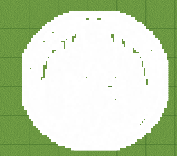


Wetland Management for Aquatic Warbler conservation in Western Pomerania

Franziska Tanneberger*, Hans Joosten* & Martin Flade**

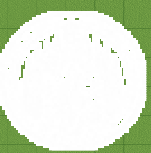
* Institute of Botany and Landscape Ecology, University of Greifswald, Germany

** Aquatic Warbler Conservation Team (AWCT)



Contents

- ▶ The Aquatic Warbler (*Acrocephalus paludicola*)
- ▶ The West Pomeranian population
- ▶ Coastal habitats
- ▶ Habitats in Lower Odra Valley
- ▶ Management for Aquatic Warbler conservation
- ▶ Future perspectives



The Aquatic Warbler (*Acrocephalus paludicola*)

- ▶ Genus *Acrocephalus*
- ▶ ~ 12 g
- ▶ Breeding in fens / other wetlands
- ▶ Observed: Male birds
- ▶ Extraordinary breeding system: Uniparental care
- ▶ Males emancipated from parental duties: Sing and advertise throughout breeding time, father more than one brood

Foto: F. Tanneberger

The Aquatic Warbler (*Acrocephalus paludicola*)

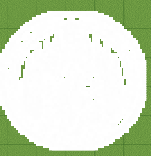
Aquatic Warbler in Western Pomerania



Foto: F. Tanneberger

- ▶ Very shy → „singing males“
- ▶ Nest on the ground
- ▶ 3-6 eggs
- ▶ Female: Parental care
- ▶ Large arthropods

The Aquatic Warbler (*Acrocephalus paludicola*)

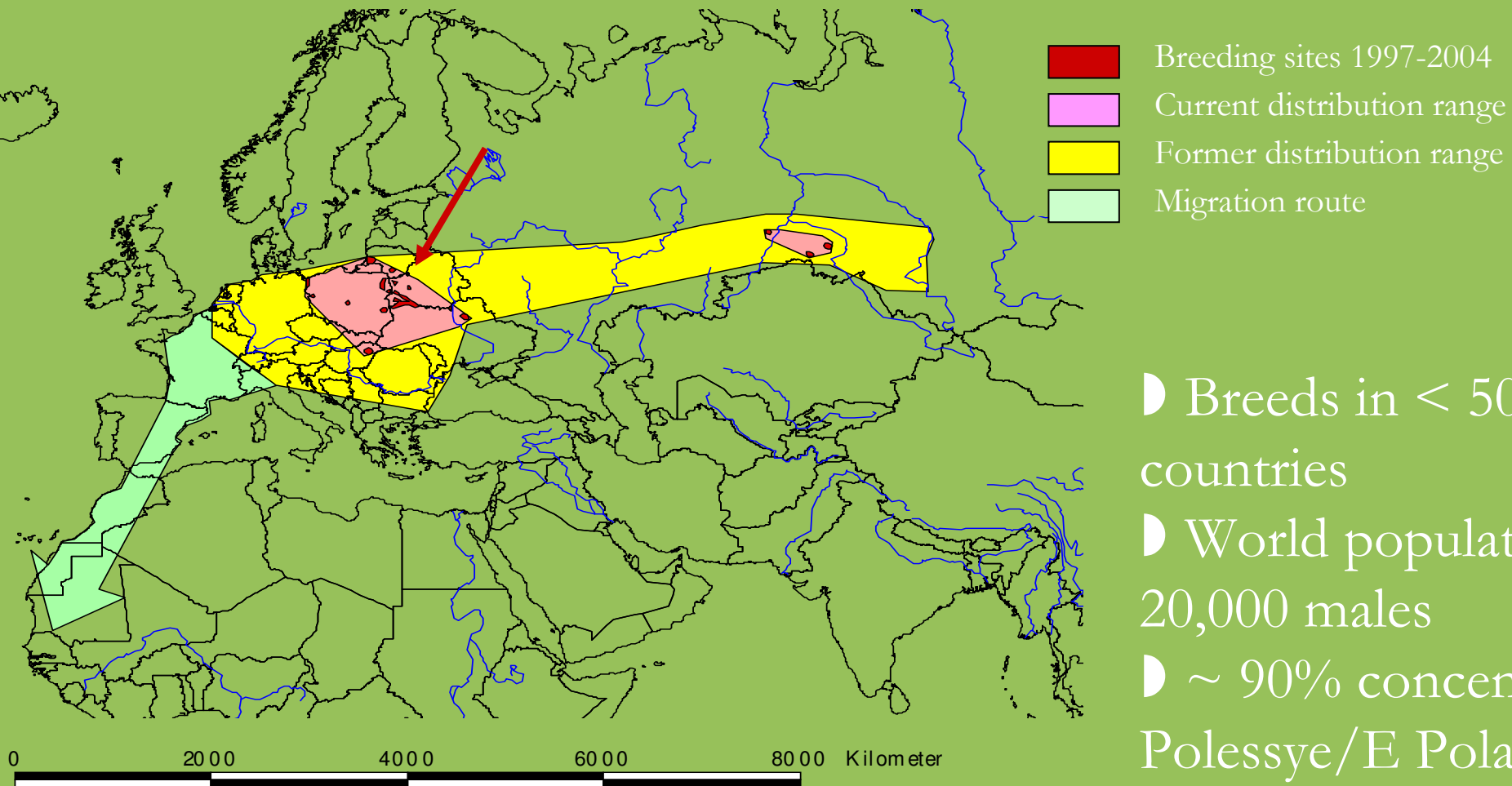


Past distribution

- ▶ Widespread in Central Europe at the beginning of the 20th century (Glutz & Bauer 1991)
- ▶ „What in particular distinguishes the Aquatic warbler is its commonness... it occurs all over the vast fen mires...” (after Hesse 1910)

Aquatic Warbler in Western Pomerania

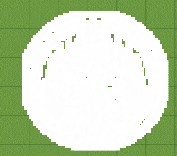
Global range of the Aquatic Warbler (*Acrocephalus paludicola*)



- Breeds in < 50 sites in 7 countries
- World population ~ 20,000 males
- ~ 90% concentrated in Polessye/E Poland
- ~ 60% in Belarus

Flade 2004, modified

The Aquatic Warbler (*Acrocephalus paludicola*)



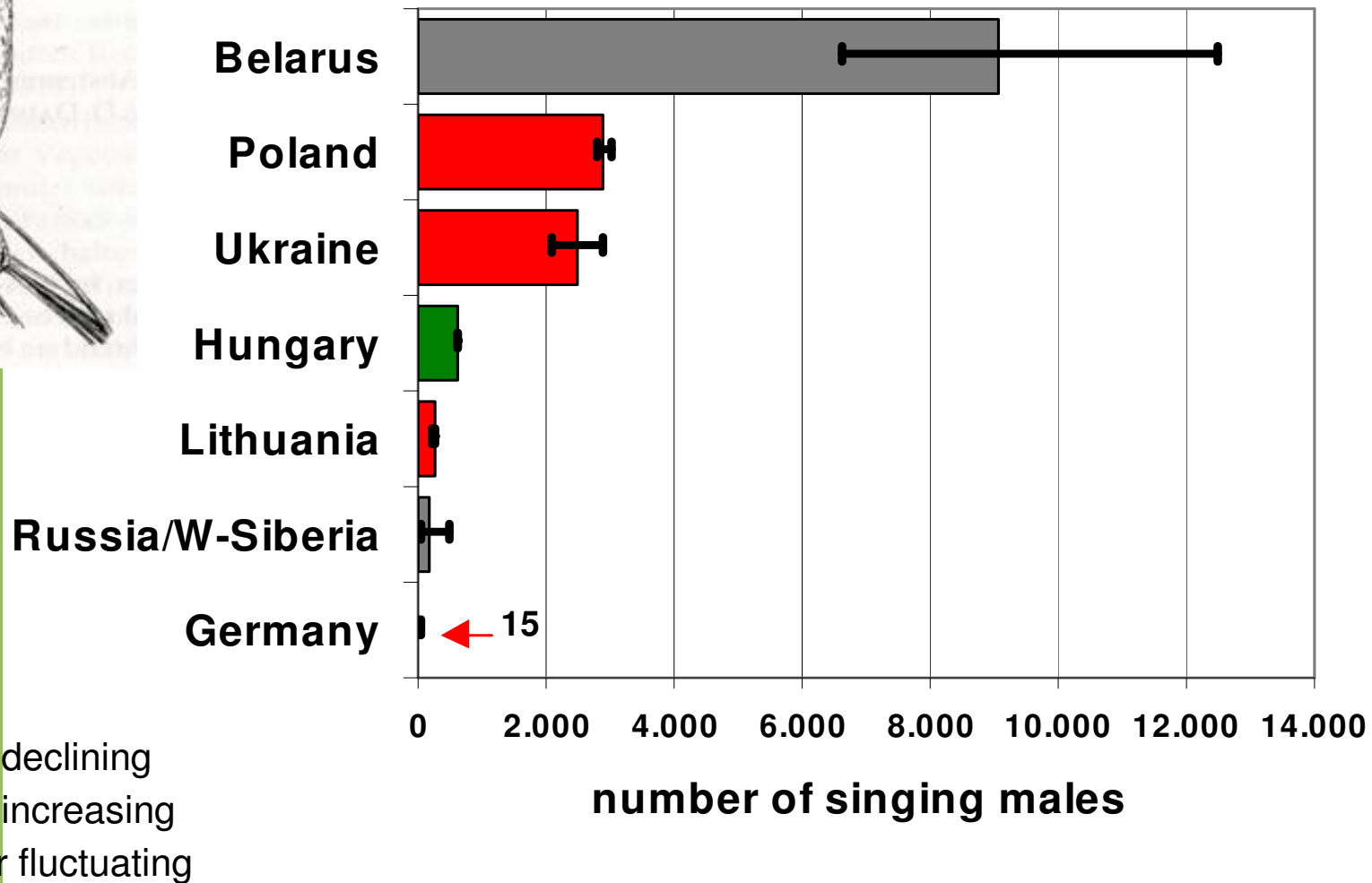
Conservation

- ▶ Dramatic decline during 20th century
(Brandenburg: -99.8% since 1920)
- ▶ Classified as Vulnerable at a global level
(BirdLife International 2000)
- ▶ Listed as Vulnerable in the *IUCN Red List of Threatened Species* (Hilton Taylor 2000)

Aquatic Warbler in Western Pomerania



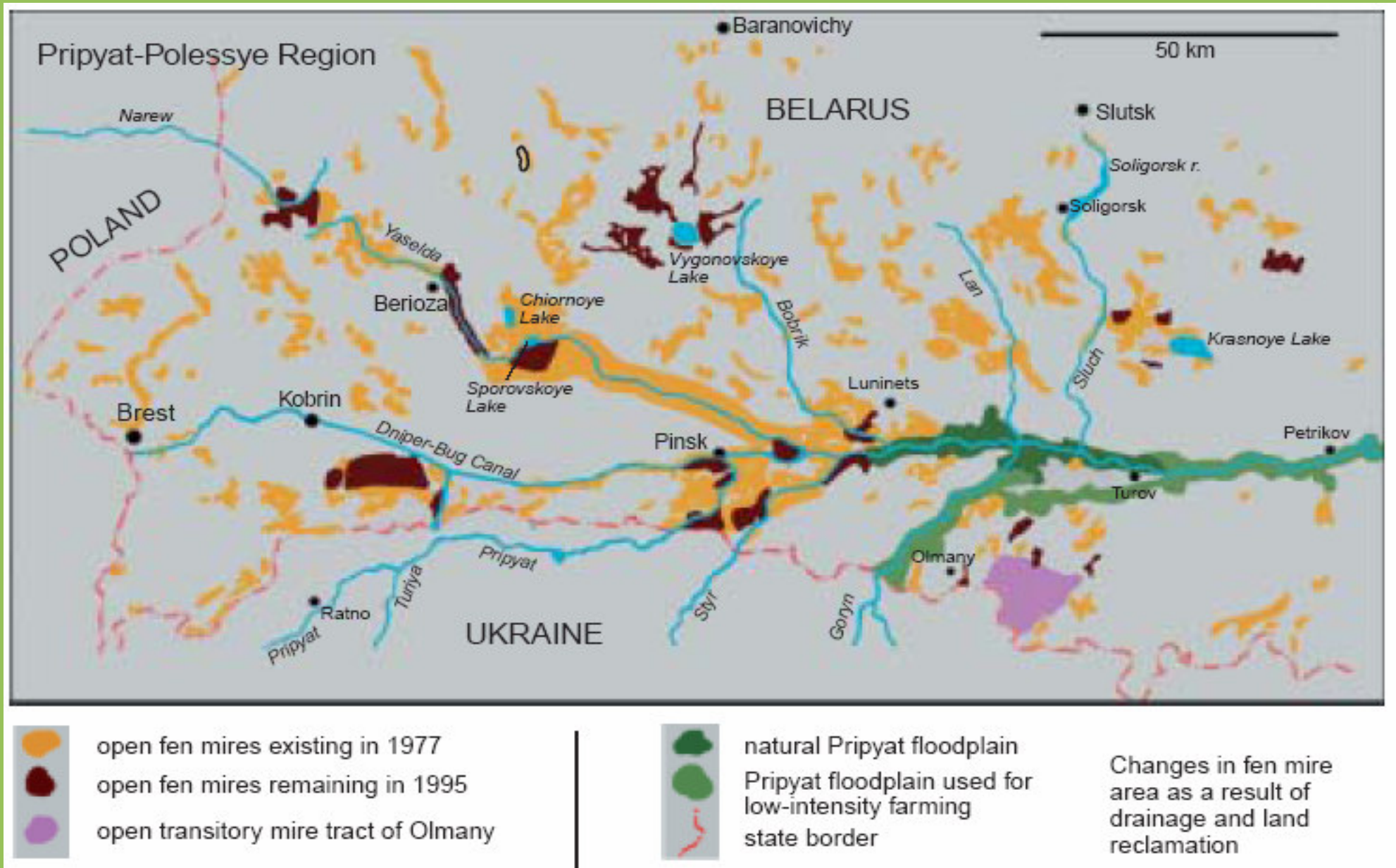
**Aquatic Warbler:
actual population estimates (1997-)2001**



Flade 2004

The Aquatic Warbler (*Acrocephalus paludicola*)

Aquatic Warbler in Western Pomerania



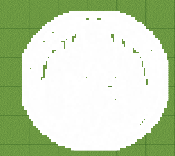
Distribution of Aquatic Warbler in Belarus

No	Site	Suitable habitat area, km ²	No. of singing males
1.	Dikoe	24	1200-1500
2.	Sporovo	26.5	570-2400
3.	Zvanets	80	4600-7600
4.	Prostyr	10	30-500
5.	Mid Pripjat	12	150-400
6.	Servech	7	100-300
7.	Vygonoschanskoe	0.8	30-100



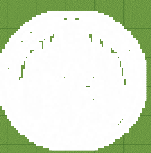
Kozulin & Flade 1999

The Aquatic Warbler (*Acrocephalus paludicola*)

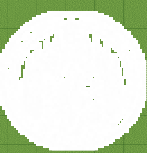


Memorandum of Understanding

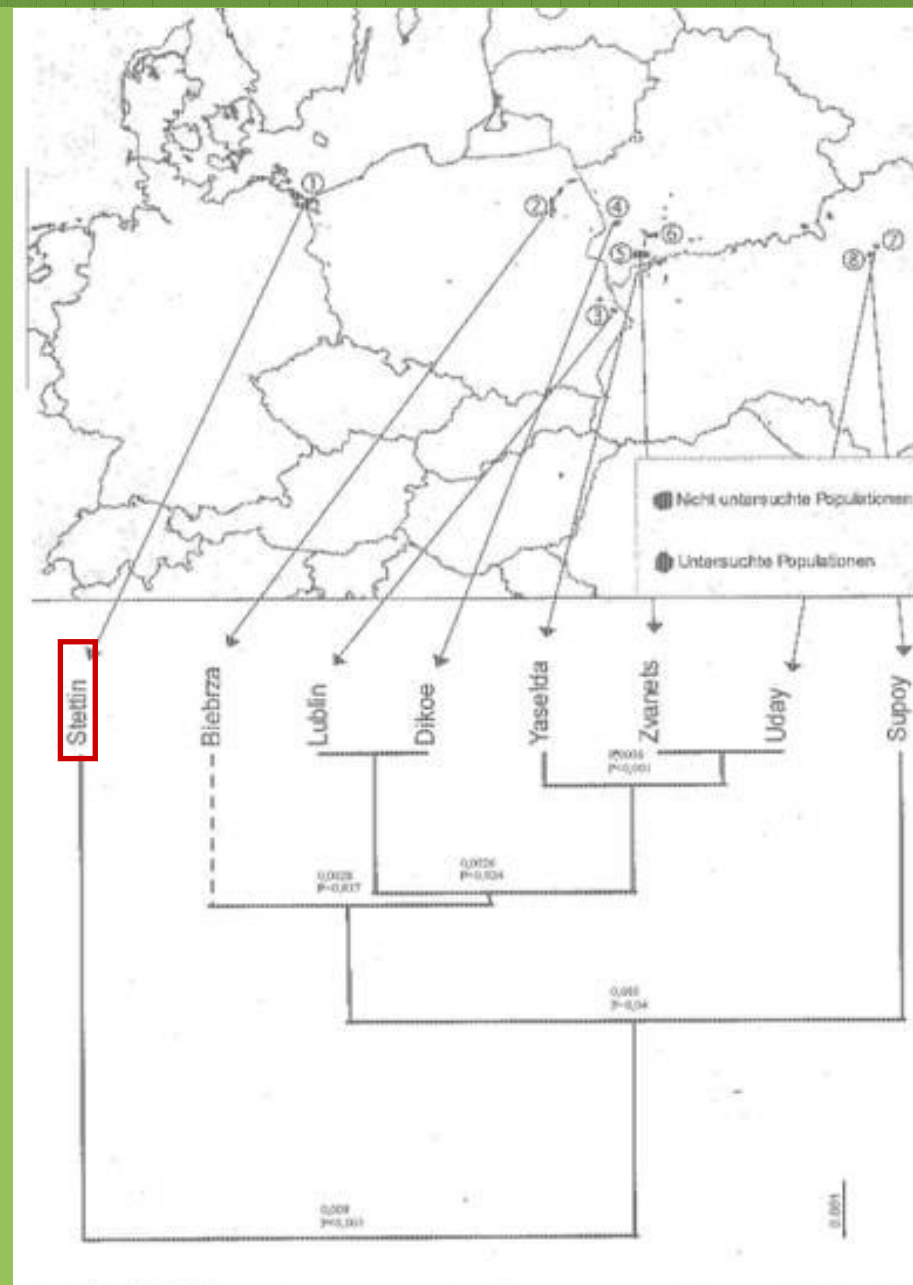
- ▶ Signed in May 2003 in Minsk
- ▶ First time for a “little brown bird”
- ▶ Action plan: **Special attention to the West Pomeranian population**



The West Pomeranian population

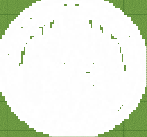


The German/North-West Polish population is genetically separate from all other studied Aquatic Warbler populations (Giessing 2002).



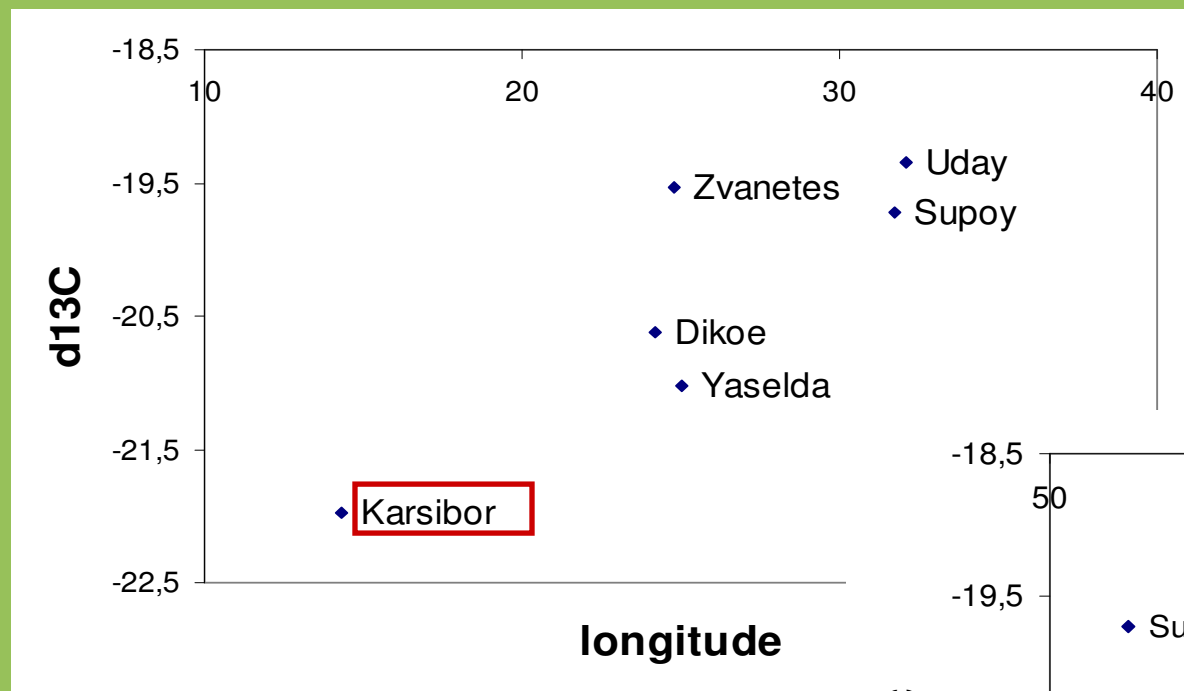
Giessing 2002

The West Pomeranian population



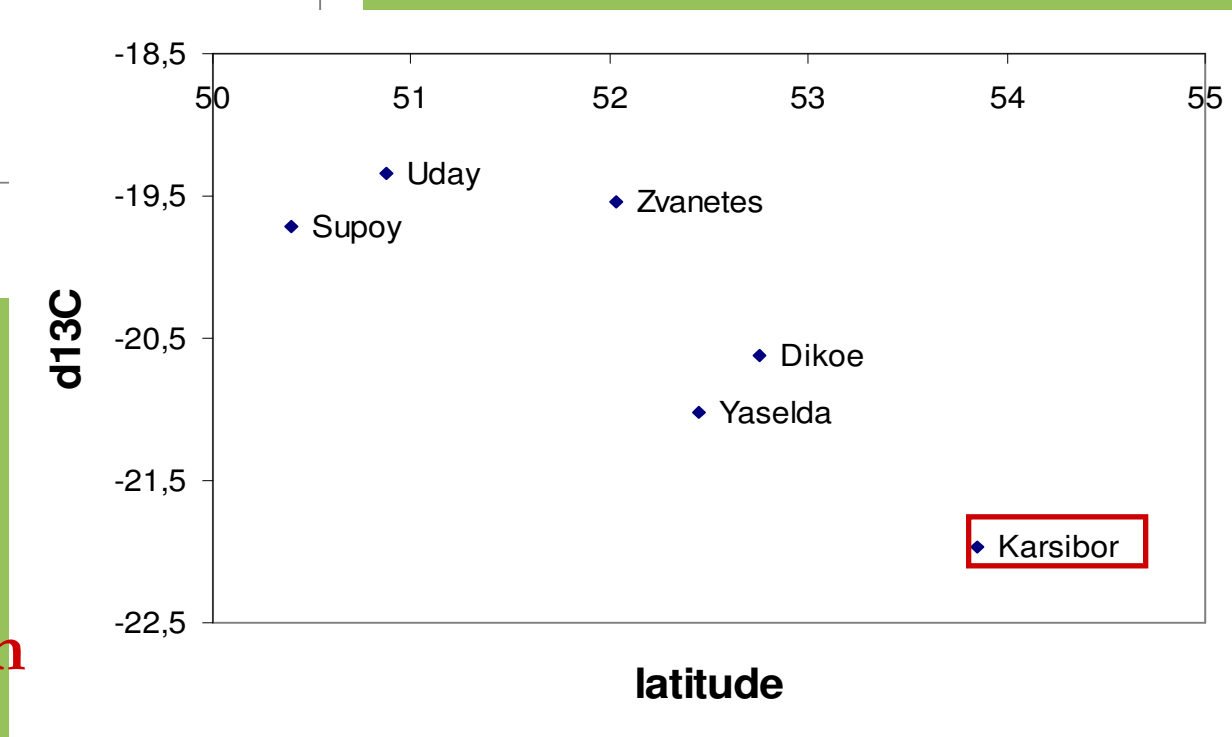
Aquatic Warbler in Western Pomerania

Pain et al. 2003



It has most probably a different, very restricted and more northerly wintering area than the other populations (Pain et al. 2003).

The West Pomeranian population is thought to be the last remnant of the formerly huge North German population.



The West Pomeranian population

Stanowiska występowania wodniczki w Polsce - 2003 (dane OTOP)

Pomorze Zachodnie
ok. **80** śs

+ **7-8** śs
Niemcy

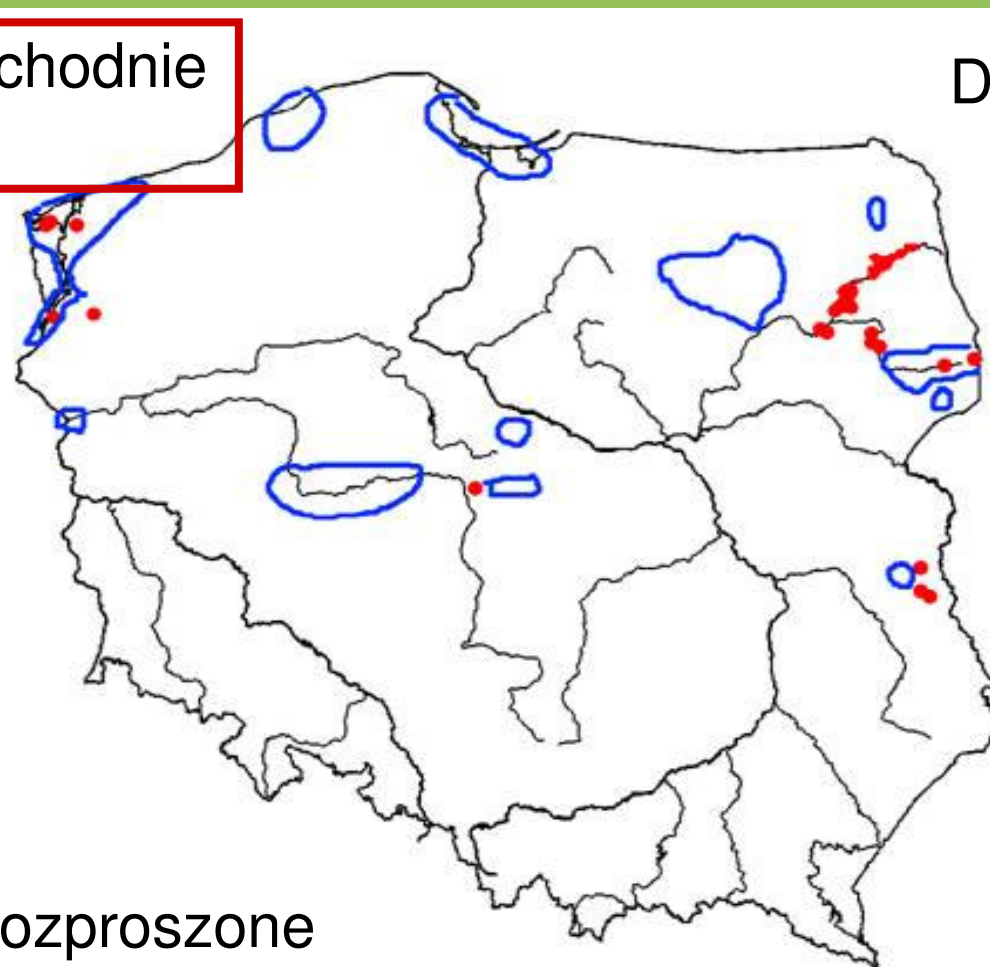
Dolina Biebrzy i Narwi
ok. **2800** śs

Lubelszczyzna
ok. **580** śs



Pozostałe rozproszone
stanowiska w kraju ok. **14** śs

RAZEM:
ok. **3470** śs



The West Pomeranian population



Porównanie 1997 vs 2003

Biebrza i Narew	2200	2800	(▲)
-----------------	------	------	-----

Polesie	450	580	▲
---------	-----	-----	---

Pomorze	230	80	▼
---------	-----	----	---

Pozostałe stanowiska	30	14	▼
----------------------	----	----	---

RAZEM	ca	2900	3470 (▲)
--------------	-----------	-------------	-----------------

ca 20% populacji światowej

OGÓLNOPOLSKIE TOWARZYSTWO OCHRONY PTAKÓW

Aquatic Warbler in Western Pomerania

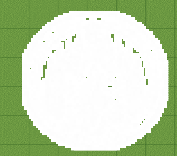


Coastal habitats

Lower Odra
Valley

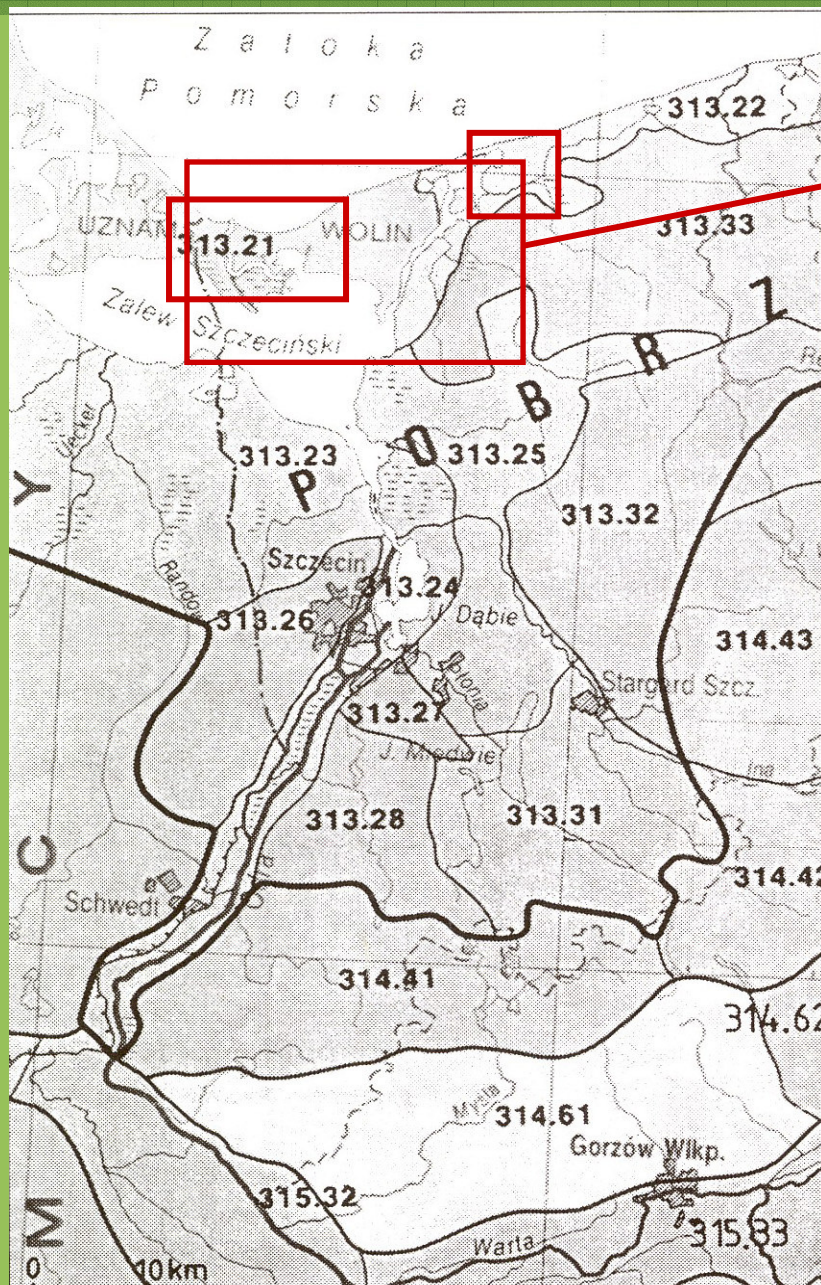
Map: Kondracki 1978

The West Pomeranian population



Coastal habitats

Aquatic Warbler in Western Pomerania



Coastal habitats

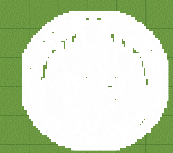
Current population 2004: 55 sM

Delta Swine - 33 sM

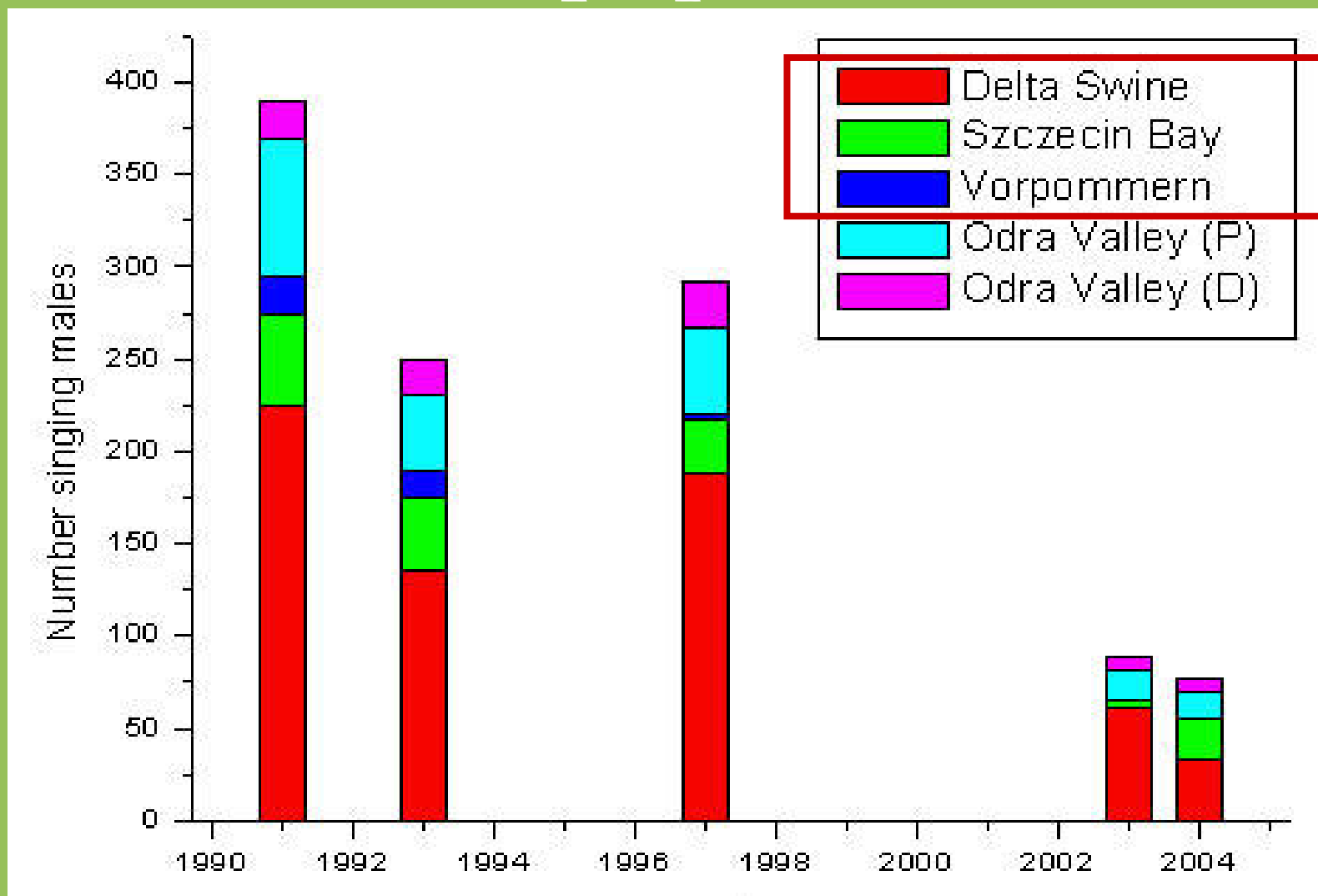
Rozwarowo/Szczecin Bay - 22 sM

Map: Kondracki 1978

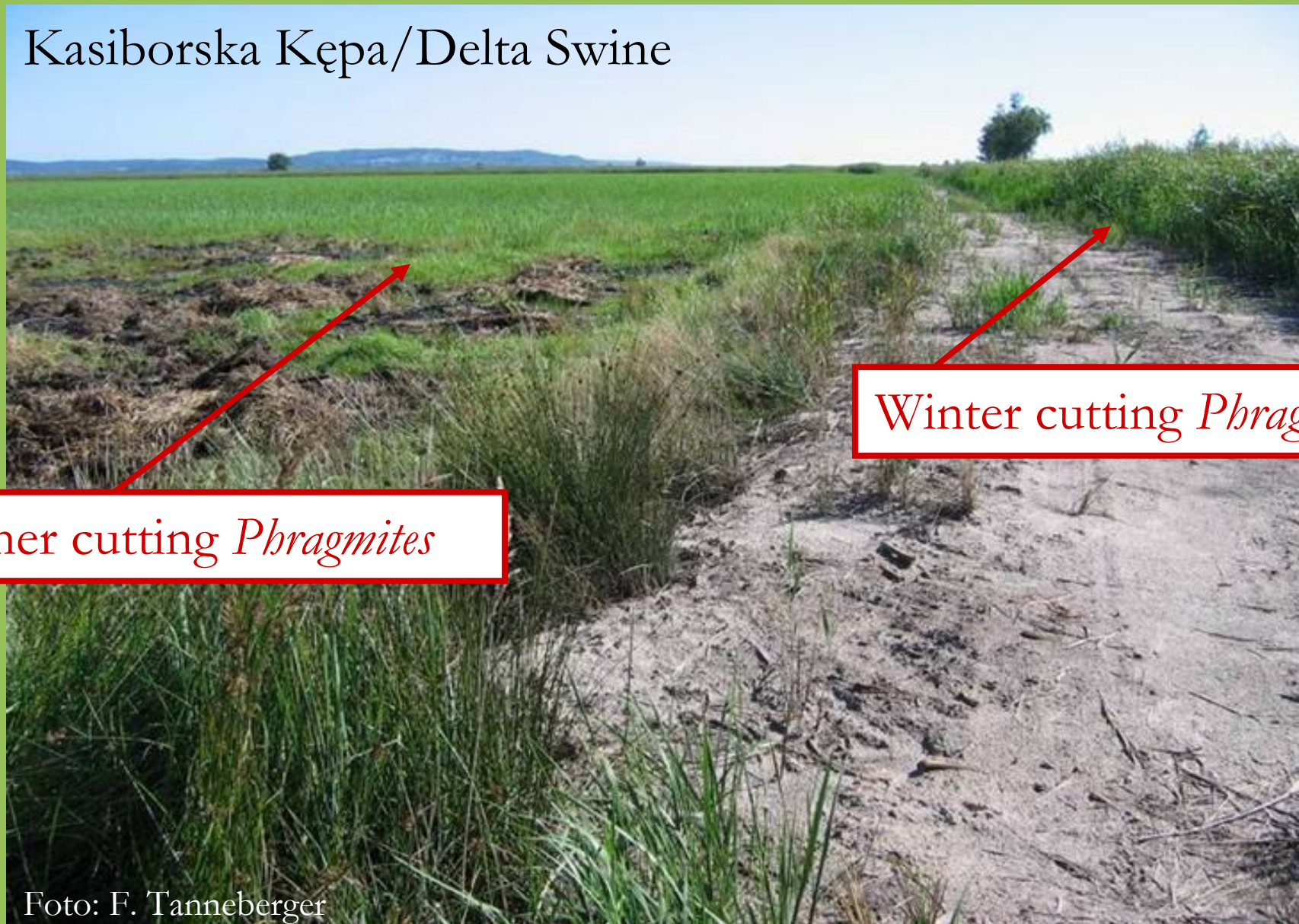
Coastal habitats



West Pomeranian population 1991-2004



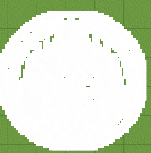
Kasiborska Kępa/Delta Swine



Summer cutting *Phragmites*

Winter cutting *Phragmites*

Foto: F. Tanneberger



Aquatic Warbler in Western Pomerania

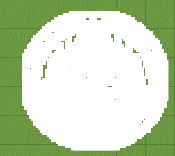
Rozwarowo/Szczecin Bay



Sparse winter cutting
Phragmites with *Thelypteris*

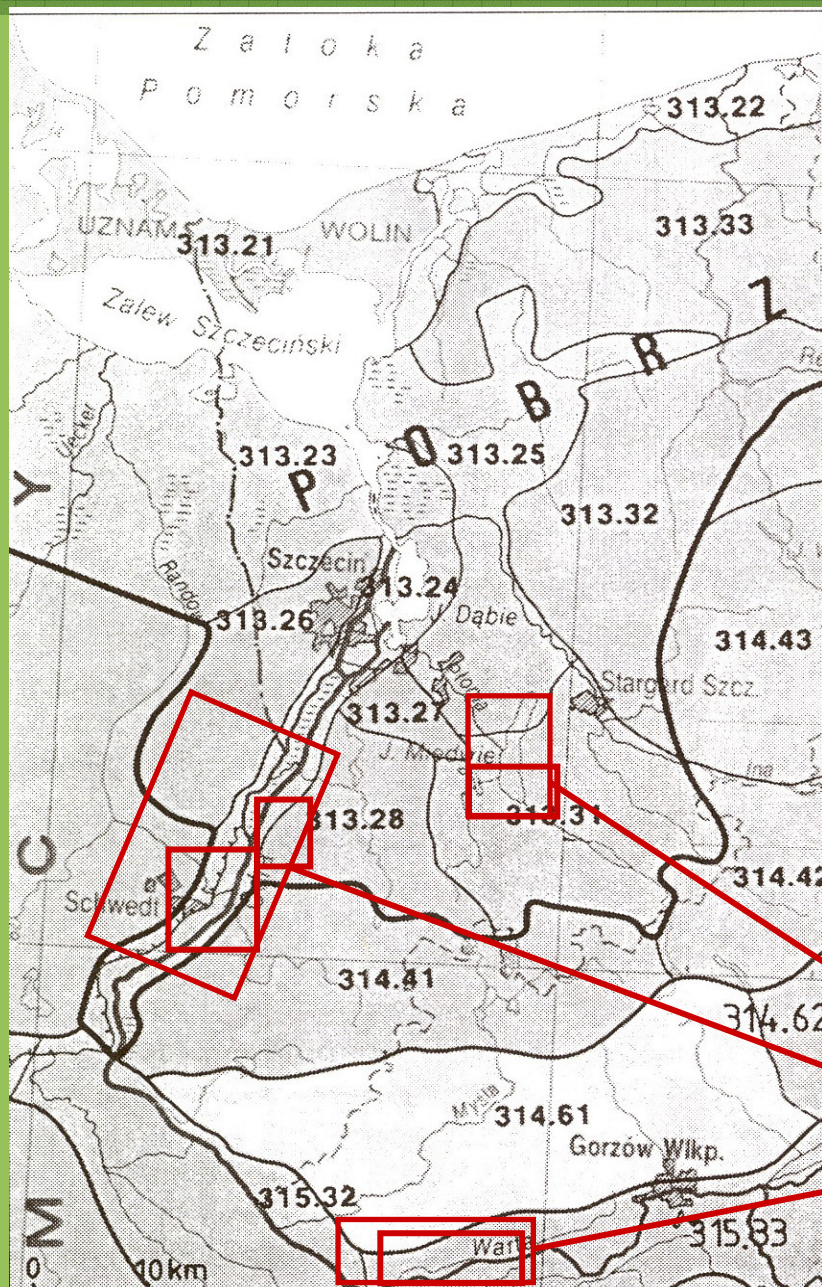
Foto: F. Tanneberger

Coastal habitats



Habitats in Lower Odra Valley

Aquatic Warbler in Western Pomerania



Map: Kondracki 1978

Current population 2004: 22 sM

Lake Miedwie - 8 sM

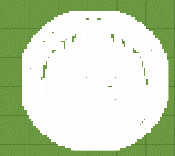
Krajnik/Odra Valley (P) - 7 sM

Odra Valley (D) - 7 sM

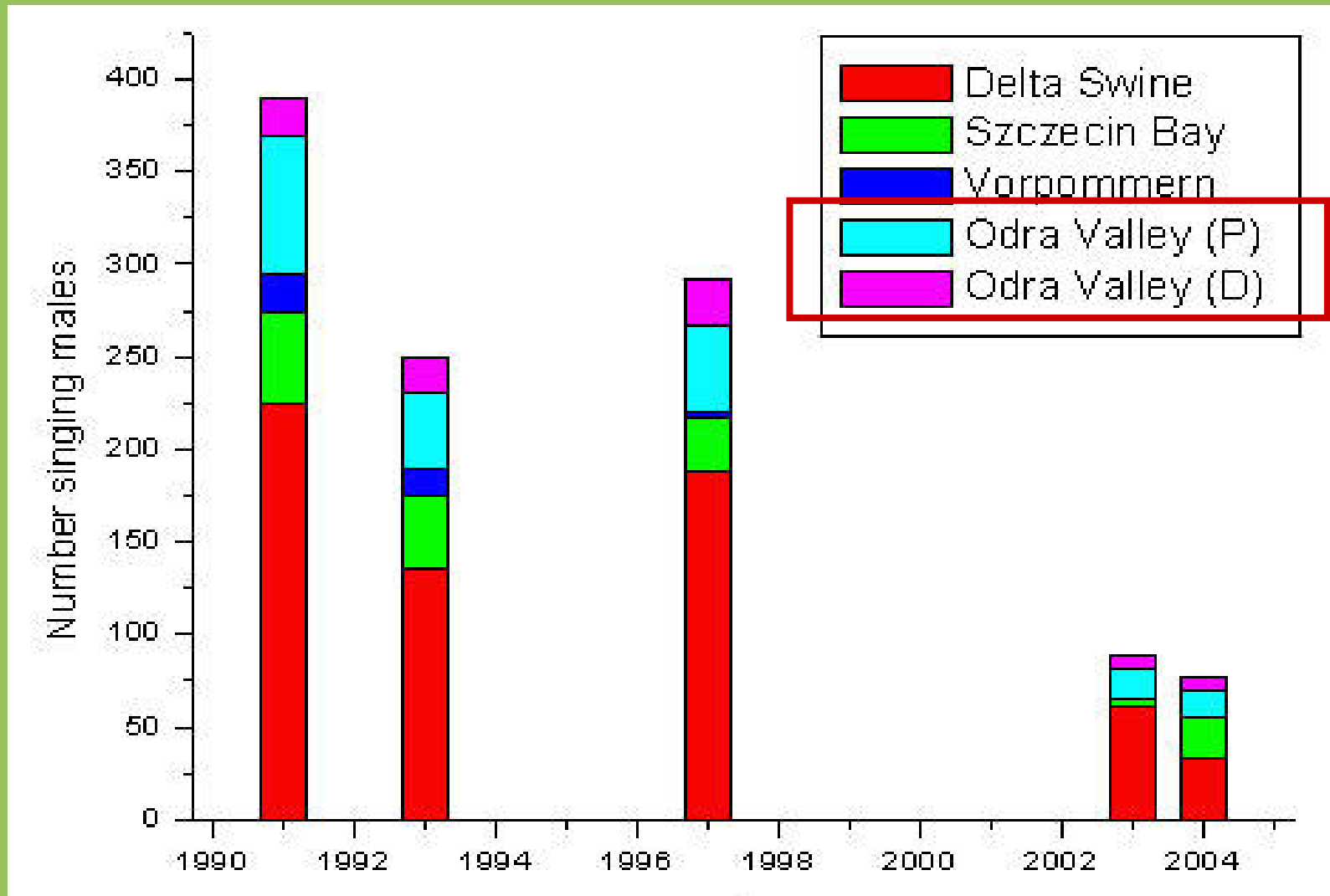
Warta mouth/
Odra Valley (P) – 0 ? sM

**Lower Odra
Valley**

Habitats in Lower Odra Valley



West Pomeranian population 1991-2004

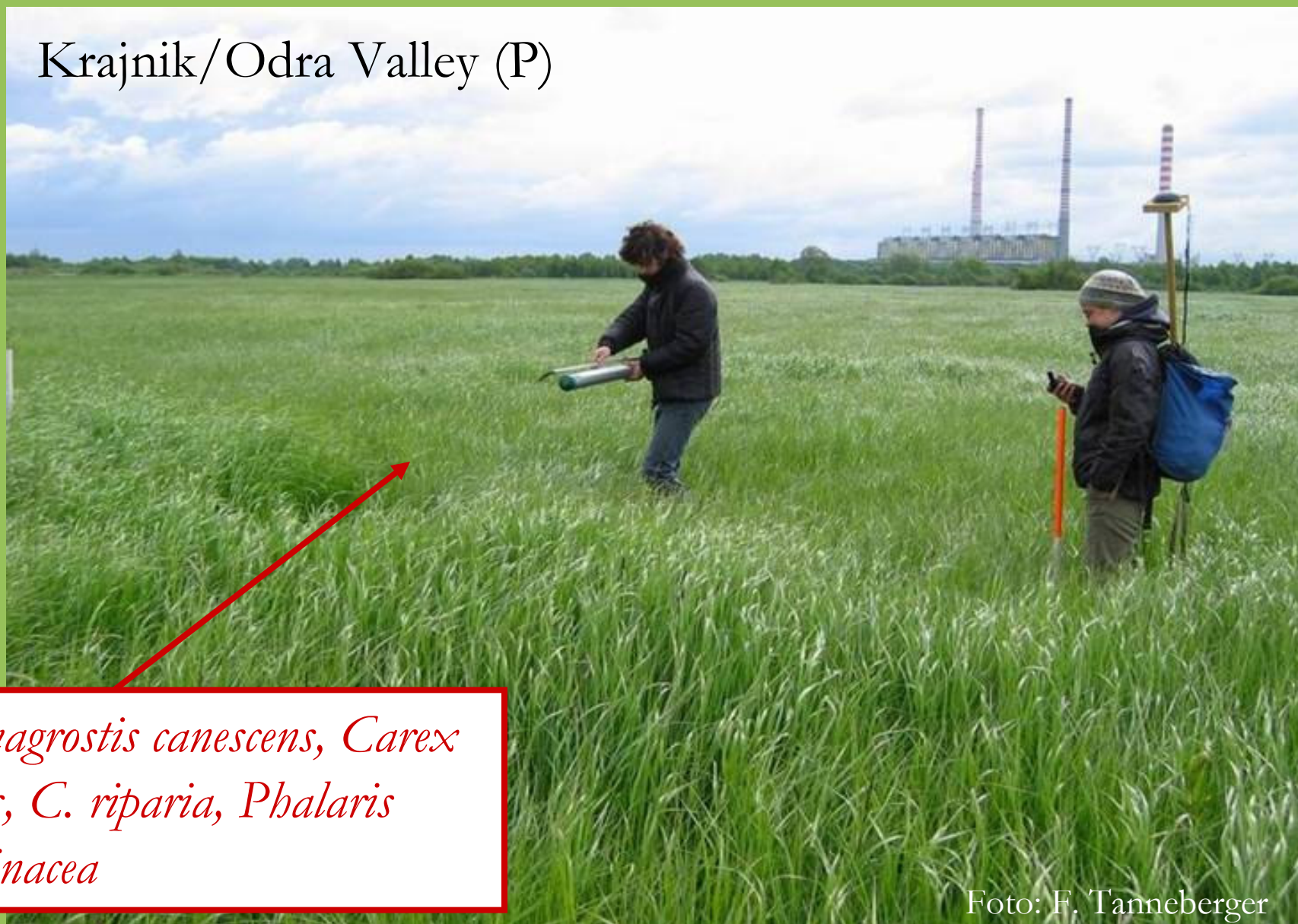


Aquatic Warbler in Western Pomerania



Habitats in Lower Odra Valley

Krajnik/Odra Valley (P)



Calamagrostis canescens, *Carex gracilis*, *C. riparia*, *Phalaris arundinacea*

Foto: F. Tanneberger

Aquatic Warbler in Western Pomerania

Odra Valley (D)



Carex gracilis, *Phalaris
arundinacea*, *Glyceria maxima*

Foto: F. Tanneberger

Habitats in Lower Odra Valley

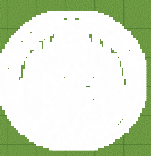
Warta mouth/Odra Valley (P)



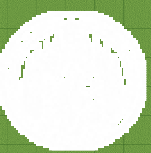
Carex gracilis

Foto: F. Tanneberger

Habitats in Lower Odra Valley



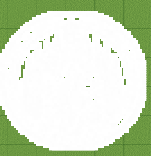
Management for Aquatic Warbler conservation



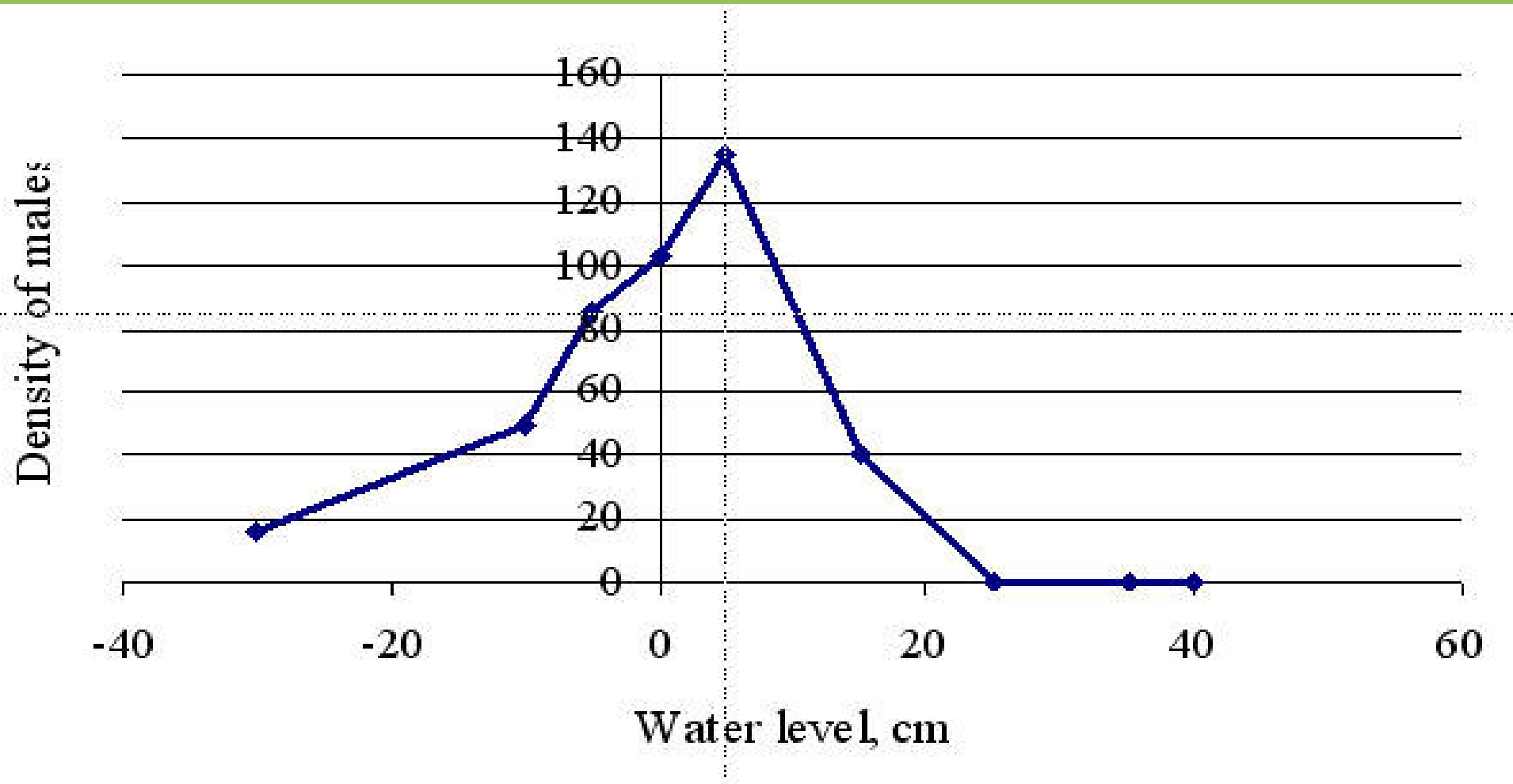
Habitat parameters Western Pomerania

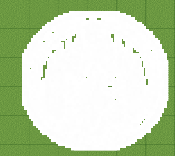
Threats (first results 2004):

- ▶ Water level (too dry)
- ▶ Litter layer (too much)
- ▶ Vegetation structure (too dense)
- ▶ Mowing regime (too early)



High water level

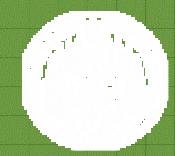




Mowing



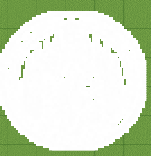
Management for Aquatic Warbler conservation



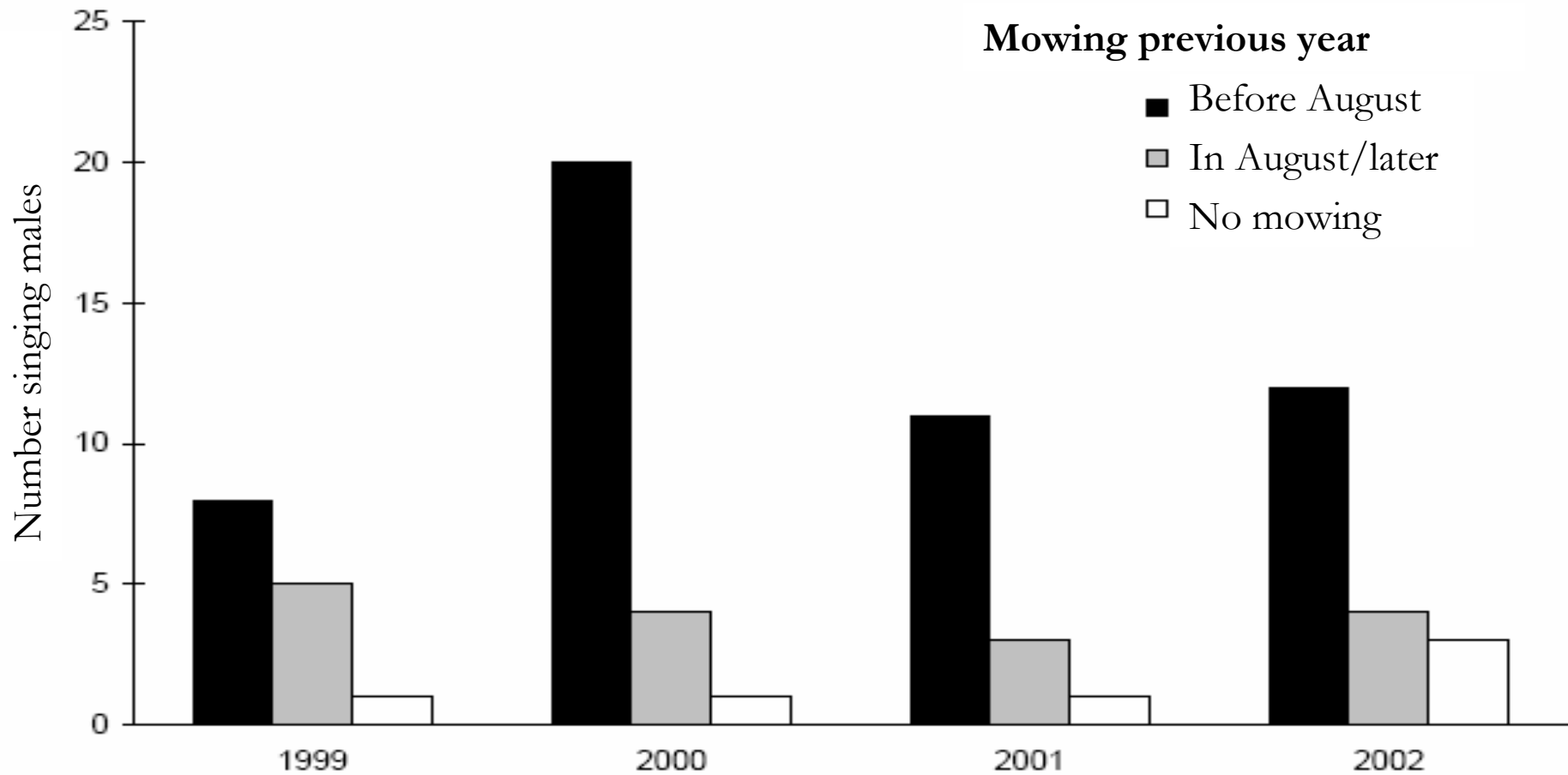
Mowing after breeding season

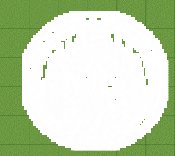


Foto: F. Tanneberger



Late mowing

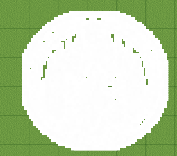




Removal of biomass



Foto: F. Tanneberger



Burning

Partial burning of old vegetation:

- AW density could grow

Complete burning of old vegetation

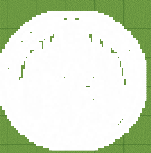
- breeding success declines, density grows during subsequent years

Burning of mosses and underlying strata

- AW density drops three-fold and is restored within 3 years

Burning of peat

- AW disappears within 2 years



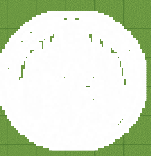
Land use at all!

► German National Park:

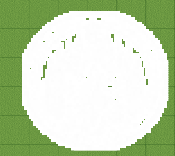
Strict nature reserves (50% of the total Park area until 2010) vs.

Species conservation (Aquatic Warbler, Corncrake)

► Biomass use not economically attractive



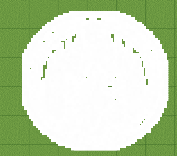
Future perspectives



Research

- ▶ PhD project 2005-2008
- ▶ Studying habitat requirements and restoration potential
- ▶ Co-operation with Ogólnopolskie Towarzystwo Ochrony Ptaków (OTOP), Zachodniopomorskie Towarzystwo Ornitologiczne (ZTO), Royal Society for the Protection of Birds (RSPB), NLP “Unteres Odertal“, LP “Dolina Dolnej Odry“, and NLP “Ujście Warty“

Future perspectives



EU-LIFE project

- ▶ Planned project period 2005-2008
- ▶ All current and several historical Aquatic warbler sites in Western Pomerania
- ▶ Elaboration of management plans
- ▶ Experimental management for Aquatic warbler conservation
- ▶ Identification of sustainable biomass use mechanisms

Aquatic Warbler in Western Pomerania

Thanks to all persons involved in Aquatic Warbler monitoring in Western Pomerania, especially M. Maniakowski, P. Jablonski, M. Dylawerski, G. Kiljan, B. Migdalska, R. Czeraszewicz, S. Guentzel, J. Sadlik, H.-J. Haferland, M. Bolz, A. Helmecke, J. Bellebaum, J. Kube, D. Sellin, M. Flade, M. Bartoszewicz, and K. Wypychowski



Foto: F. Tanneberger