

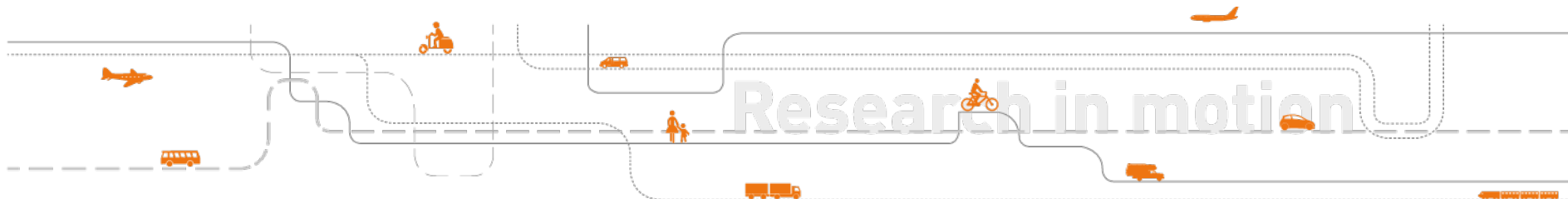


# TRANPAREA

## Final Workshop

### Introduction to the Project

Thursday, 2nd of June 2016. Knappgården, Särna, Sweden



# TRANPAREA

Value of **Transboundary Nature Protected Areas** Situated near the EU Outer Borders

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LANTBRUKSUNIVERSITET  
SLU  BIAŁOWIEŻSKI PARK NARODOWY

# TRANPAREA's origin

**A focus on preserving remaining natural forests and «renaturation»/«rewildening» of forestry/agricultural land**

Selected case: Białowieża forest, on the border between Poland and Belorussia

Policy issue: extend the strictly preserved area within Białowieża, include forest areas that have been harvested

**Including other transboundary nature protected areas (TNPA) on the outer borders of the European Union**

Selected case: Fulufjäll, on the border between Sweden and Norway

Possible policy issues: either extend “strictly preserved area” / wilderness zone (like zone I in Fulufjällets Nationalpark) or extend the national park borders – including areas that can develop towards natural forests?

# TRANPAREA's goal and aim

*A project primarily about economics and economic valuation of nature protection*

## **Overall goal**

Provide information that contributes to the economically efficient preservation of scarce nature habitats

## **Main aim**

Empirically find out whether TNPA's under consideration located at EU's outer borders qualify to be international public goods by investigating people's stated preferences and accounting for their strategic behaviour

# Two-folded objective

1. Conduct **comparative valuation exercises** at two TNPAAs - the 'Eastern' (Białowieża/Bielavieskaja Pušča) and 'Scandinavian' (Fulufjället/Fulufjellet)
2. **Work out appropriate recommendations** based on the study's implications and communicate study's findings to a wider audience

# Transboundary Nature Protected Areas (TNPA)

**Contiguous natural complexes, artificially divided by state borders, protected on the every side of the border**

- 188 TNPA in 112 countries  $S=3.2$  mio km<sup>2</sup> (India), 17% of total PAs' (Conservation International, 2005)
- Significant scientific and popular literature in natural disciplines
- Minimal literature in economics (Busch, 2007) including empirical studies
  - *focused on assessing the benefits of national parks to local populations due to increased tourism or an increased offer of tourism activities*
  - *little attention has been given to non-use values*

# TNPAs

- **Natura 2000** extending over 18 % of the EU's land area and almost 6 % of its marine territory it is the largest coordinated network of protected areas in the world.
- **Regional initiatives** aimed at international cooperation,
  - *Wadden Sea (undertaken by the Netherlands, Denmark, and Germany),*
  - *Danube River (undertaken by the riparian countries).*
- **Many cases in Europe** of adjacent areas in two or more countries that are protected on both sides, especially in the mountain areas. E.g. Pyrenees: Spain/France; the Alps: France/Italy, Switzerland/Italy; Tatra: Poland/Slovakia; etc.

# Białowieża/Biełavieskaj Pušča

Total area:

2173 km<sup>2</sup> (including Dzikaje Mire)

1529 km<sup>2</sup> in BY

643 km<sup>2</sup> in PL

## Strictly protected area

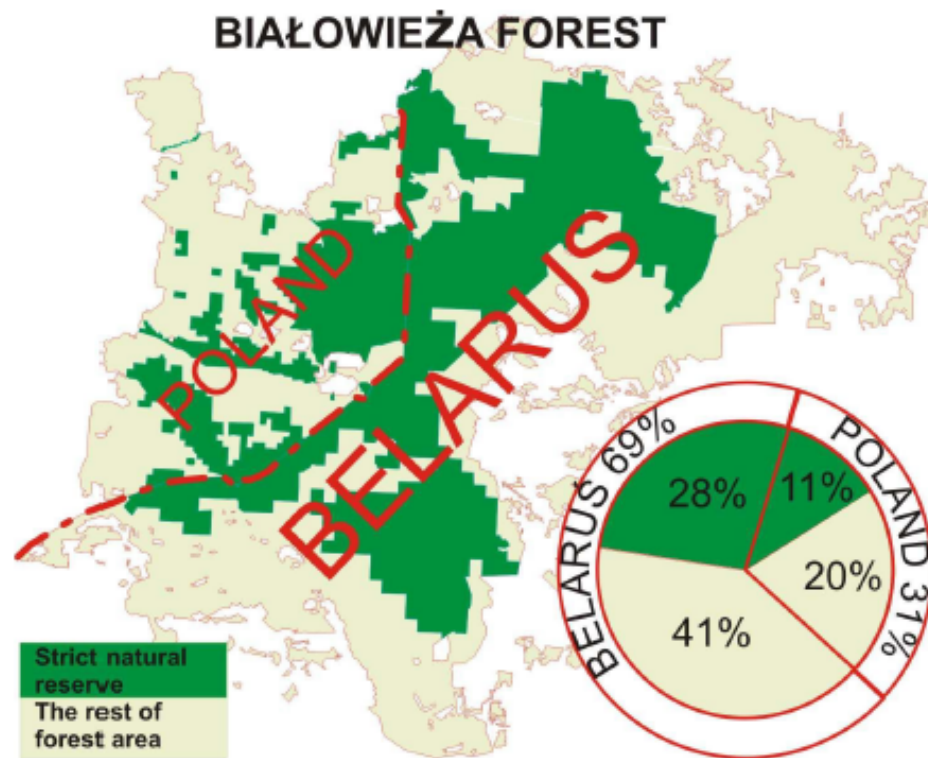
BPN (PL) 10 517,27 ha

Reserves (PL) 12 206,33 ha

Strict reserve zone of the NP „Biełavieskaja Pušča” (BY)

57 071,00 ha

TOTAL: 79 774,6 ha



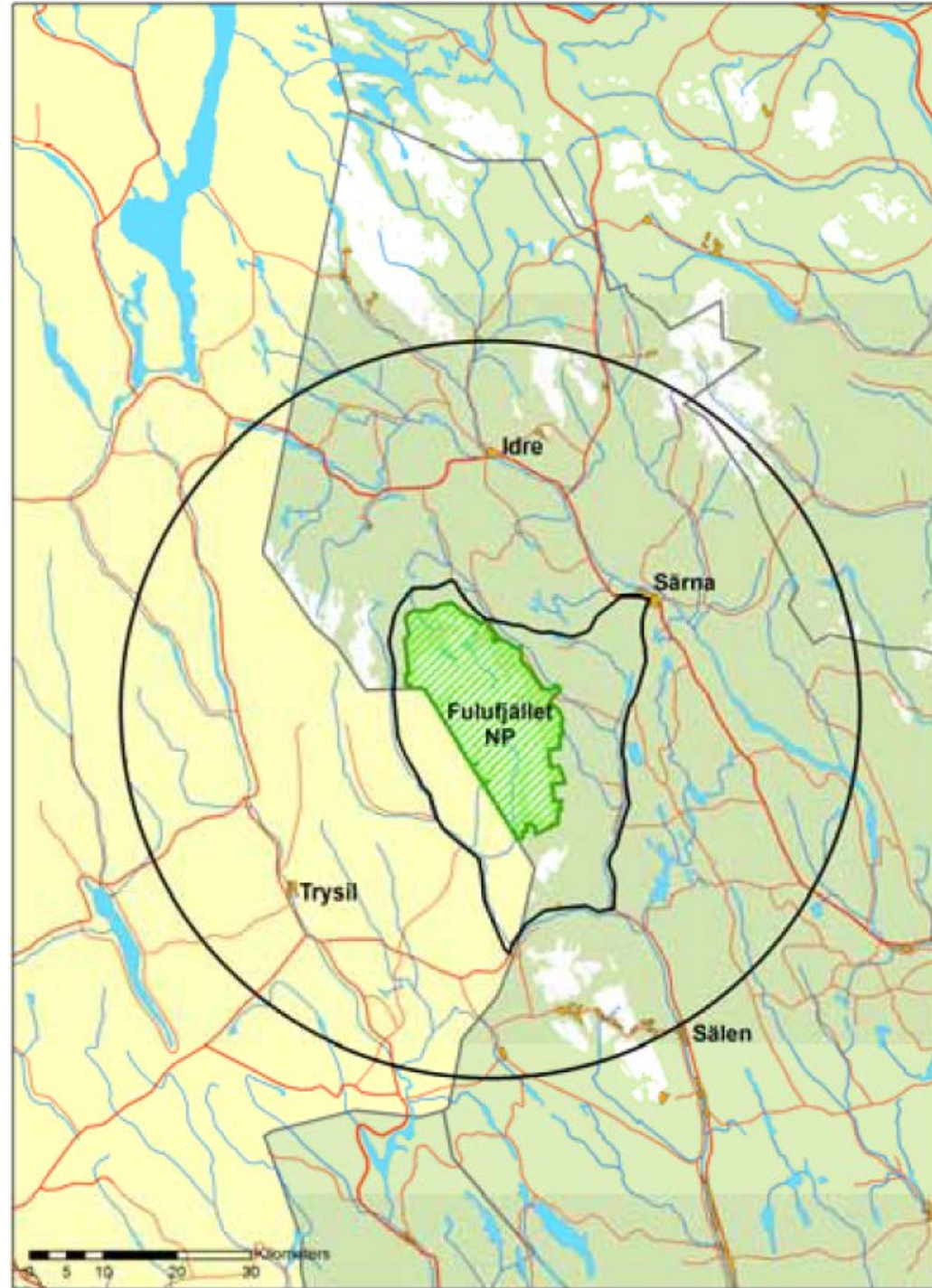


# Fulufjället/ Fulufjellet

**Transboundary Fulufjäll area:**  
about 700 km<sup>2</sup> (75% in Sweden)  
large areas of thick lichen and  
sparse forest cover but still  
pristine old-growth (mixed/  
coniferous) forest.

Rare and endangered plants,  
fungi, lichen, and bird species  
and all the larger boreal predator  
mammals.

**Transboundary Fulufjället/  
Fulufjellet National Park area:**  
470 km<sup>2</sup> (82% in Sweden)  
Old-growth coniferous forests  
are mainly located in the  
mountain slopes and valleys.



# Fulufjället / Fulufjellet

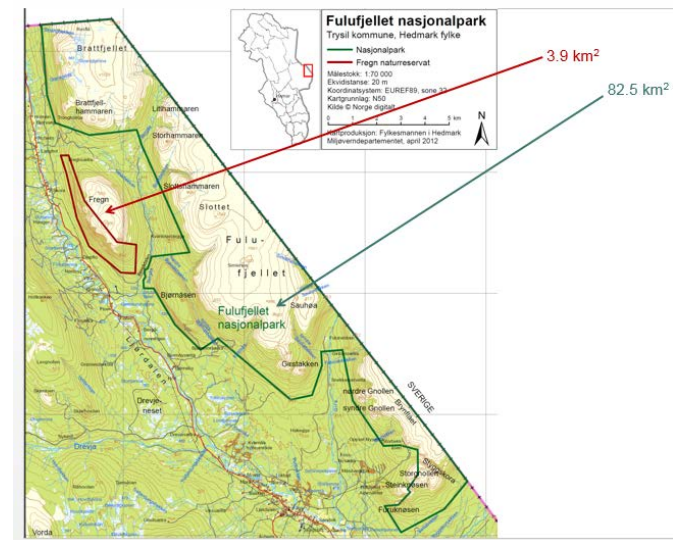
## Sweden

Undisturbed zone	60%
low human activity (hiking & seasonal hunt on elk/moose/small game)	15%
high human activity (recreational activities and visitors facilities)	25%



## Norway

No division into zones  
Restrictions are similar as those of  
the high activity zones on the  
Swedish park side, though no  
facilities for visitors exist  
(recreational activities, including  
hunting/fishing)



# Key Concepts in TRANPAREA

- (international) public goods
- «willingnes-to-pay» (WTP)
- «use» vs. «non.use» values
- «stated preference methods»
- «choice experiment»

# International Public Goods

- Goods that are **non-exclusive** and **non-rival** in consumption and that have a **cross-border character**
- TNPA's theoretically qualify for being international public goods...but **empirical verification is needed** to know if the theory is consistent with people's real preferences
  - *Do individuals care for each part of the TNPA equally, i.e. is stated willingness-to-pay (WTP) for extending the "foreign" part of the transnational park equal to stated WTP for extending the "domestic" part? (if WTP exists but is not equal, we may have two "national public goods" instead of an "international public good")*

# Willingness-to-Pay (WTP)

- When we buy something in markets, we have, by definition:  
 $WTP \geq \text{price}$
- People have WTP irrespective of institutional arrangement, for instance WTP for medical treatment even if it is free for everybody (i.e., financed by taxes)
- When people travel to visit nature areas, they indicate a WTP for that nature area, inasmuch as they have out-of-pocket costs (public transport tickets or fuel/car costs) and are willing to spend time and efforts to get to the nature area
- People are also willing-to-pay for (the preservation) nature areas they do not intend to visit, whether it is the Amazonas area, Serengeti, or ... Fulufjäll ... because they value the mere existence of these areas (attach non-use value to the areas)

# «Use» vs. «non-use» value

**TNPAs have both a...**

«**Use**» value..

which implies its active use

E.g. recreation activities like hiking and bird/wildlife watching, and (if extraction activity is possible) berry/mushroom picking, gathering of wood (and even timber in some areas)

...

«**Non-use**» value...

or passive use

E.g. clean air, water balance, biodiversity, pristine nature,

...

*In economic terms, if people attach non-use value to preserving an area, they are willing to pay for its preservation without using/visiting the area*

The **challenge**: we cannot observe non-use values of TNPAs, because these are not exchanged in regular markets (no market prices for them exist); nor can we deduct valuation indirectly from other behaviour

# Stated Preferences Method

Survey-based approach to performing economic valuation studies of “non-market” goods/services, e.g., the protection of nature areas.

The only suitable methodological approach to economic valuation of goods/services that involve a considerable (or dominant) share of **non-use values**

- incorporates peoples’ preferences into the decision processes
- backs-up decision-making on public lands
- attempting to “put a price on nature”?

# Contingent Valuation vs. Choice Experiment

## **Contingent Valuation Method (CVM)**

Individuals are directly asked to state a value, or accept or decline payment for a specific change (e.g. national park extension)

## **Choice Experiment (CE)**

Individuals are asked to choose among options that may or may not involve a change.  
One of the attributes must be a cost tag to be able to estimate WTP



# Choice experiments

- Allows respondents to think in terms of tradeoffs
  - *More comfortable for respondents to chose between alternatives than stating money values directly*
  - *Easier to check for consistency of responses*

Still...

- Respondents may find tradeoffs difficult and may, thus, lose interest or become frustrated
- Attitudes or behavioural intentions (do respondents really believe that they might have to pay what is indicated from their choices)?
- A limited number of options may force respondents to make choices that they would otherwise not do

# Survey design key

Fundamental that survey respondents...

- ...understand the scenario and the choice/valuation task;
- ...find the scenario and payment mechanism realistic; that is, believing
  - *that their survey response might have consequence on future policy and decision-making (policy consequentiality), and*
  - *that there is some non-zero probability that they will have to pay something close to what they state or indicate by their responses (payment consequentiality)*

# Method

- Choice Experiments
  - *Scenario and Questionnaire Design*
- Econometric analysis
  - *Logit modelling to estimate WTP from choices*
  - *Analysing of data is ongoing*
    - Factor Analysis
    - Hybrid Mixed Logit
  - *Will show some WTP estimates and discuss policy implications*



Photo: Trygve Opseth