

# Alkaline Fens in agrienviromental scheme in Poland



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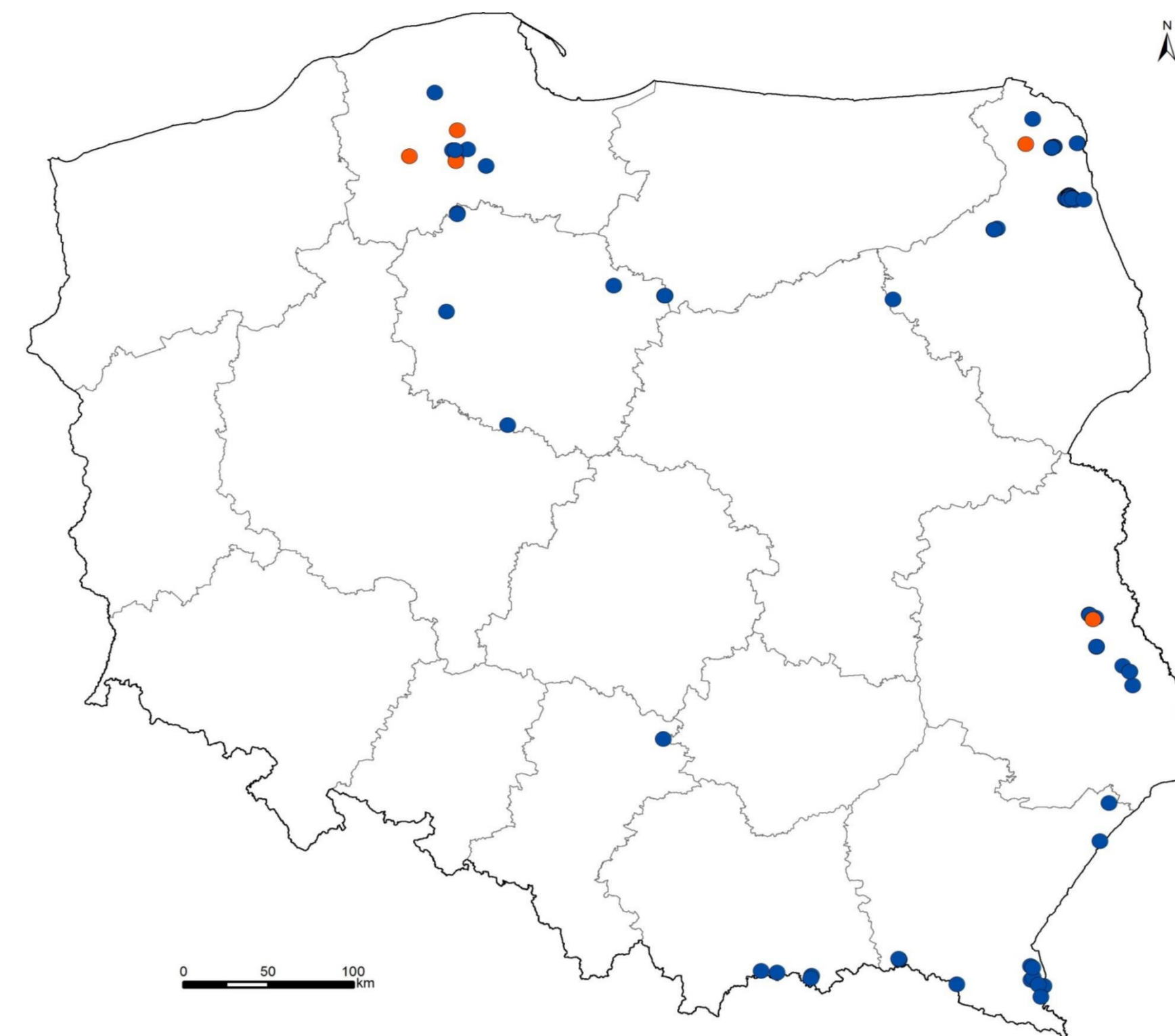
## Agrienviromental scheme in Poland and its monitoring

- A tool for nature protection (in the scope of Rural Development Plan 2007-2013) financed by Ministry of Agriculture and Rural Development and European Union;
- Main aim: implementation of extensive habitat management (1 variant for birds and 9 variants for habitats – among others alkaline fens 7230);
- From 2012: the monitoring of nature effects of agrienviromental scheme implementation in whole Poland (each year ca. 800 parcels);
- Monitoring aim: to determine whether the extensification of land use affects the habitats;
- Method: to compare habitats state (based on indicators, parameters, relevés) at the beginning and at the end of the agrienviromental scheme implementation (after 4 years).

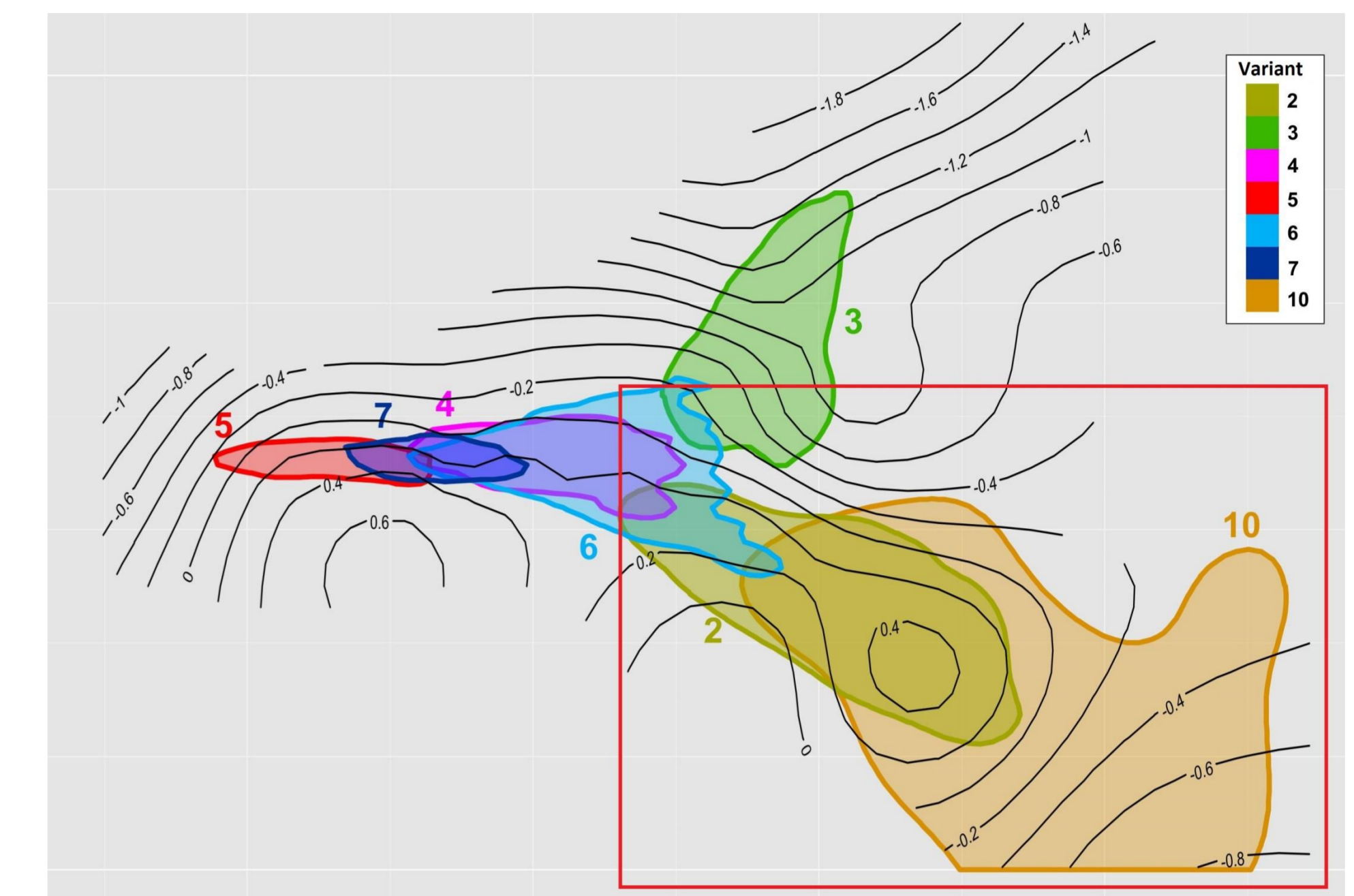


## Alkaline fens in agrienviromental scheme in Poland

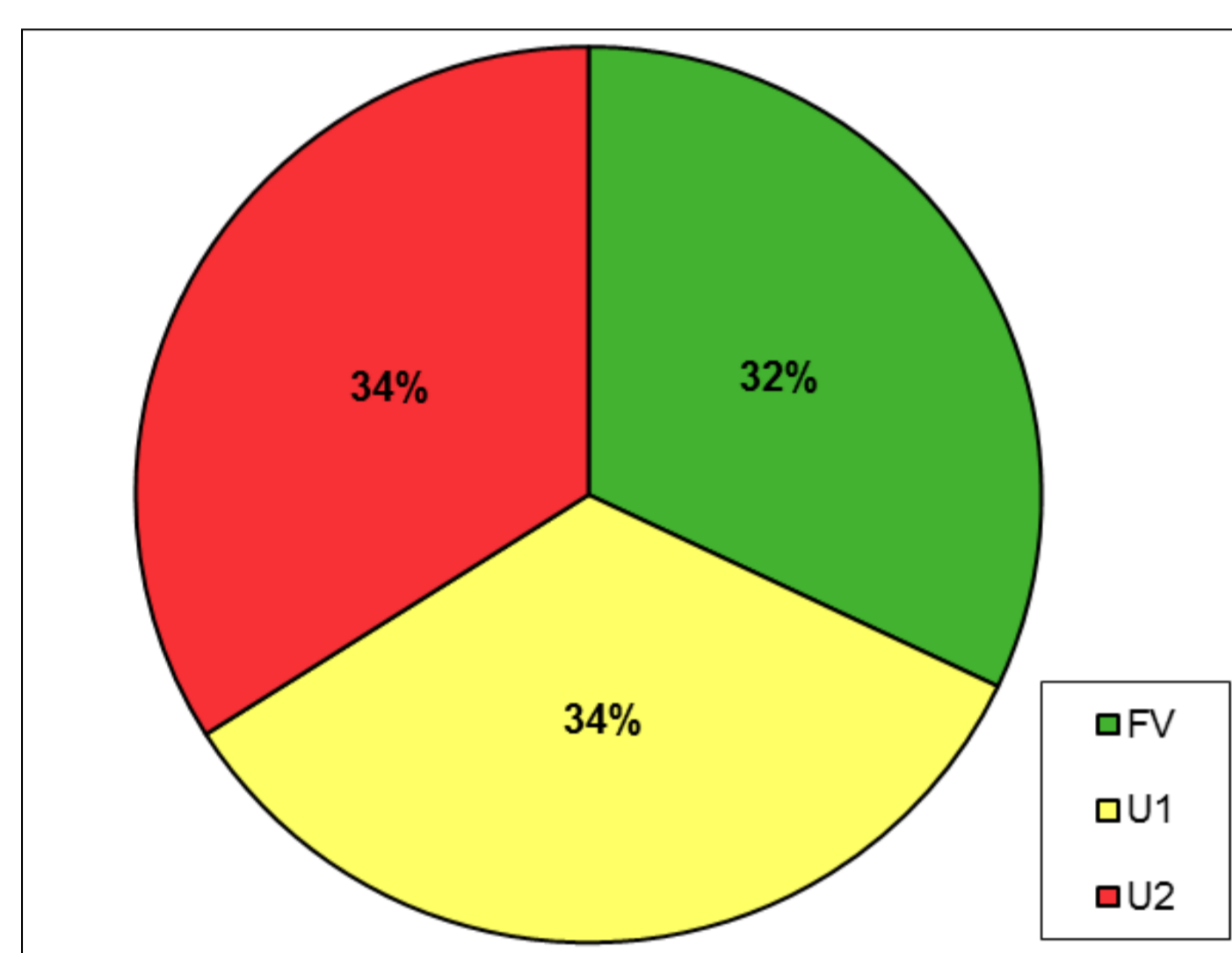
- Three variants concerning alkaline fens:
  - 'Variant 1 – bird's protection' – off the habitats monitoring;
  - 'Variant 2 – small sedge-moss communities' – active protection: mowing a half of a parcel every year or whole parcel every two years after the 15th of July, leaving 10% land without mowing, obligation of harvesting and moving out the biomass, ban on fertilizing;
  - 'Variant 10 – natural lands' – conservation: only facultative activities dependent on experts' decision, surface depression till 5 ha;
- 103 parcels qualified as 7230 habitat (ca. 200 ha) during 3 years, which is only 3% of alkaline fens in Poland;
- Phytosociological similarity of alkaline fens of 'variant 2' and 'variant 10' denotes that it should be managed in a similar way;
- Regions with high density of parcels are in the north of Poland (Biebrza river valley, with almost 2/3 resources of Polish alkaline fens, and the postglacial part of the country), Polesie region in the east and Carpathian Mountains with small patches (ca. 0,1-0,2 ha) of alkaline fens;
- Ca. 15% of parcels were qualified with some mistakes which means that they are used in either too extensive or too intensive way.



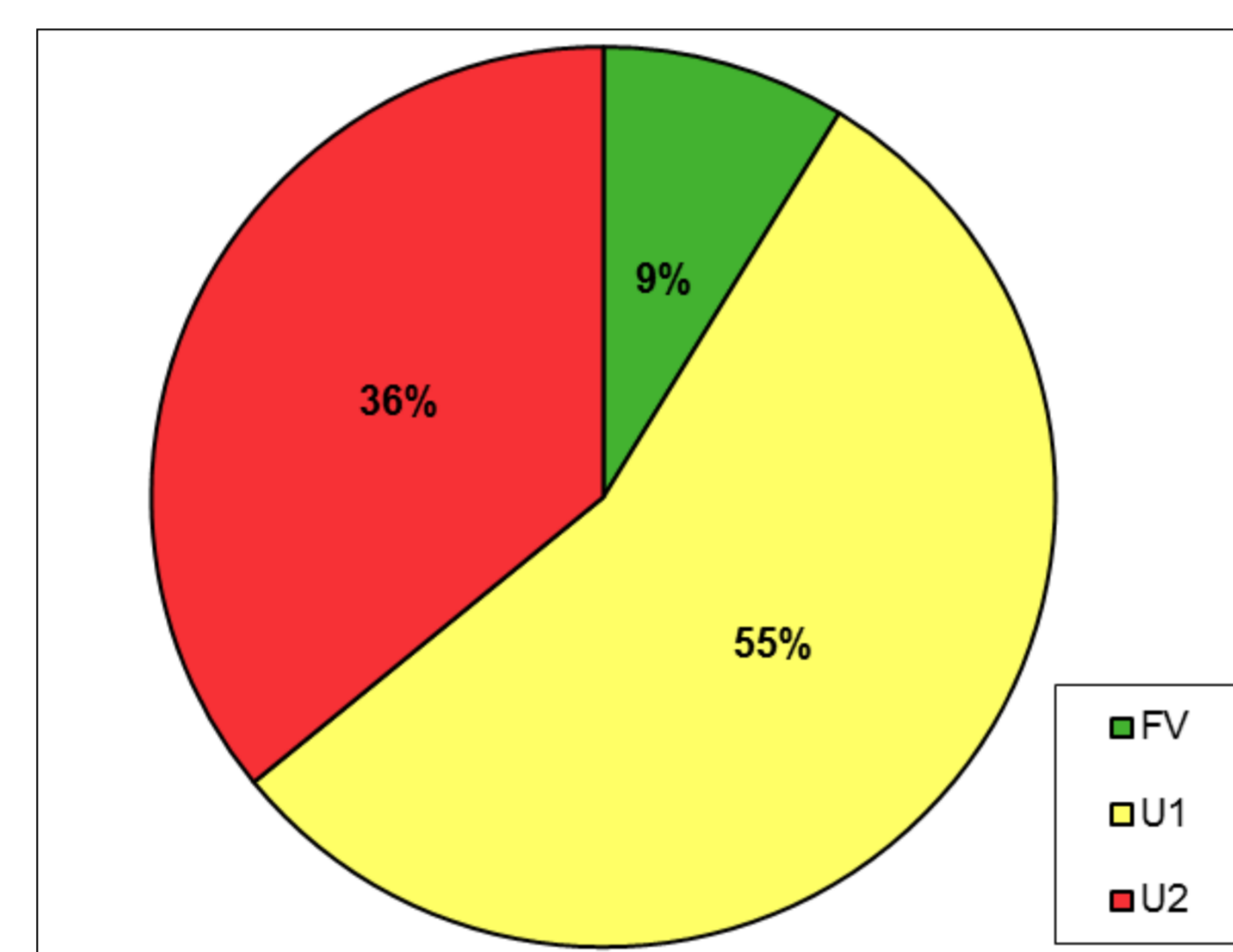
● 7230 habitat eligible for variant 2. Small sedge-moss communities  
 ● 7230 habitat eligible for variant 10. Natural lands  
 — Voivodeships  
 Occurrence of Polish alkaline fens with agrienviromental scheme implementation



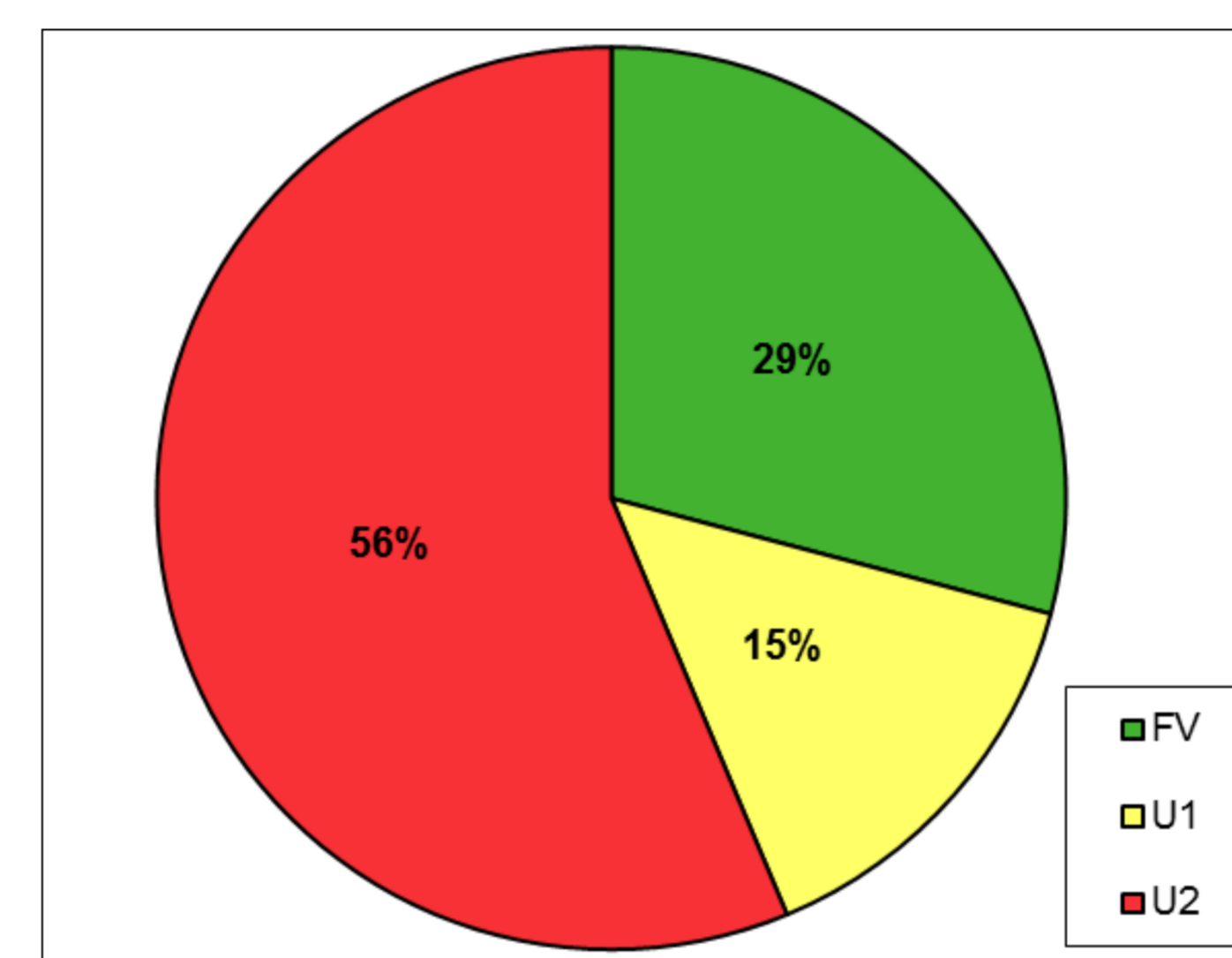
Differentiation of vegetation in the seven (most numerous) variants of agrienviromental scheme. Lines represent species richness and numbers: 2 – small sedge-moss communities, 3 – tall sedge communities, 4 – *Molinia* meadows, 5 – grasslands, 6 – *Caltbion* meadows, 7 – *Arrhenatherion* meadows, 10 – Natural lands



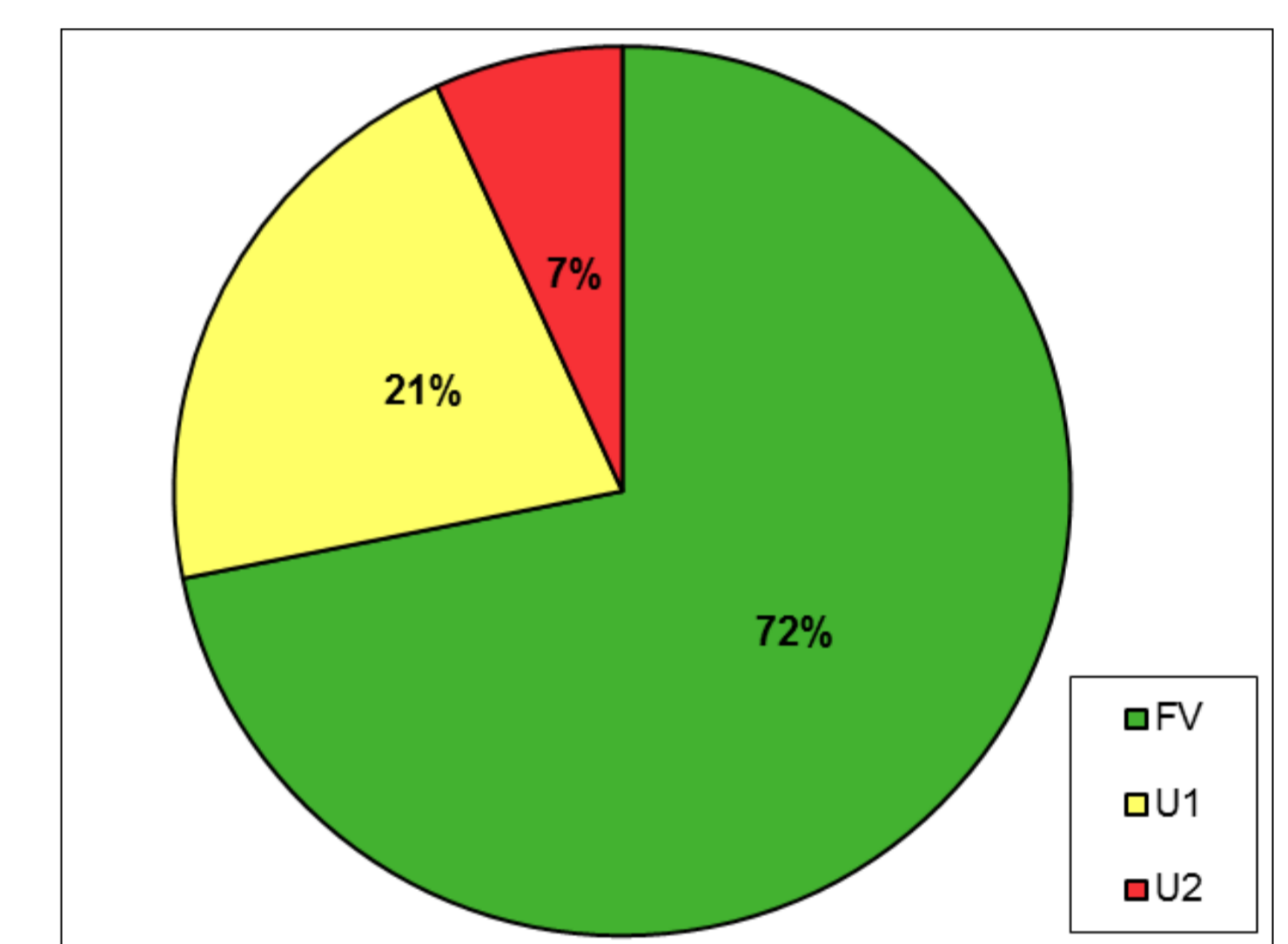
Overall assessment



Trees and bushes



Expansive species



Water level

### Conservation status and threats and pressures

- Only 9% of parcels has favourable status – more than 90% have visible aberrations influencing overall assesment.
- Main negative impacts are:
  - K02 – Biocenotic evolution, succession;
  - I02 – Problematic native species;
  - J02 – Human induced changes in hydraulic conditions.

### Biocenotic evolution, succession

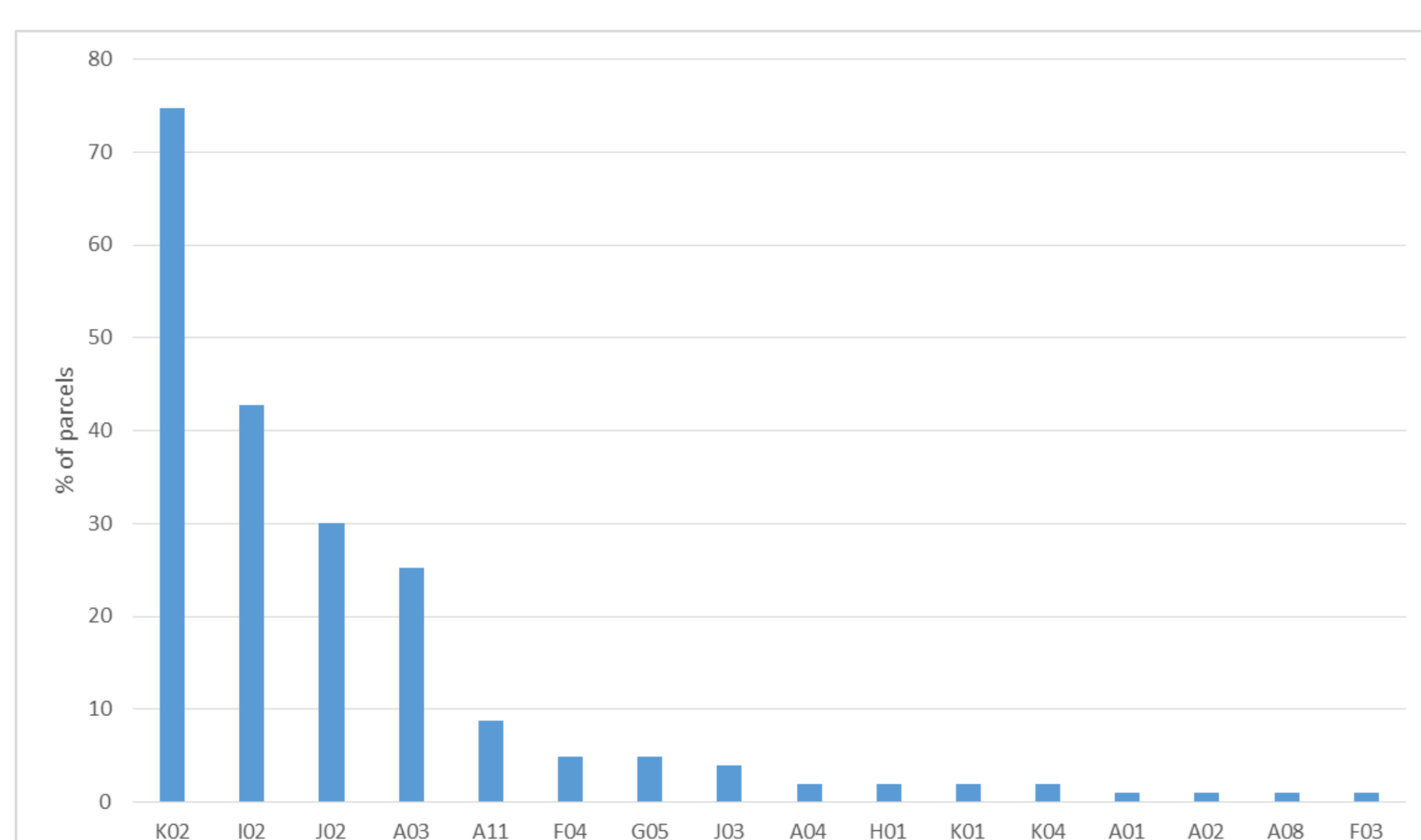
- The main problem within alkaline fens is succession characterised mainly by trees and bushes presence;
- Only 1/3 of the parcels have favourable status;
- The main succession species are: *Alnus glutinosa*, *Betula pubescens*, *Salix* spp.;
- The implementation of 'variant 2' of agrienviromental scheme provides clearing trees and bushes;

### Problematic native species

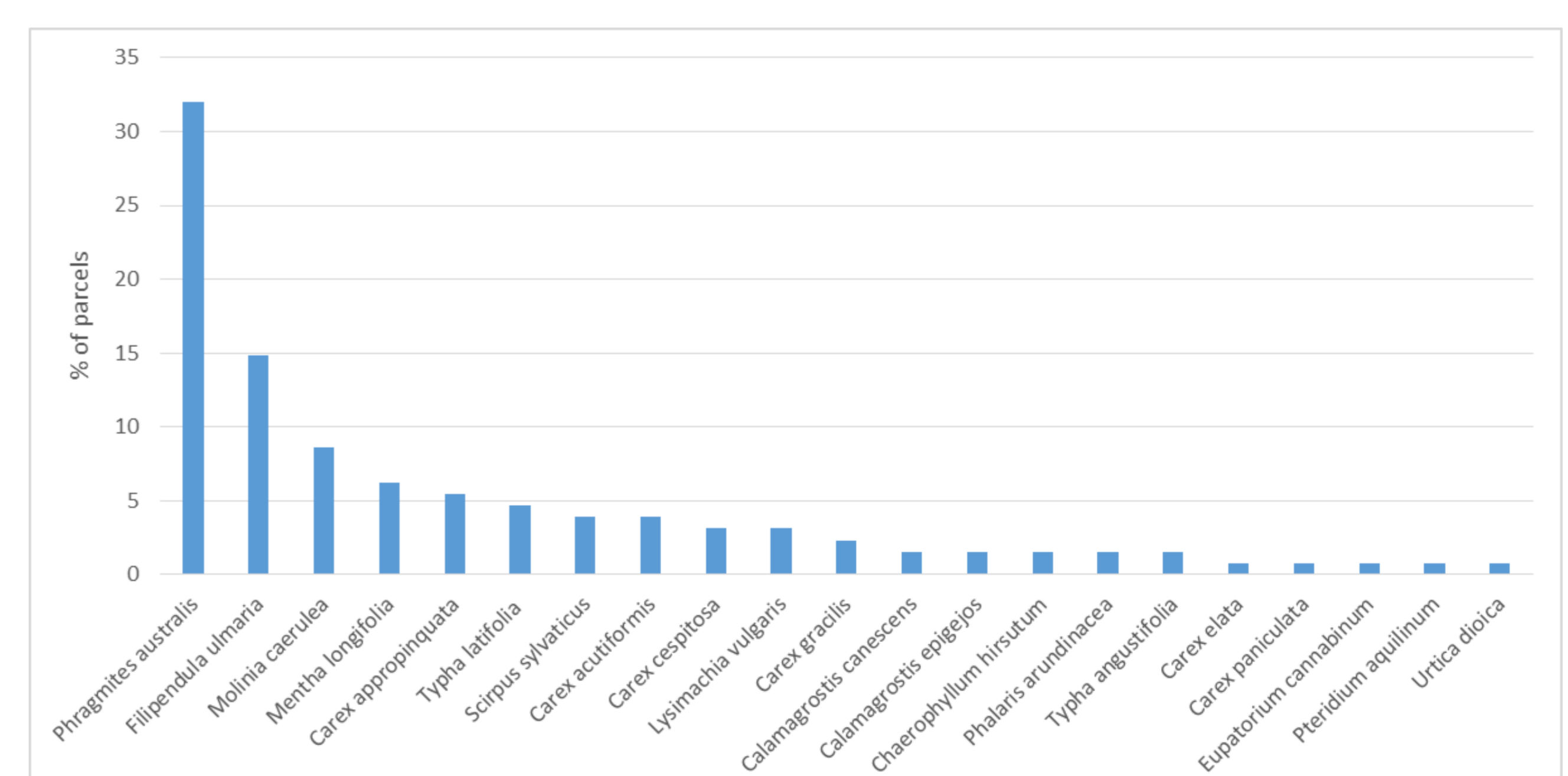
- Expansive species are the most important threat influencing alkaline fens;
- Only ca. 1/3 of analysed parcels have favourable status and more than a half have unfavourable status;
- Most expansive are: *Phragmites australis*, *Filipendula ulmaria*, *Molinia caerulea* and tall sedges;
- The implementation of 'variant 2' of agrienviromental scheme can only partly limit the occurrence of expansive species due to late time and too extensive mowing.

### Human induced changes in hydraulic conditions

- Water level changes are one of the most important factors determining good state of fens;
- Its status in most alkaline fens is considered as favourable. The reason is that agrienviromental scheme has been implemented mainly in the regions with the biggest resources of alkaline fens in Poland (Biebrza river valley) where most parcels are assessed well in terms of water level;
- In other regions of Poland water level is assessed as inadequate or bad.



Share of parcels where pressures and threats were reported



Share of parcels where respective expansive plants were reported

## Conclusions

- The status of alkaline fens (habitat 7230) in Poland is bad. The main reason is lack of mowing in recent years;
- The main problem is succession, which can be limited by activities of agrienviromental schemes (mowing) except for habitats in 'variant 10 – Natural lands';
- Expansive species can be only partly eliminated because of late mowing time. For example elimination of *Phragmites australis* (the most popular expansive species in alkaline fens) is possible in the time of blooming – in Poland at the end of June;
- Actual constraints of agrienviromental scheme do not make it possible to counteract water regime aberrations – one of the most frequent endangerments within peatlands;
- The agrienviromental activities should be modified to effectively constrict the most popular threats and pressures: expansive species and negative water regime changes;
- Due to phytosociological similarity of vegetation of 'variant 2' and 'variant 10' the structure of agrienviromental scheme should be modified by joining these two variants and ensuring the possibility of mowing in the term allowing improvement of habitat status;
- Agrienviromental scheme is not used effectively as a tool for protecting alkaline fens. It seems necessary to promulgate some information about the activities and payments for extensive mowing of habitats.