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TAIEX-ECRAN Sub-Regional Workshop on Appropriate Assessment on Serbian Pilot Sites (Natura 2000)

Workshop I: Screening – stage I of the Appropriate Assessment

Topic: Indirect and cumulative effects

Novi Sad, Autonomous Province of Vojvodina, Republic of Serbia 24 – 26 September 2014



This Project is funded by the European Union



A project implemented by Human Dynamics Consortium

Approach

- What is direct effect?
- What is indirect effect?
- What is cumulative effect?
- How to reveal cumulative effects?
- How to quantify cumulative effects?



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What is a direct effect ? (on target features)

- Project reduces area of habitats, plant populations or animal territories Project directly affects some part of animal life cycle
- Project causes killing of animals
- Project causes destruction of habitats or any of their components
- Pollution



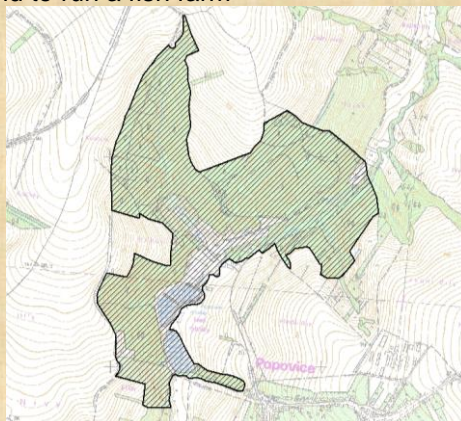
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Example

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

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

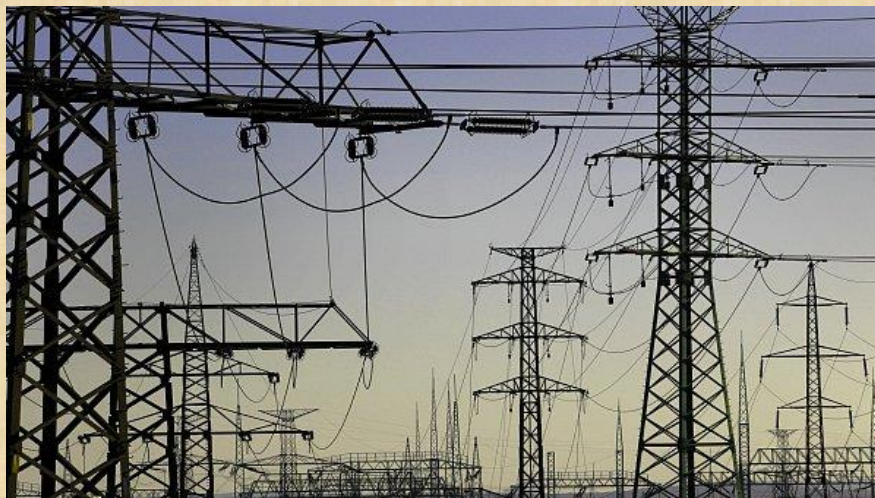


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Example

Project directly limits some part 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 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 follows

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



Třeboňsko SCI and SPA, Czech Republic



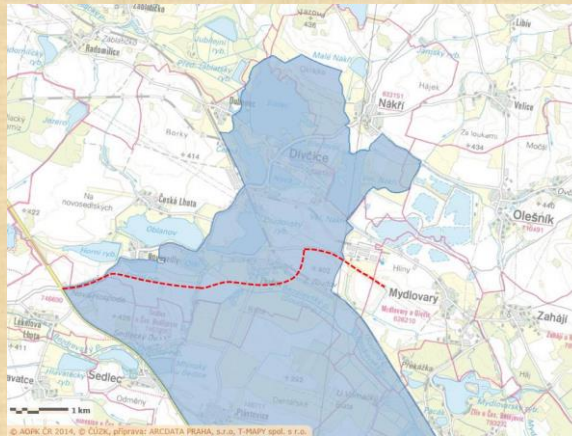
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Example

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

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



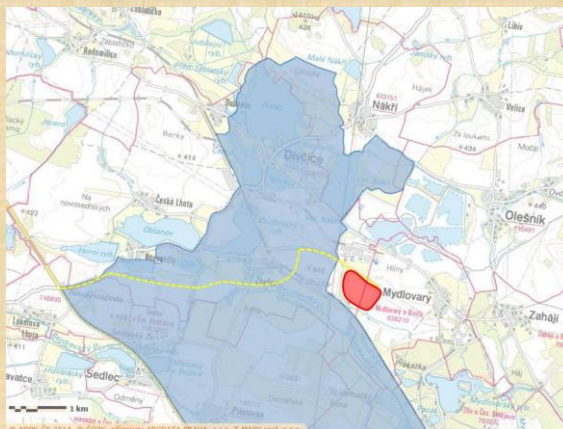
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Example

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 subthreshold 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 subthreshold effects can cause significant effect



6510 = T1.1
Extensive hay
meadows

6520 = T1.2
Mountain hay
meadows

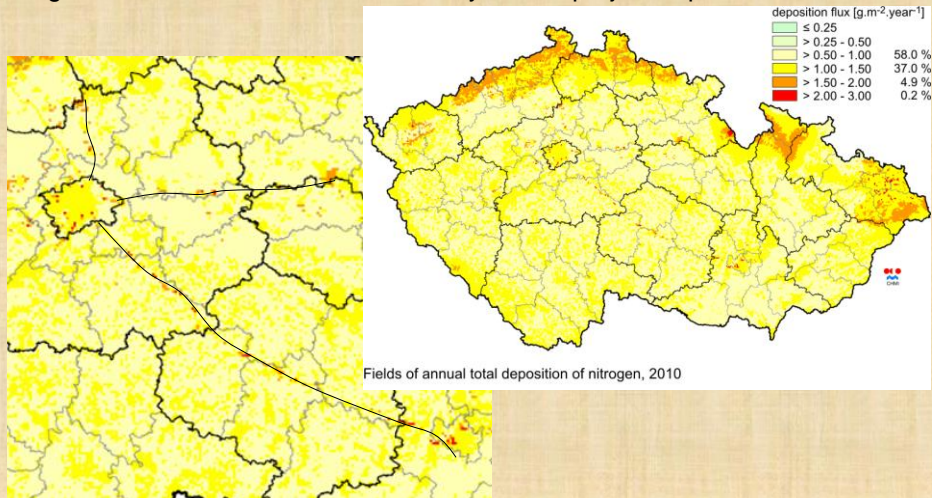


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Example

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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