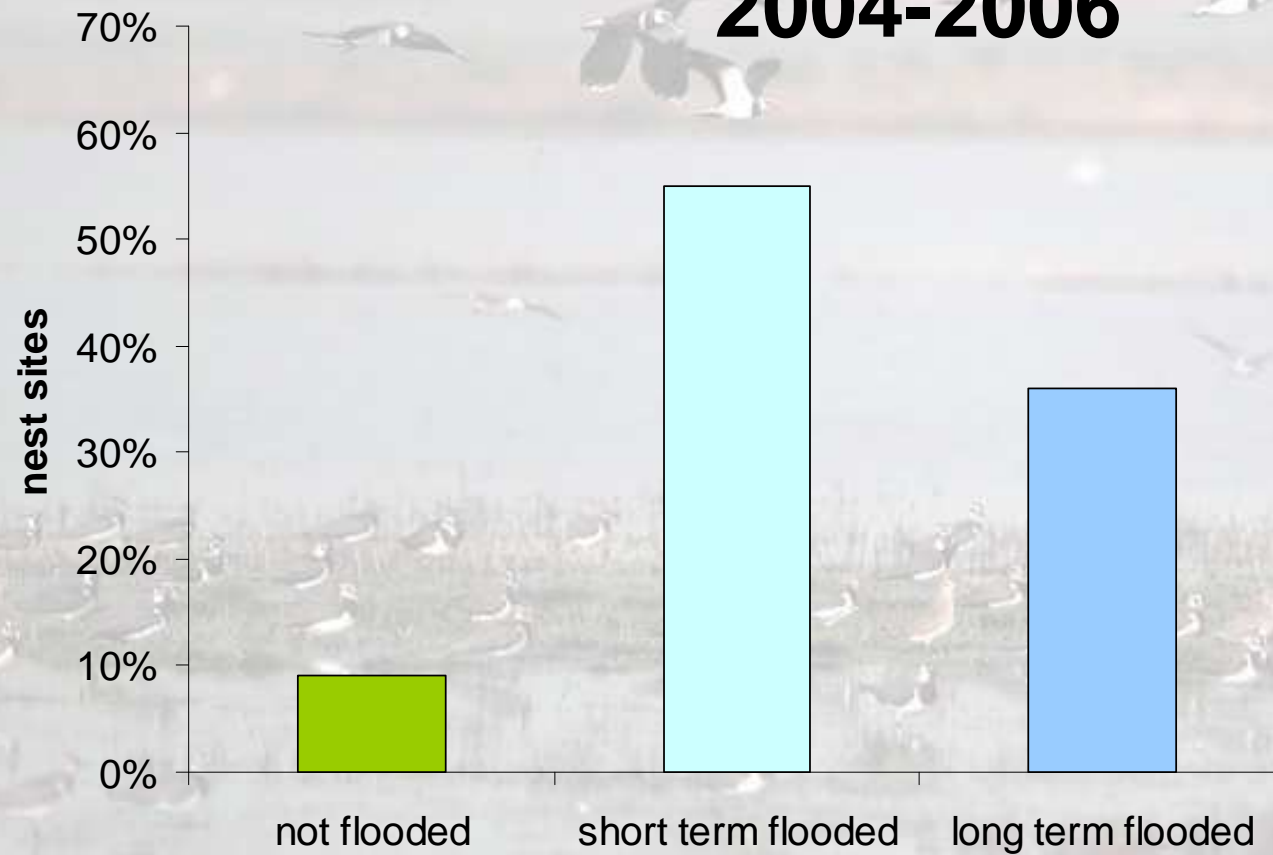
2001-2003





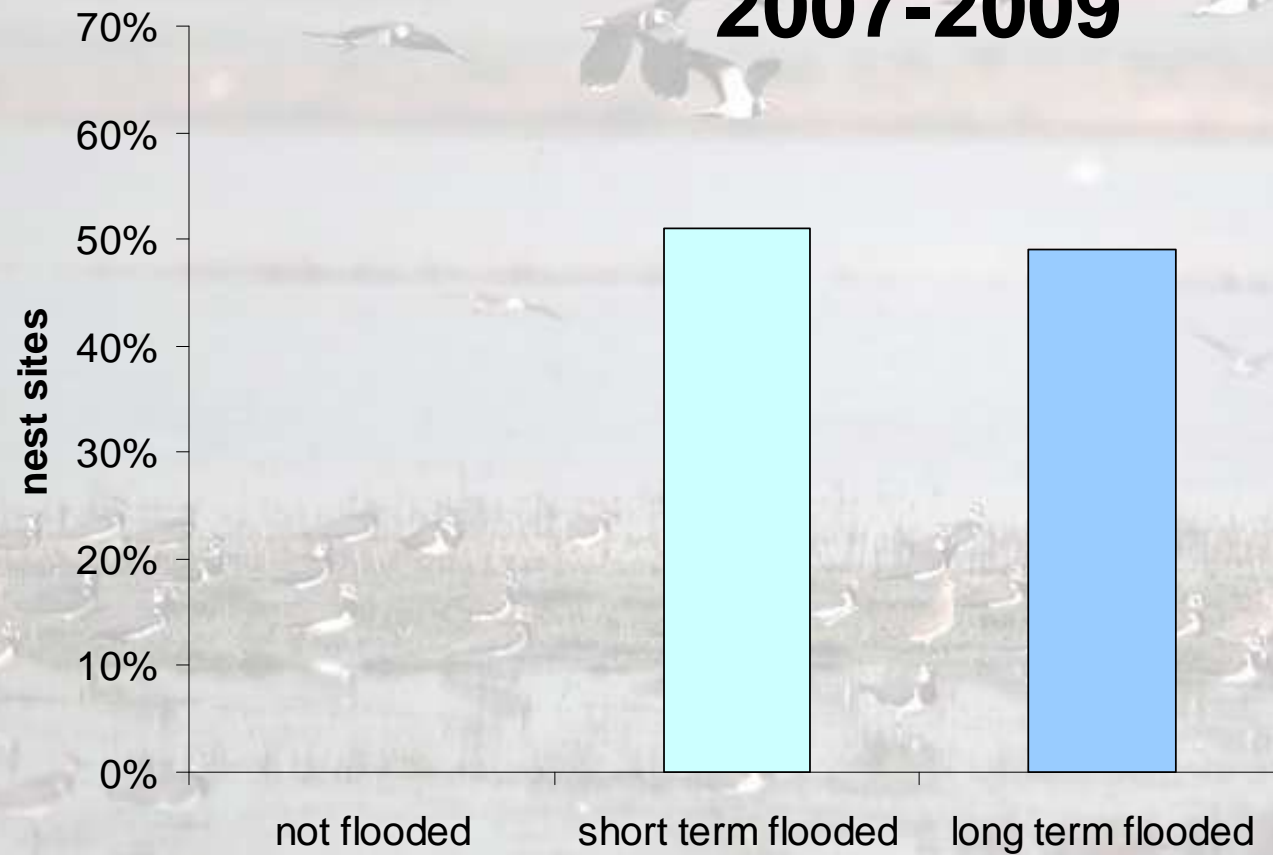
## habitat selection of nest sites (Dümmer South)

2004-2006



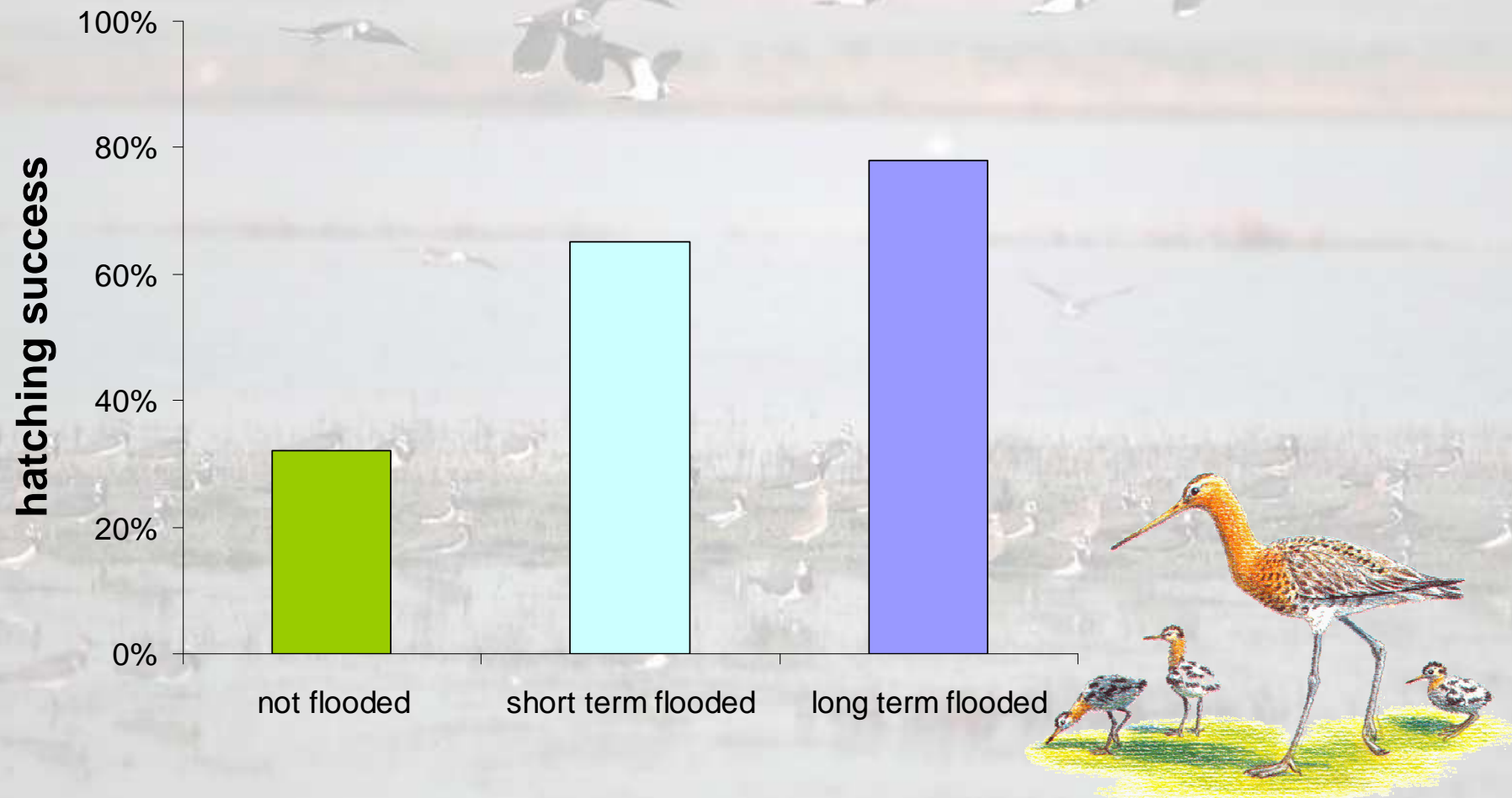
# habitat selection of nest sites (Dümmer South)

2007-2009



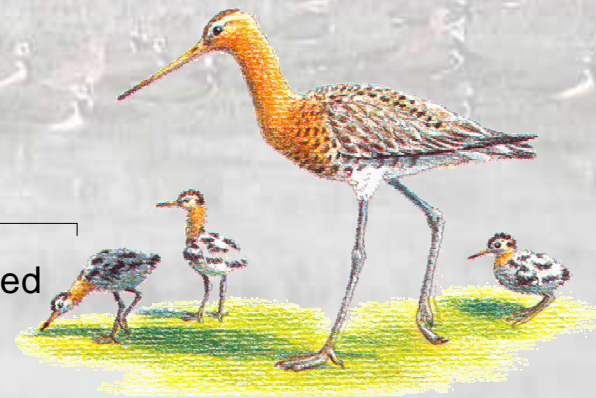
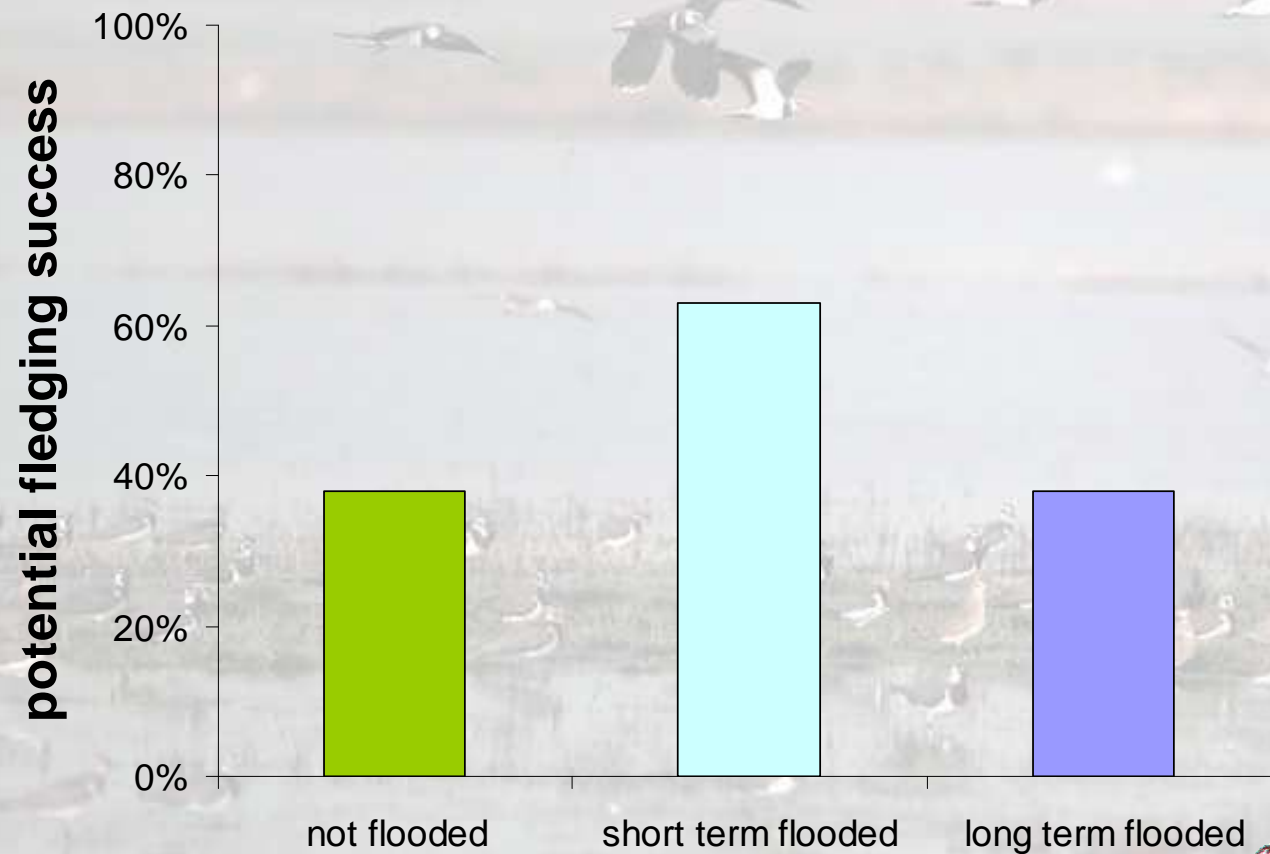


# hatching success (Dümmer south; 2001-2005)



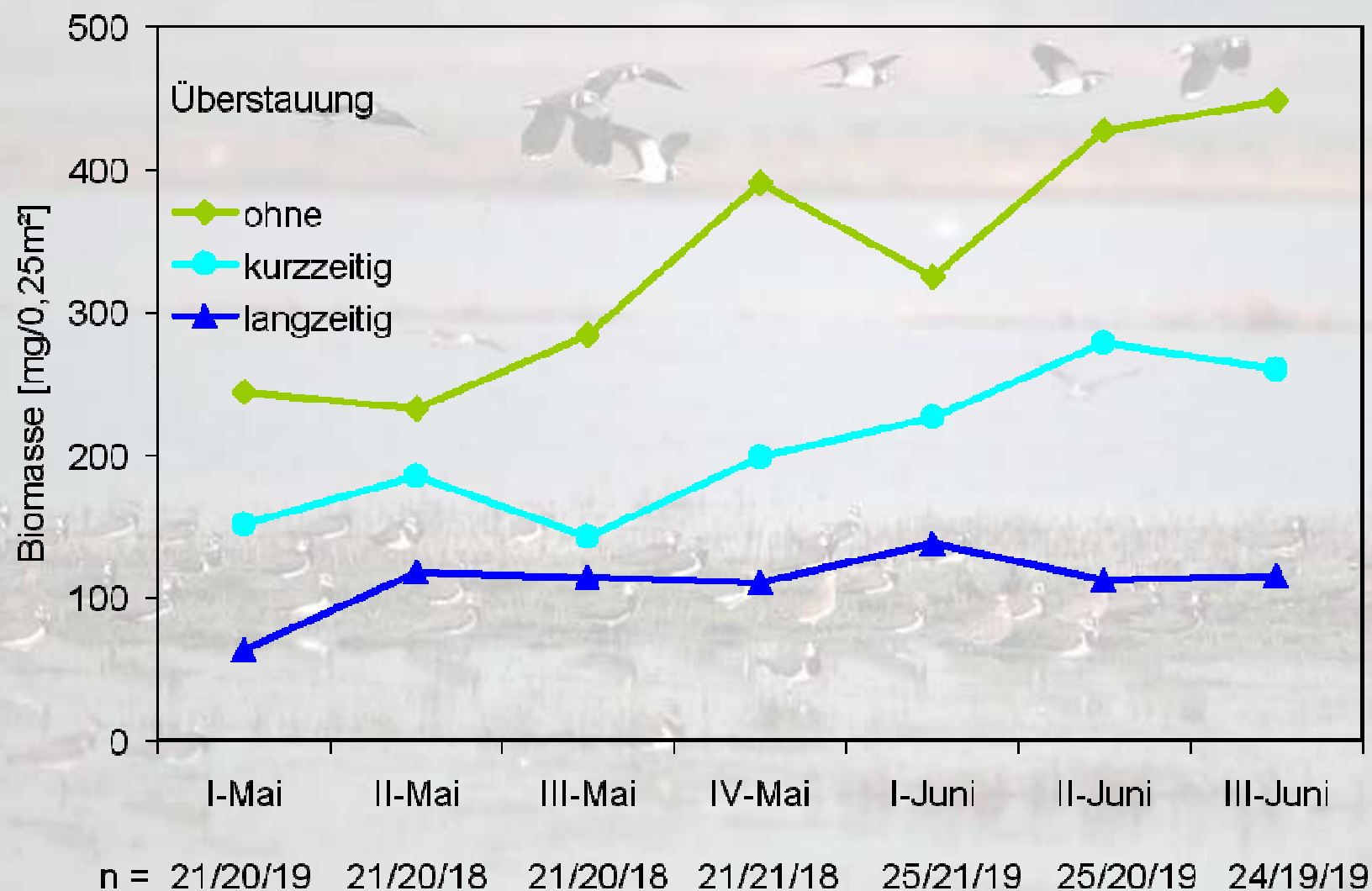
# Fledging success (Dümmer south; 2001-2005)

(total of hatched nests = 100 %)





## Impact of flooding to invertebrates (1996-2005)

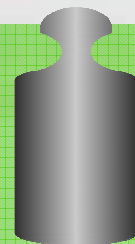


## Mean weight of prey

Area

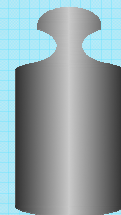
Ø dry mass of invertebrates

not flooded



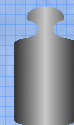
6,1 mg

short term flooded



4,7 mg

long term flooded



1,7 mg

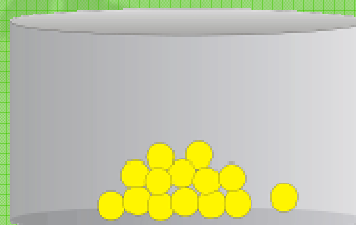


# Potential daily prey ingestion of godwit chicks

Area

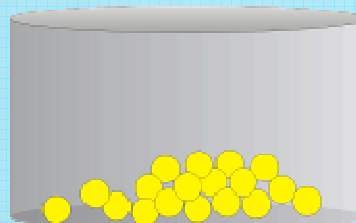
number of prey invertebrates

not flooded



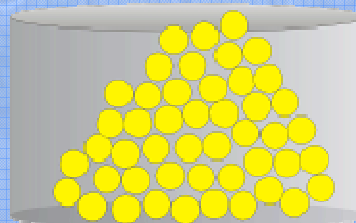
2946

short term flooded

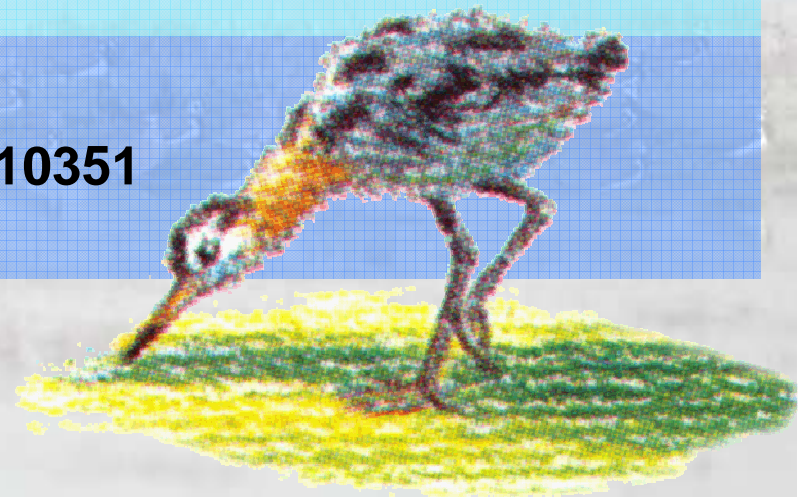


3835

long term flooded



10351

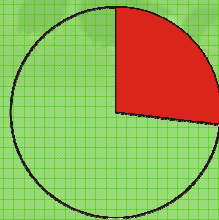


# Potential handling time of foraging of godwit chicks

Area

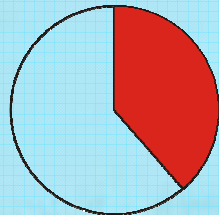
handling time of foraging

not flooded



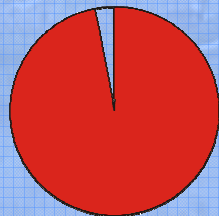
6,6 hrs. / day

short term flooded



8,6 hrs. / day

long term flooded



23,2 hrs. / day

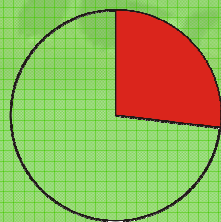


## Potential handling time of foraging of godwit chicks

Area

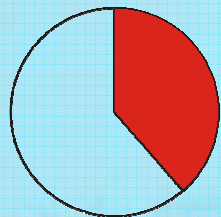
handling time of foraging

not flooded



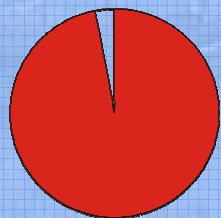
6,6 hrs. / day

short term flooded



8,6 hrs. / day

long term flooded



23,2 hrs. / day



Using only long term flooded areas for foraging chick survival would be extremely improbable



What's behind it?



# What needs a source ?

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- openness
- Wet grassland needs wetness
- Enough is better than too much
- Duration, level and extension of flooding has impact on distribution of nest sites, predation rate, hatching success, food availability and chick survival
- Mosaic pattern is most profitable for a high variety of species
- grassland farming has to be compliant to the meadow birds
- Flooding and rewetting collides with grassland farming
- It is a “tightrope walk” to combine profitable farming with conservation
- Our challenge in future is to balance these issues
- Without that balance, we will loose the farmers and their maintainance as well as the meadow birds



# Looking for new horizons !



## Thanks a lot for your kind attention !