

Elaboration of conservation programme of endangered European mink (*Mustela lutreola*) in Poland



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**26th Mustelid Colloquium
Budapest 2008**

Mustela lutreola L., 1761 – in short

- Classification

Order: *Carnivora*, Suborder: *Caniformia*, Family: *Mustelidae*, Subfamily: *Mustelinae*, Genus: *Mustela*, Subgenus: *Lutreola*; unclear subspecies classification.

- Physical Description

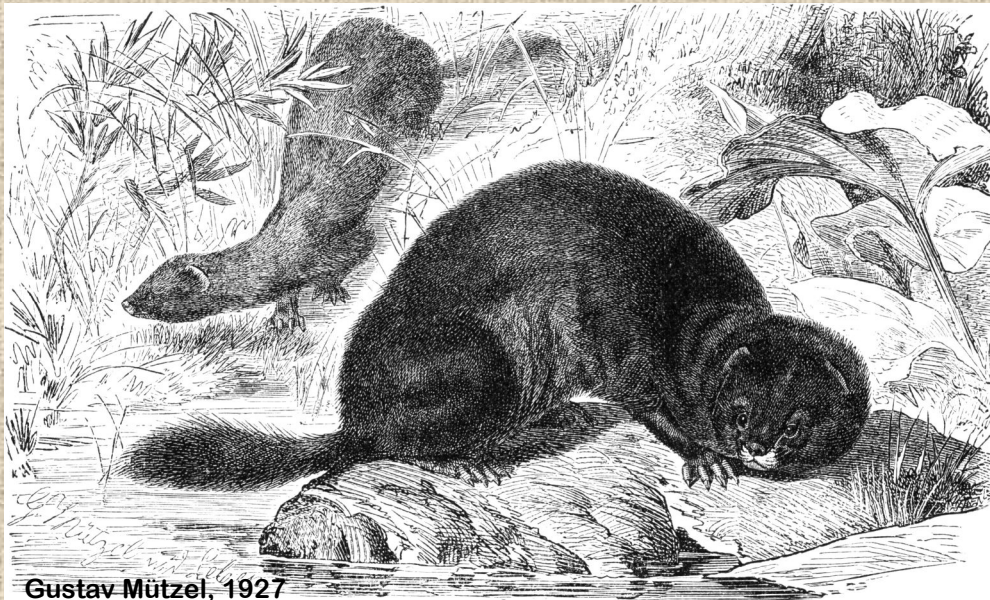
Slender, streamlined body with short legs, little ears and short bushy tail. It is covered by soft, dark brown fur. Males are from 30 – 45 cm in body length, and weight to 1000 grams, while the females are slightly smaller (Youngman 1990).

- Behaviour and reproduction

Semi-aquatic, riparian, nocturnal predator, hunting fish, amphibians, crayfish, small mammals and birds; nests in bank hole, hollow tree, under roots, beaver houses; mating season – from February to March, the litter size – 3-4 puppies (Wolinski 1984).

- Habitat

Forest watercourses and reservoirs, oxbow lakes, wetland, marshlands (Youngman 1990).



Gustav Mützel, 1927



- Geographic range

F o r m e r l y: almost all continental Europe to Ural and Caucasian Mountains/the Irtysh and Ob Rivers.

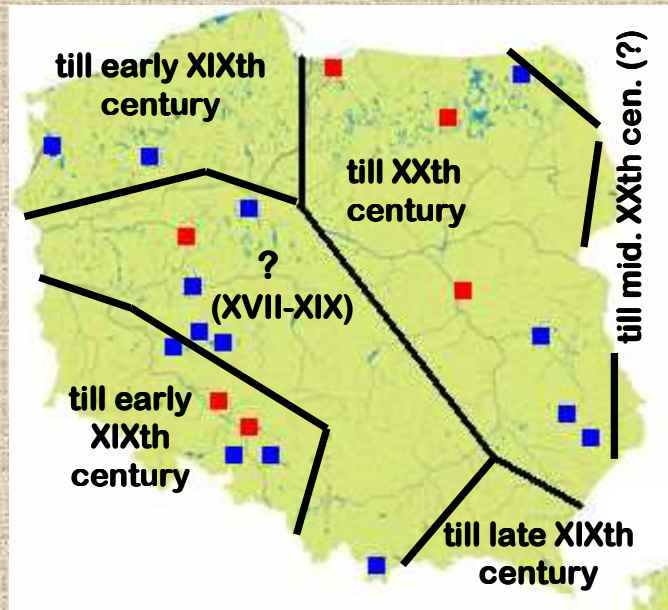
P r e s e n t: endemic populations in Spain, France, Romania, Ukraine (?), Moldova (?), Belarus, Russia and Estonia (reintroduced) (Wozencraft 1993).



**Historic and current range
(red colour) of European mink**

(Fur Commission USA 2008)

Present status of European mink in Poland



Historic and current range of European mink in Poland (red dots – specimens, blue dots – individuals, violet dot – breeding centre in Poznan ZOO)

(Youngman 1990, Glowacinski 2001)

Conservation status:

1934 – hunting law with protection period since 1st. II to 31st XII,

1952 – strictly protected species,

1979 – Bern Convention (Appendix 2); Strictly Protected Species,

1992 – Habitats Directive (*Annex II, Annex IV*); Species of Community Importance, Priority Species,

1999 – IUCN Action Plan for Small Carnivores; First priority of European species protection,

2003 – IUCN Red List; Extinct (in Poland).



Defining the problem – Why is European mink disappearing?

- **Habitat loss** – land drainage, river-control (Claudius 1866, Maran 2007).
- **Overhunting**/commercial trapping for fur – between 1922 to 1924 in the Soviet Union an average of 50 000 mink pelts were collected and the record was 75 000 individuals (Novikov 1939, Nowak 1999, Maran 2007).
- **Hybridization** between the polecat, *M. putorius* – (Lode et al. 2005, Maran 2007, Amistlavsky 2008).



Habitat loss
by river
regulation

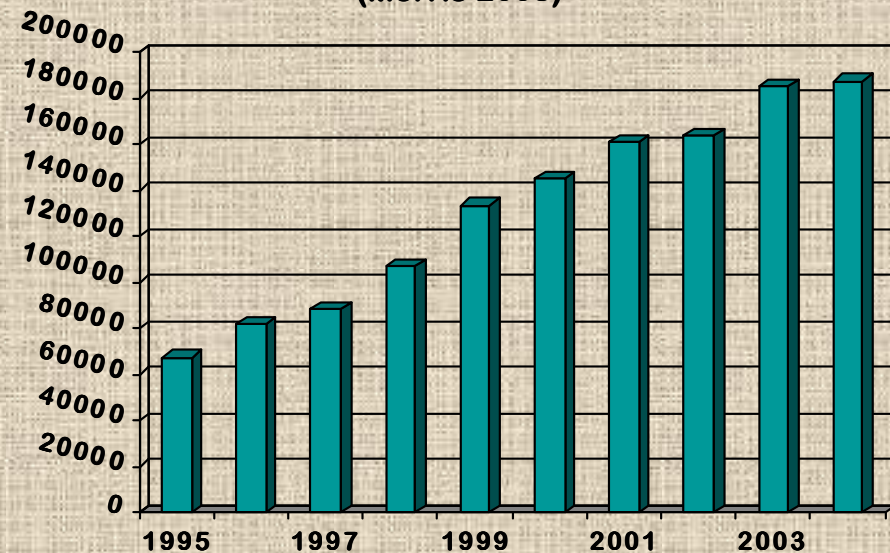


„Khonorik” -
hybrid of
polecat and
European
mink, bred
in Russia in
1978 (Kalinin
2007)

- **Impact of the American mink, *M. vison*** – intraspecies aggression, repro-ductive superiority, surplus killing (Jedrzejewska and Jedrzejewski 1989, Kossak 1989, Sidorovich et al. 1999, Cena et al. 2003, Maran 2007).
- **Pollution** (Schropfer and Paliocha 1989, Lode 2002, Maran 2007).
- **Introduced diseases** – Aleutian disease virus, myxomatosis (Manas et al. 2001, Maran 2007).
- **Genetic bottleneck** – loss of genetic diversity (Lode 1999).
- **Climate change** – marine/continental climate spells (Voipio 1946).
- **Intraguild predation** – lack of large predators and increase of medium-size predators populations (Maran and Henttonen 1995).



American mink, *M. vison*, Schreb. 1777
(Morris 2008)



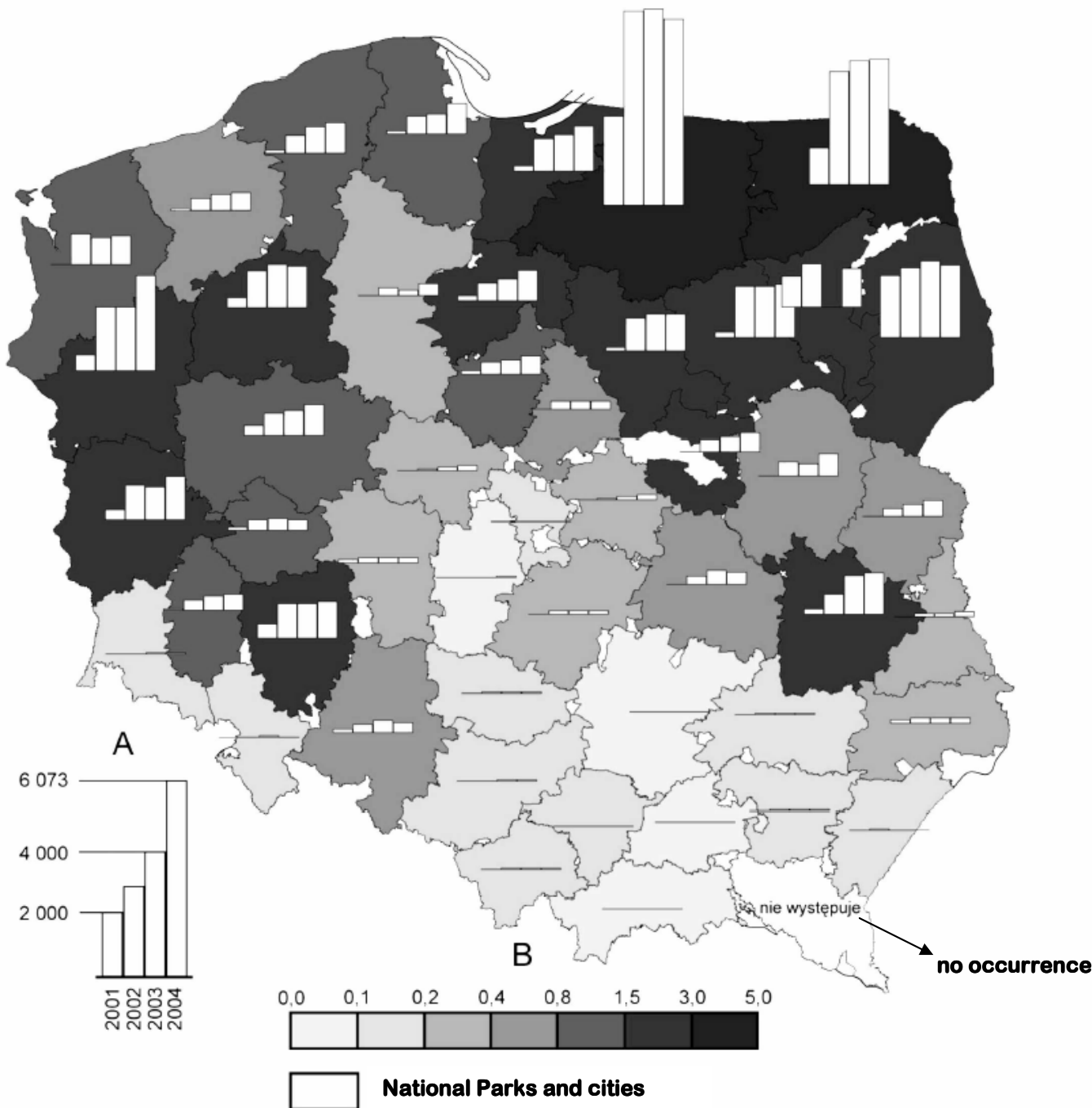
The Red fox, *Vulpes vulpes*
population growth in Poland (1995-2004)
(Central Statistical Office 2005)

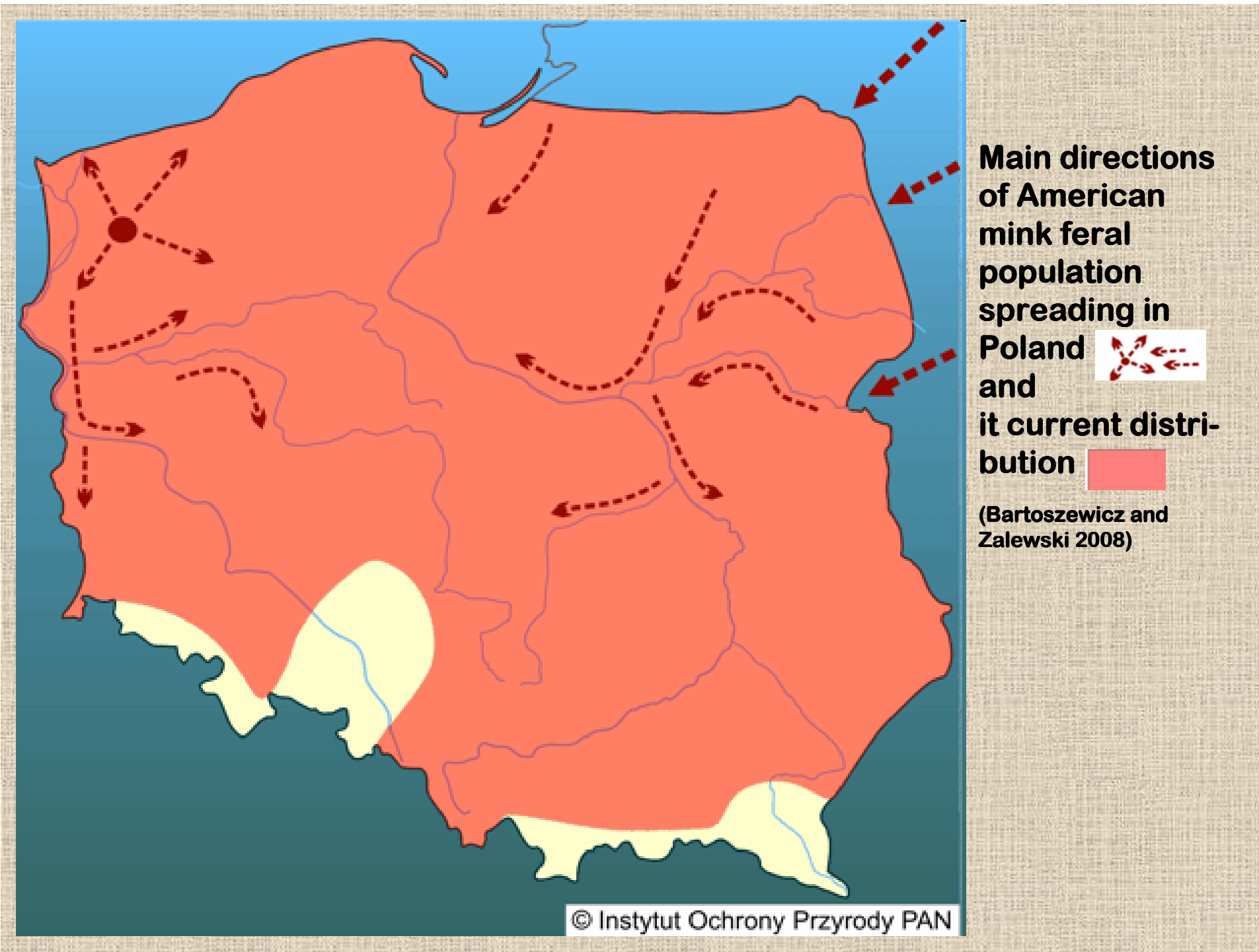
Density of American mink in the hunting districts of Poland (2001-2004)

A – number of specimens in hunting districts;

B – average number of specimens/1000ha

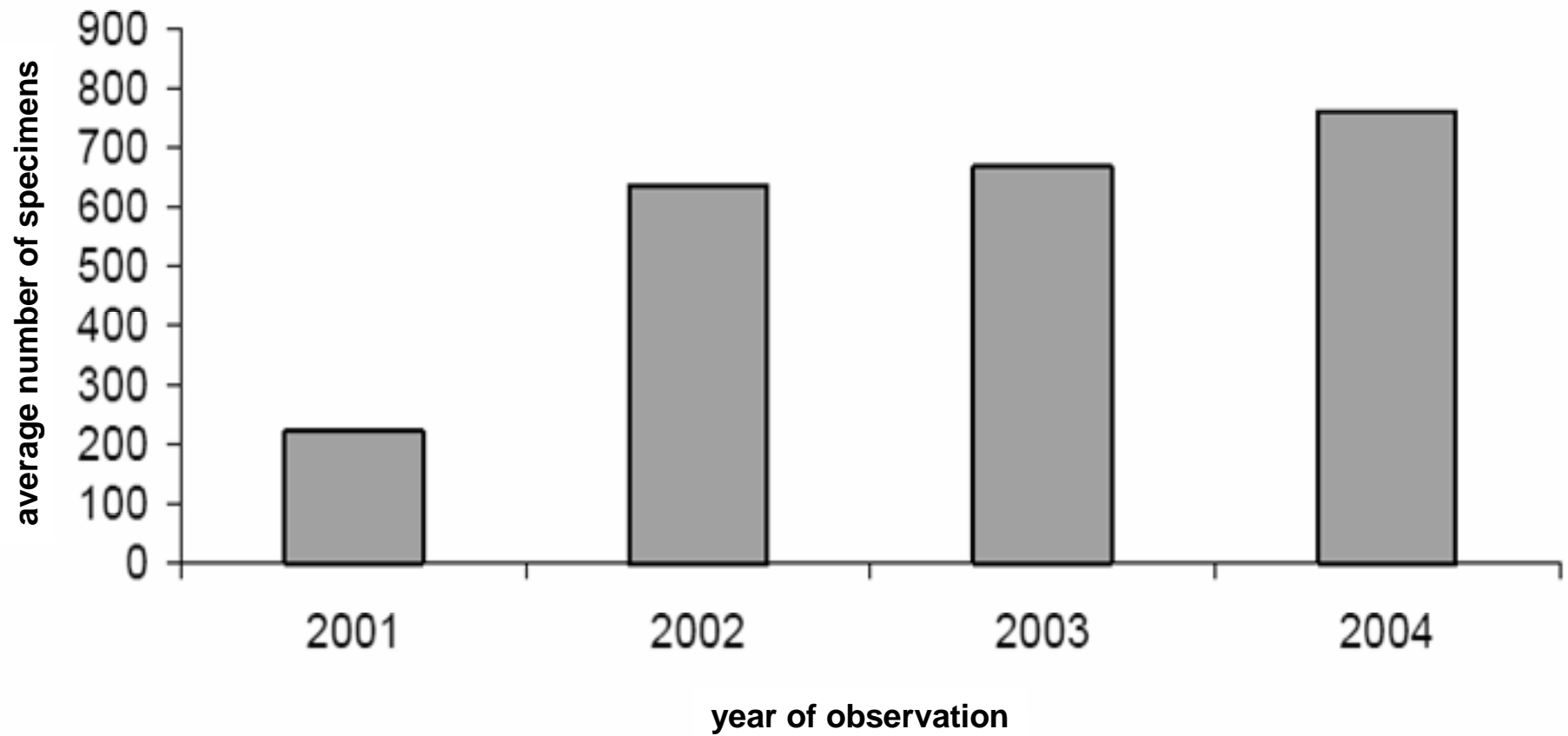
(Grabinska 2007)





**Main directions
of American
mink feral
population
spreading in
Poland** 
**and
its current distri-
bution** 

(Bartoszewicz and
Zalewski 2008)



Changes in number of American minks (2001-2004)

(Grabinska 2007)

The goal and objectives of conservation Programme in Poland



Conservation/protection activities

1st stage: CONSERVATION OF THE GENE POOL (2008 – ...)

1. **EDUCATION** and public awareness rising (demonstration a necessity, validity and ability of partially extinct species conservation and restitution).
2. **EX SITU** species conservation (cryopreservation, captive breeding and reproductive technology, preparation the background for reintroduction, recognition the European mink as an umbrella species, cooperation with Polish zoological gardens).
3. **RESEARCH** on the species biology (mainly genetic and population ecology).

2nd stage: HABITAT RESTORATION (2008 – 2012/2015)

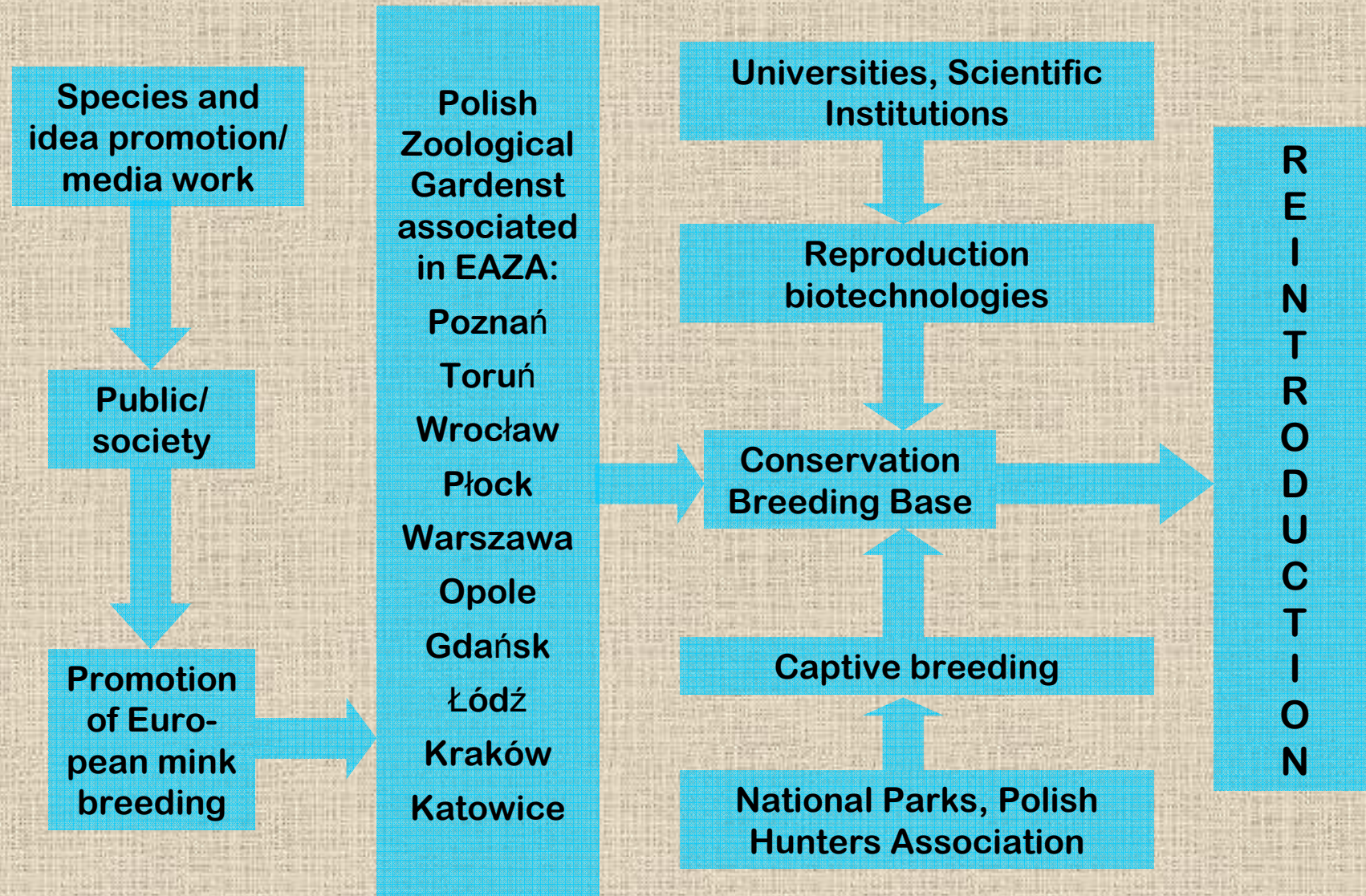
4. **MONITORING** and reduction of American mink's feral population (cooperation with national forest service, hunters associations and fur breeders).
5. **HABITAT** protection and restoration.

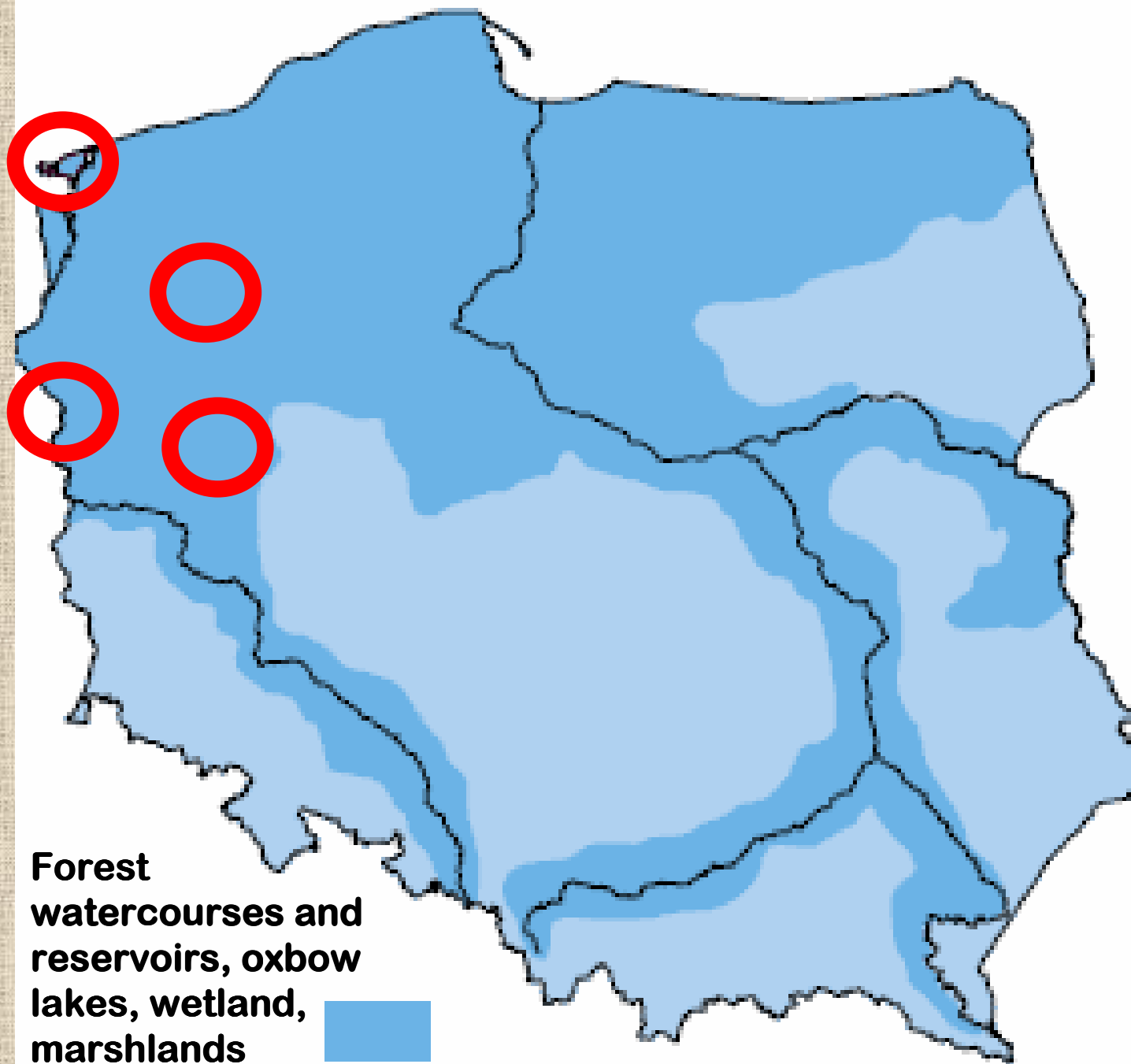
3rd stage: REINTRODUCTION AND POPULATION PROTECTION (?)

6. Actions taken according to IUCN REINTRODUCTION directions.

**MONITORING, DOCUMENTATION, RESEARCH,
PROMOTION, COOPERATION ON THE NATIONAL
AND INTERNATIONAL LEVEL, LEGISLATION**

Conservation breeding





**Forest
watercourses and
reservoirs, oxbow
lakes, wetland,
marshlands**

**Geographic
distribution of
potential
habitats (dark
blue) of
European mink
(also American
mink) in Poland
(the most
convenient
places for
reintroduction
marked with
red circles)**

**(Klimaszyk 2007,
changed)**

How to solve the American mink problem?

The Cause

Escapes of animals from fur farms (high demand for farm mink coats)

Intended minks liberation from fur farms (extreme ecologist)

Lack of demand for natural mink coats

Lack of hunters interest in feral American mink hunting

The Problem (consequence)

Quick and very successful spreading of *M. vison* feral population

The Solution

Code of Good Practices for fur breeders (Polish Fur Breeders Association)

Showing the feral mink population as risk factors for natural environment

To inform about difference between farm mink and its feral population

System of financial and regulation encouragement for hunters (Polish Hunters Association)

Running population monitoring

What will be the next step?





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