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## **TAIEX-ECRAN Sub-Regional Workshop on Appropriate Assessment on Turkish Pilot Site (Natura 2000)**

**Workshop I:**      Screening – stage I of the Appropriate Assessment

**Topic:**            Indirect and cumulative effects

Ankara, Republic of Turkey, 12 – 14 November 2014



This Project is funded by the European Union



A project implemented by Human Dynamics Consortium

### **What is a direct effect ? (on target features)**

- Project reduces area of habitats, plant populations or animal territories. Project directly affects some stages of animal life cycle
- Project causes destruction of habitats or any of their components
- Project causes killing of animals
- Pollution (noise, imissions)



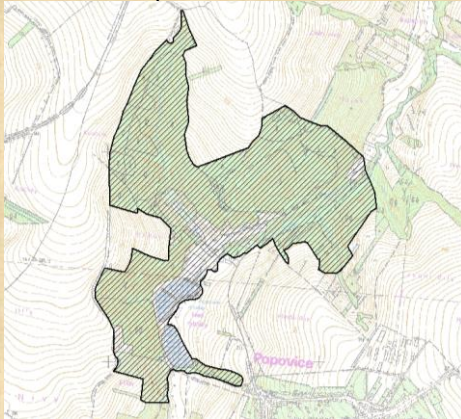
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## Example

Project reduces area of habitats, plant populations or animal territories.

Old shallow fishponds (filled in by sediments) are habitat for European fire-bellied toad (*Bombina orientalis*) as a type of a SCI; new landowner asked for permit to restore fishponds and to run a fish farm

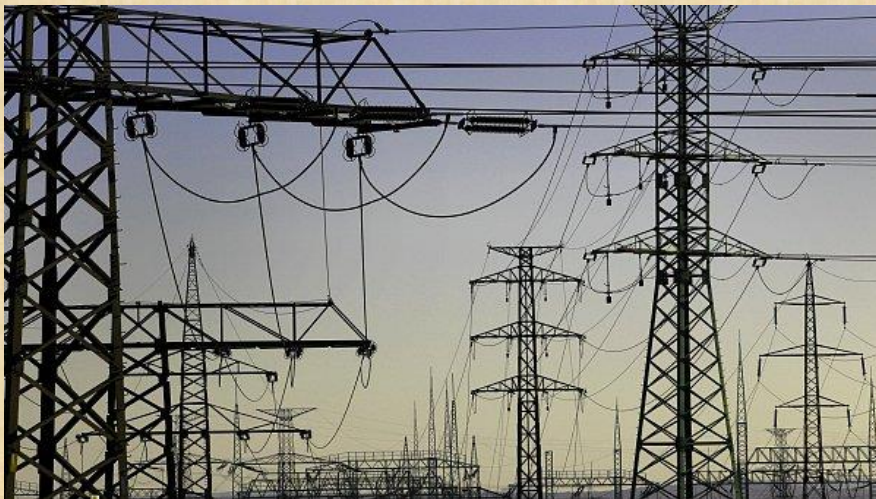


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## Example

Project directly limits some stage of animal life cycle (migratory birds)



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## Example

Project causes killing of animals (bats)

Windpark in the migration route of bats from a SCI



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## Example

Project causes destruction of the environment or any of its components (wetland habitats)



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## Example

Pollution

Sewage from a sewage treatment plant (bullhead (*Cottus gobio*))



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## What is an indirect effect?

- Project changes content of key nutrients of plants/habitats
- Project limits food source or changes the food chain
- Project doesn't reduce population size critically but the population is fragmented
- Project lies outside Natura 2000 site but causes increase in traffic within the site
- Project causes invasion of alien species
- Project causes change of traditional landuse (farming, forestry, fishery...) within the site



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## Example

Project changes key nutrients of plants/habitats as to

Fish feeding brings nutrients to the food chain, eutrofication of water is increasing, water floods litoral with peaty habitats



Třeboňsko SCI and SPA, Czech Republic



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## Example

Project doesn't reduce population critically but the population is fragmented.

New road across a SPA causes fragmentation of the feeding area of waterfowl.



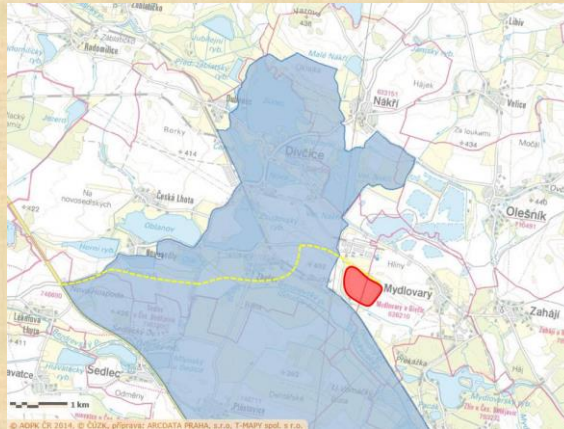
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## Example

Project lies outside Natura 2000 site but causes increase in traffic within the site.

Quarry is outside SPA but transportation of raw material will cross the SPA.



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## What is cumulative effect?

- Two or more different projects with sub-threshold effects can cause significant effect (no arithmetic counting!!!)
  - Projects implemented at the same time
  - Projects implemented item-by-item („salami slice method“ risk)
- Target features are often under stress already before project implementation starts



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## Example

Two or more different projects with sub-threshold effects can cause significant effect



6510 = T1.1  
Extensive hay meadows

6520 = T1.2  
Mountain hay meadows

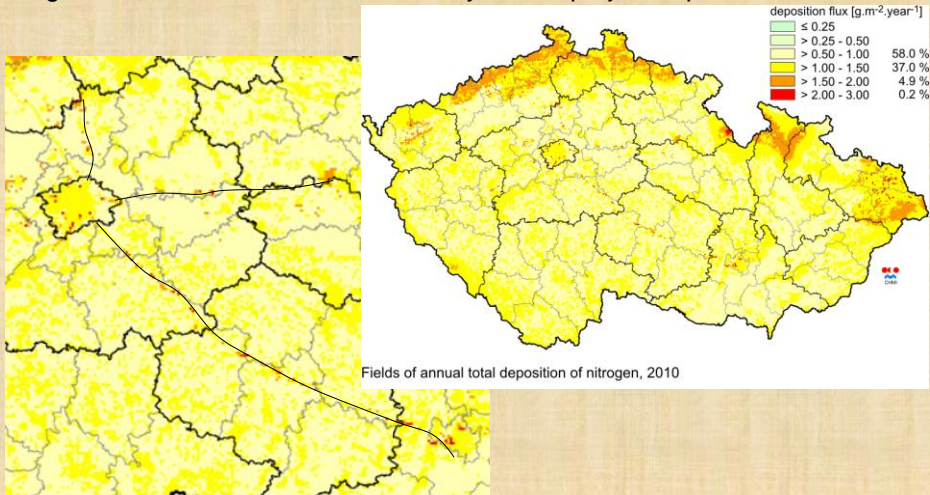


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## Example

Target features are under stress already before project implementation starts



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## How to reveal cumulative effects?

- Record of all the actual projects prepared within a Natura 2000 site and its neighbourhood (undirect effects)
- Record of all projects assessed in a context of Natura 2000 site in question



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## How to quantify cumulative effects?

- Really complicated issue!
  - Relatively simple solution for areas of habitats as tf
  - Extremely difficult issue for animals and birds as tf
  - Please, don't use arithmetic counting only!!!



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