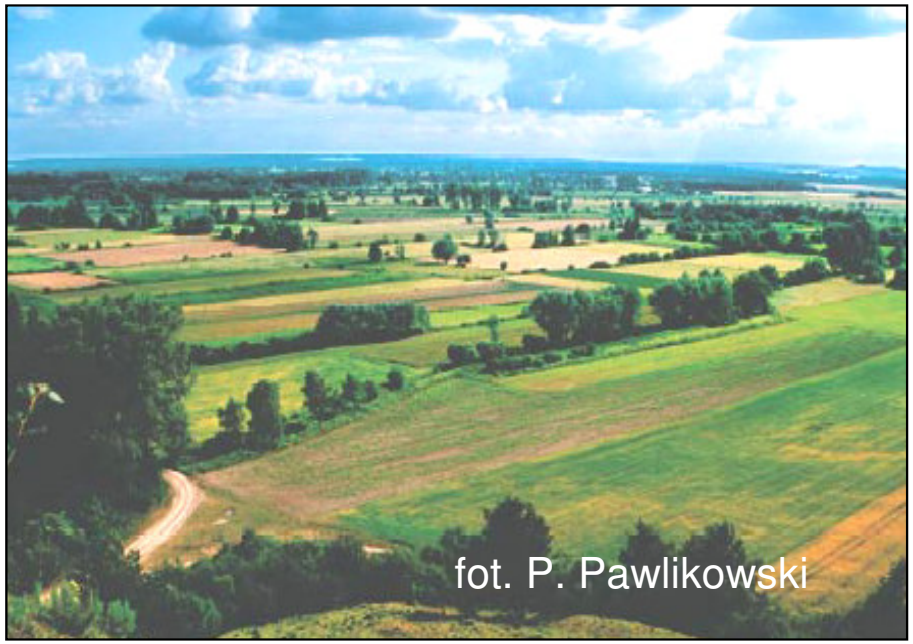

PROGRAM ROLNOŚRODOWISKOWY

Major threats to wetland biodiversity in Poland

- Abandonement of extensive meadows and pastures, which overgrow aith reeds or shrubs.
- Permanent changes in the soils due to drainage and lack of spring floods
- Intensification of agriculture (early mowing, fertilisation, increasing lifestock density, pesticides).
- Land amalgamation.



AGRIENVIRONMENTAL PROGRAMME:

System of EU subsidies to nature- and environment-friendly agricultural management

The first in Poland financial instrument supporting active nature conservation through management

New role of the farmer's job – not only food production but also nature conservator

Code	Packages	Applicability in the Biebrza Valley
P01	Extensive meadows	35 914 ha *9 621 ha**
P01a	Seminatural single-swath meadows, in that: *Liter meadows*	34 919ha 7 694 ha
P01b	Seminatural double-swath meadows	995 ha *9 621 ha**
P02	Extensive pastures	ok. 5 000 ha
K01	Protection of water and soil (green fields)	21 800 ha
G01	Preservation of old animal breeds	
G01a01	Polish red cow	42 szt.
G01a02	White backed cow	28 szt.
S01	Sustainable agriculture	76 000 ha
S02	Organic farming	niewielkie
K02	Buffer zones	niewielkie
E	Bogs	25 ha (3 000 ha)
A	Reedbeds and fens	1 019 ha (1 733 ha)**
B	Seminatural meadow restoration	8 730 ha
C	Tranformation of crop fields into meadows	1 225 ha*
D	Removal of invasive vegetation (reed, shrubs)	12 825 ha

EXTENSIVE MEADOWS	
Seminatural single-swath meadows, hand mowing	**1 030 PLN/ha**
Seminatural single-swath meadows, tractor mowing	**400 PLN/ha**
Seminatural double-swath meadows	**880 PLN/ha**
EXTENSIVE PASTURES	
Pastures on xerothermic grasslands	**300 PLN/ha**
Lowland traditional pastures	**400 PLN/ha**
Mountainous pastures below 350 m n.p.m.	**230 PLN/ha**
Mountainous pastures above 350 m n.p.m.	**560 PLN/ha**

SINGLE-SWATH MEADOWS

Vegetation types

- Sedge-moss communities
- Tall sedge communities
- Litter meadows
- (Xerothermic meadows)

Requirements

- Mowing once a year without fertilisation
- Removal of biomass

SINGLE-SWATH MEADOWS

Sedge – moss fens

(*Scheuchzerio-Caricetea*)

Sedge-moss fen with *Eriophotum angustifolium*

SINGLE-SWATH MEADOWS

Sedge – moss fens

(Scheuchzerio-Caricetea)

Carex caespitosa

(can also occur on wet meadows)

SINGLE-SWATH MEADOWS

Sedge – moss fens

(Scheuchzerio-Caricetea)

Eriophorum angustifolium

SINGLE-SWATH MEADOWS

Tall sedge communities
(Magnocaricion)

Caricetum elatae

SINGLE-SWATH MEADOWS

Tall sedge communities
(Magnocaricion)

Caricetum acutae

SINGLE-SWATH MEADOWS

Litter meadows

(Molinion)

Molinia caerulaea

SINGLE-SWATH MEADOWS

Litter meadows
(Molinion)

Diantus superbus

SINGLE-SWATH MEADOWS

Litter meadows
(Molinion)

Iris sibirica

SINGLE-SWATH MEADOWS

Litter meadows

(Molinion)

Gentiana pneumonante

SINGLE-SWATH MEADOWS

Litter meadows

(Molinion)

Gladiolus imbricatus

DOUBLE-SWATH MEADOWS

Vegetation types

- Many types of meadows, wet and moist, also some sedge communities

Requirements

- Mowing twice a year
- Removal of hay
- Limit of fertilisation (50 kg N/ha)
- Delay of first swath to 1 July

DOUBLE-SWATH MEADOWS

Wet hay meadows
(*Calthion*)

Caltha palustris

DOUBLE-SWATH MEADOWS

Wet hay meadows
(*Calthion*)

Ranunculus acris

DOUBLE-SWATH MEADOWS

Wet hay meadows
(*Calthion*)

Cirsio-Polygonetum

- with *Cirsium oleraceum* and *Polygonum bistrorta*

DOUBLE-SWATH MEADOWS

Wet hay meadows
(*Calthion*)

Lychnis flos-cuculi

DOUBLE-SWATH MEADOWS

Moist hay meadows
(Arrhenatherion)

Arrhenatheretum elatioris

DOUBLE-SWATH MEADOWS

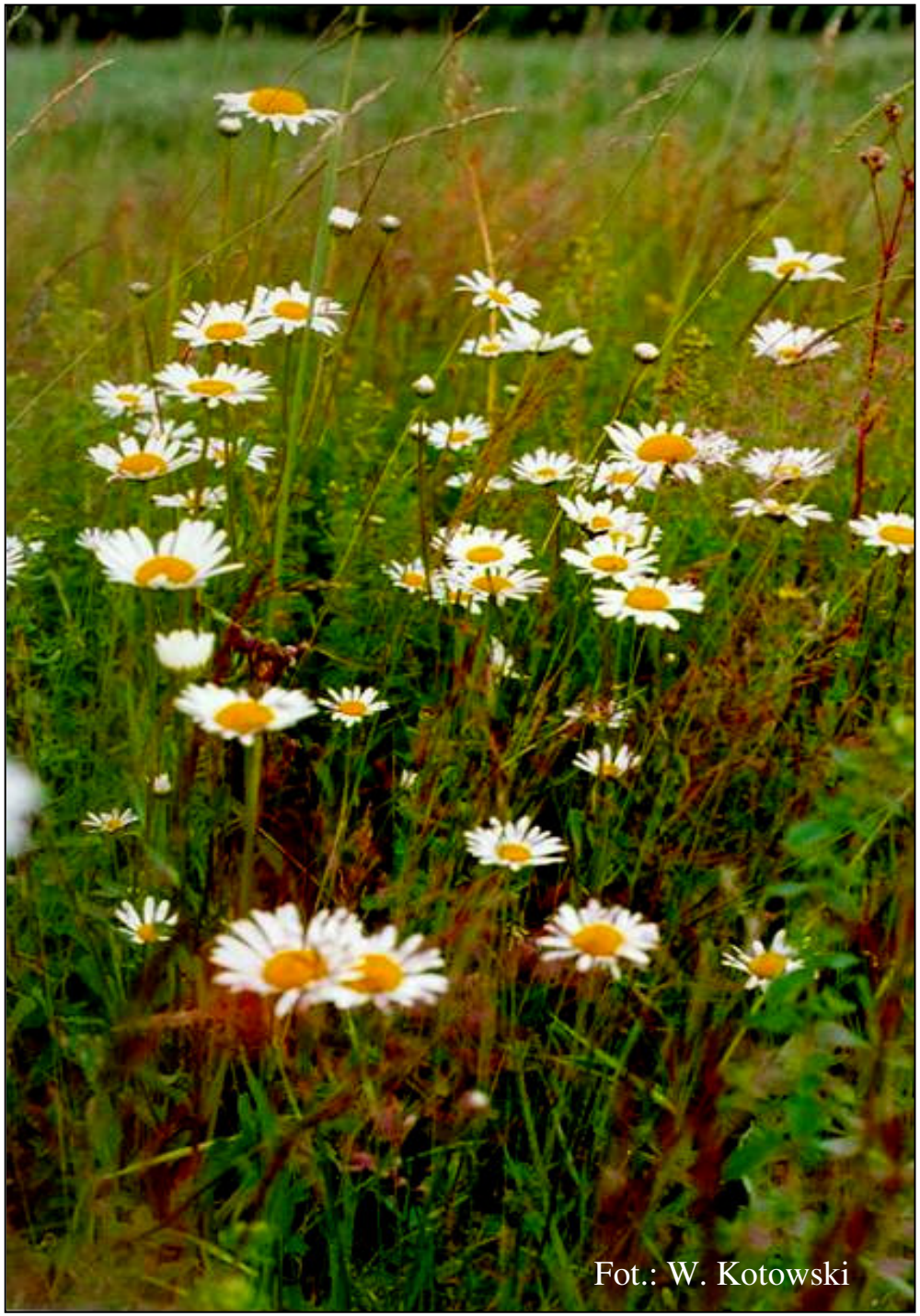
Moist hay meadows
(Arrhenatherion)

Galium verum

DOUBLE-SWATH MEADOWS

Moist hay meadows
(Arrhenatherion)

Chrysantemum leucantemum



EXTENSIVE PASTURES

Vegetation types

- Various typical grazed grasslads on dry, moist and wet soils

Requirements

- Maintanance of grazing by cows, horses or sheep
- Low density of animals

EXTENSIVE PASTURES

Nitrophilous lawns *(Agropyro-Rumicion)*

Riverside pastures in the lower Biebrza

EXTENSIVE PASTURES

Mesic pastures

Cynosurion, Armerion maritimae

Grazing on mineral islands within river valley

Fot.: W. Kotowski

EXTENSIVE PASTURES

Mesic pastures

Armerion maritimae

Diantus deltoides

EXTENSIVE PASTURES

Mesic pastures

Armerion maritimae

Armeria maritima

Fot.: W. Kotowski

Grazing on organic soils can lead to their degradation (acceptable density only below 0,5 LU/ha)

NATURE REFUGES (*package cosidered after 2006)

Vegetation types

- Reedbeds
- Tall herbs
- Bogs

Requirements

- Maintainance in a good shape („hands off”)

NATURE REFUGES

Eutrophic tall herbs *(Filipendulion)*

Filipendula ulmaria

Fot.: W. Kotowski

NATURE REFUGES

Reedbeds *(Phragmition)*

-***Glycerietum maximae (front)***
- Phragmitetum australis (back)

NATURE REFUGES

Reedbeds *(Phragmition)*

Scirpetum lacustris
(lake shores, oxbows)

NATURE REFUGES

Reedbeds *(Phragmition)*

Sparganium erectum

NATURE REFUGES

bogs

Bog community in a terrestralising turf pond

By hand or by machinery?

Hand mowing when:

-area unaccesible for a tractor (e.g. fens)

-very soft peat or sandy soils

-small area of meadows

By hand or by tractor?

Tractor weels can havily damage soft peat soils


Fot.: W. Kotowski

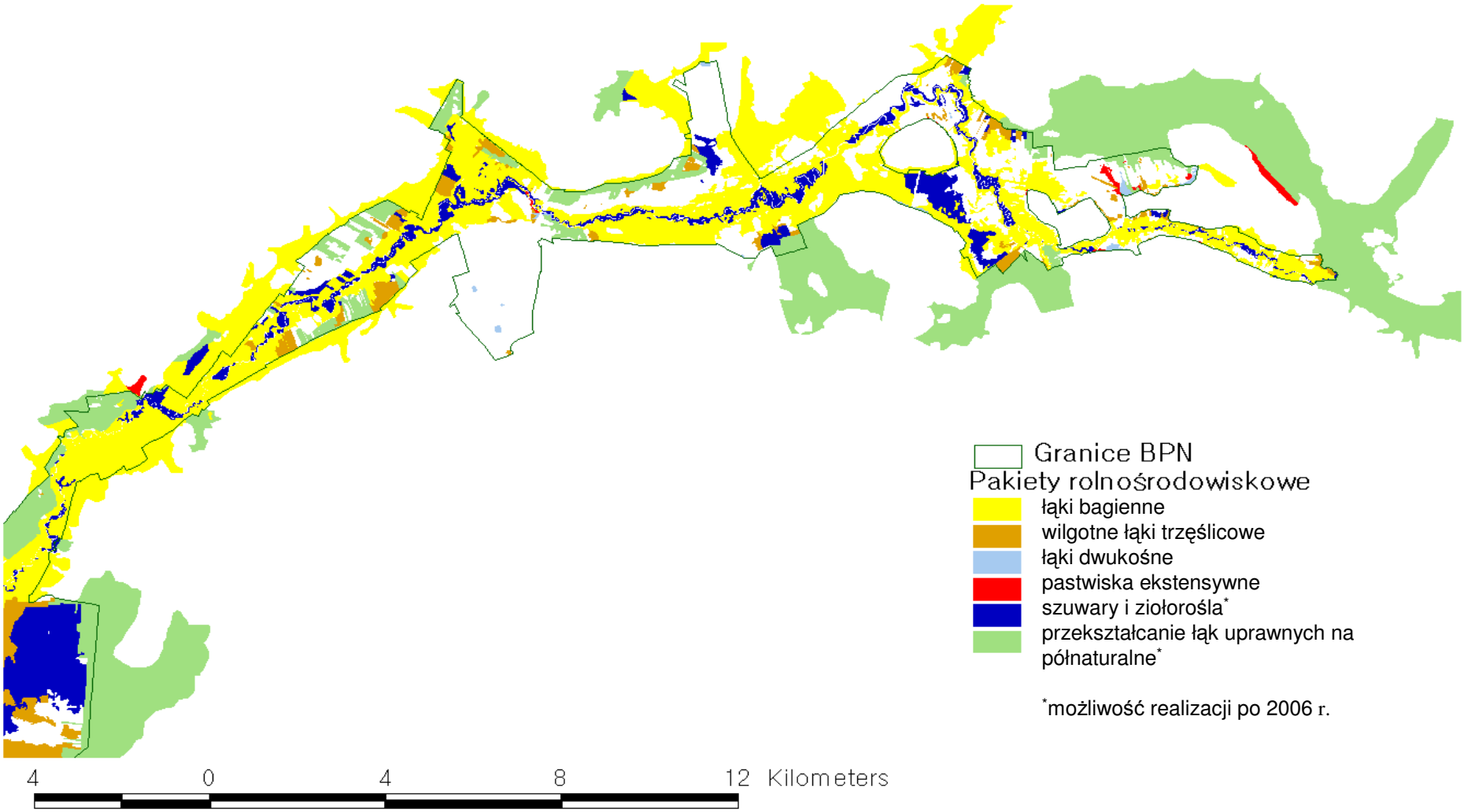

Fot.: W. Kotowski

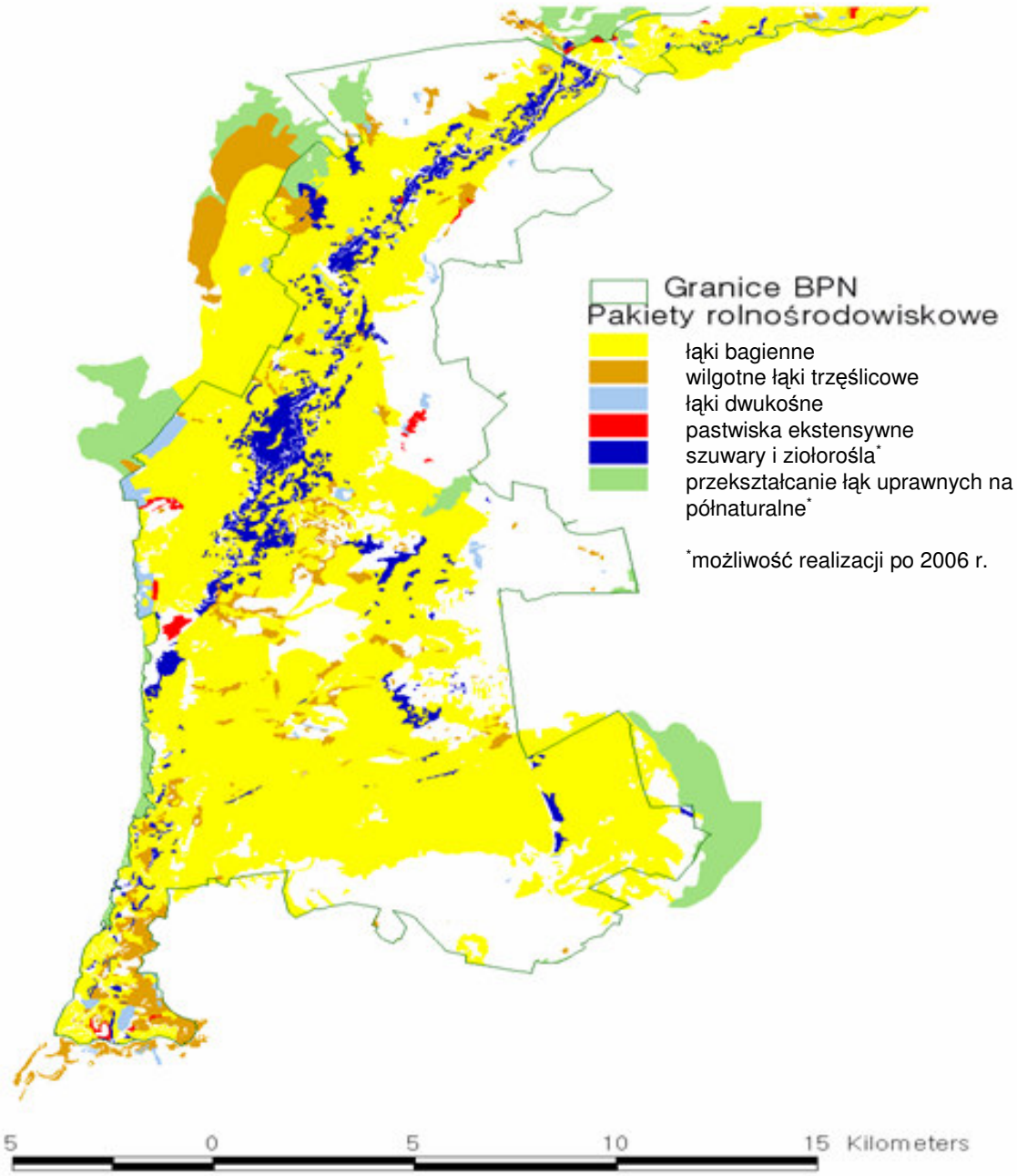
Technique of mowing...

- *Mowing from the middle to the edge*
- *Type of mowing machinery*
- *Height of mowing*

Traditional storage

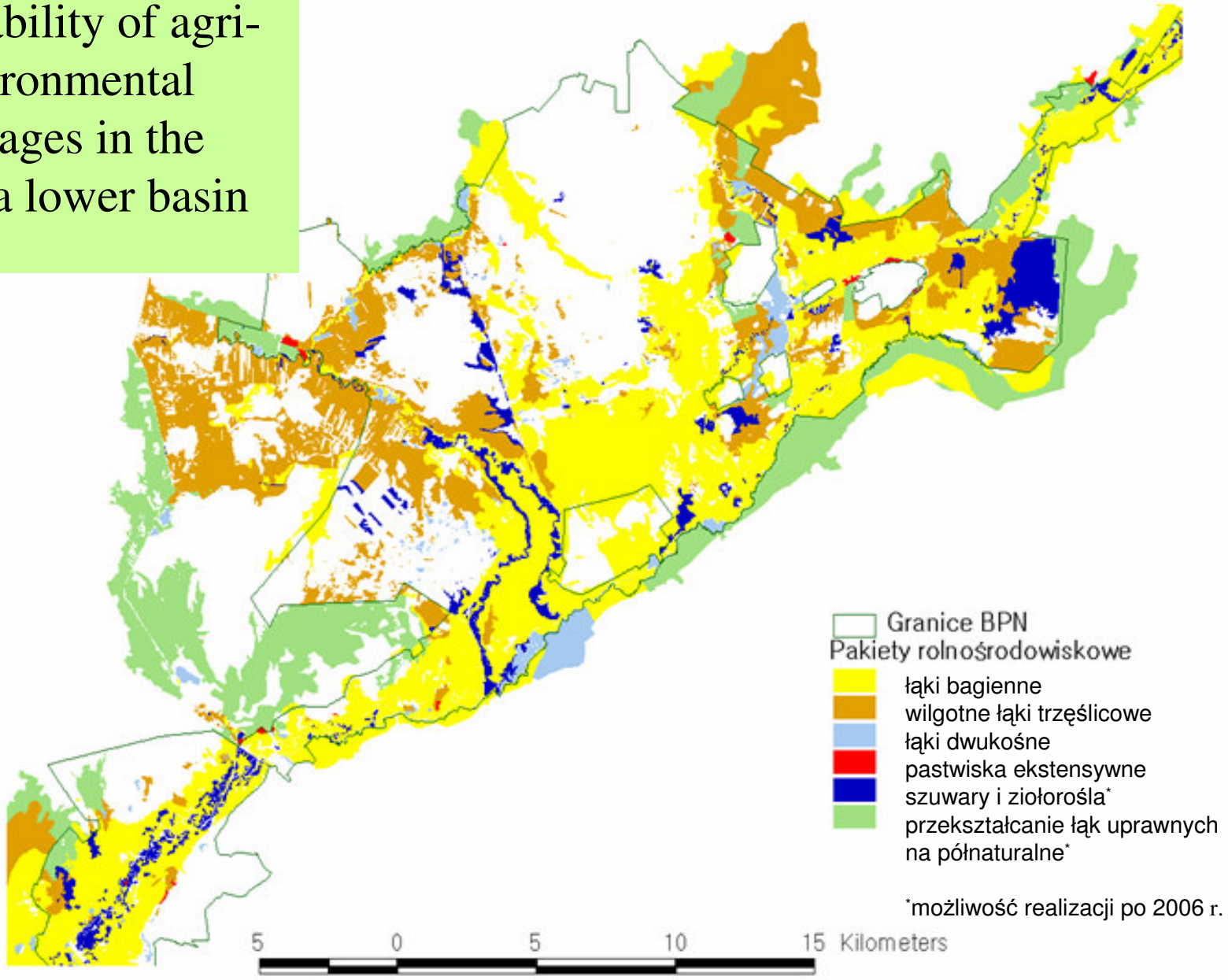
Applicability of agri-environmental packages in the Biebrza upper basin





Applicability of agri-environmental packages in the Biebrza midle basin

Applicability of agri-environmental packages in the Biebrza lower basin



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