HUSZPO HRVATSKA UDRUGA STRUČNJAKA ZAŠTITE PRIRODE I OKOLIŠA

PRVA REGIONALNA KONFERENCIJA O PROCJENI UTJECAJA NA OKOLIŠ

FIRST REGIONAL CONFERENCE ON ENVIRONMENTAL IMPACT ASSESSMENT

ZBORNIK RADOVA

PROCEEDINGS

ZADAR, HRVATSKA / ZADAR, CROATIA

18.- 21. rujna 2013. / September 18th - 21st, 2013

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pod pokroviteljstvom / under the auspices of

Ministarstva zaštite okoliša i prirode Republike Hrvatske / the Ministry of Environmental and Nature Protection of the Republic of Croatia

ZBORNIK RADOVA

PROCEEDINGS

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NATURA 2000 – PROCJENA UTJECAJA NA EKOLOŠKU MREŽU/ NATURA 2000 – ECOLOGICAL NETWORK IMPACT ASSESSMENT

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Iznimna mi je čast i veliko zadovoljstvo što Vas u ime Hrvatske udruge stručnjaka zaštite prirode i okoliša, kao predsjednica njezinog Upravnog odbora, mogu pozdraviti i obratiti vam se s nekoliko prigodnih riječi.

Konferencija je organizirana pod pokroviteljstvom Ministarstva zaštite okoliša i prirode i koristim ovu prigodu da se u ime Udruge zahvalim (resornom) ministarstvu a posebno ministru Zmajloviću što je prepoznao značaj ovog skupa.

Dozvolite mi da vam na samom početku ukratko predstavim Hrvatsku udrugu stručnjaka zaštite prirode i okoliša koja je organizator ovog skupa.

Udruga je osnovana 2004. godine od strane renomiranih tvrtki i stručnjaka koji se u Hrvatskoj profesionalno bave zaštitom prirode i okoliša. U ovom trenutku okuplja više od 60 tvrtki i individualnih članova.

Glavni ciljevi udruge su da u našem svakodnevnom radu:

- unaprjeđujemo stručna znanja i profesionalnost u obavljanju stručnih poslova zaštite prirode i okoliša,
- promičemo strukovnu etiku i
- surađujemo s domaćim i međunarodnim organizacijama i udrugama koje se bave ovim interdisciplinarnim područjem.

Donijeli smo hrabru odluku organizirati konferenciju kako bi na jednom mjestu okupili: profesionalce, znanstvenike, predstavnike upravnih tijela, predstavnike lokalne i područne samouprave, nevladine organizacije, stručnjake za odnose s javnošću, investitore i developere iz Hrvatske, regije ali i šire, koji sudjeluju u postupku procjene utjecaja na okoliš i koji su spremni ovdje podijeliti svoja znanja i iskustva.

Danas možemo reći da je konferencija bila uspješna radi iznimno velikog broja radova i iznenađujuće velikog broja sudionika. To nas kao organizatore posebno raduje te ukazuje da su teme o kojima smo raspravljali aktualne i značajne. Zahvaljujemo se svim sudionicima što su odvojili vrijeme, našli volju i sredstva kako bi sudjelovali na konferenciji, osobito u ovima teškim vremenima u kojima se svi nalazimo.

Vjerujem da smo mi kao organizatori ovog skupa ispunili Vaša očekivanja te da smo u konstruktivnom dijalogu podijelili naša znanja, iskustva i stavove o glavnim temama ove konferencije.

Teme su redom:

- Strateška procjena utjecaja na okoliš
- Procjena utjecaja na okoliš
- Natura 2000 – procjena utjecaja na ekološku mrežu
- Sudjelovanje javnosti u postupku procjene utjecaja na okoliš
- Zaštita okoliša i financiranje projekata

Ove su teme s aspekta zaštite prirode i okoliša ključne, posebice s obzirom na veliki investicijski potencijal u regiji koji je potrebno planirati i realizirati vodeći istovremeno brigu o očuvanju kvalitete prirode i okoliša.

Svjedoci smo da je u praksi vrlo često narušen odnos između dionika u postupku procjene utjecaja na okoliš što dovodi do usporavanja cijelog procesa a time i nesigurnosti u pogledu pripreme i realizacije investicija kao preduvjeta gospodarskog rasta.

Jedan od glavnih ciljeva konferencije je upravo uklanjanje barijera u komunikaciji i povećanju razumijevanja i povjerenja između zainteresiranih strana uz poštivanje stručnih znanja i najbolje prakse.

Brojni stručni radovi, a njih je više od 150, koji su predstavljeni tijekom ove konferencije te tematski okrugli stolovi nose u sebi kritičnu masu znanja i najbolje prakse koji mogu motivirati promjene na bolje.

Svjesni smo da moramo krenuti prvo od sebe i mijenjati postojeće obrasce ponašanja. Upravo zato ova je konferencija bila prva „ugljično neutralna“ konferencija u Hrvatskoj i regiji s kompenziranim emisijama stakleničkih plinova. Ulaganjem u jedinice smanjenja stakleničkih plinova ostvarenih kroz projekte obnovljivih izvora energije i pošumljavanja neutralizirane su emisije dolaska i odlaska sudionika na konferenciju, noćenja, logistike i prostora.

Zahvaljujemo pokrovitelju, sponzorima, članovima Organizacijskog, Znanstvenog i Savjetodavnog odbora, autorima, uvodničarima, panelistima okruglih stolova, moderatorima, sudionicima te svima ostalima koji su pomogli uspješnoj realizaciji prve konferencije ovakvog opsega i teme u regiji!

Dozvolite mi da se posebno zahvalim svim sponzorima bez čije financijske potpore ova konferencija ne bi mogla biti organizirana.

Iako je ovo bila prva konferencija planiramo zadržati štafetu i učiniti ovakve konferencije tradicionalnima.

Marta Brkić,
predsjednica Udruge

It is a great honour and pleasure to welcome you, on behalf of the Croatian Association of Professionals in Nature and Environmental Protection, as its Executive Board President, and to address you with some relevant information.

The Conference was organized under the auspices of the Ministry of Environmental and Nature Protection, and I would like to use this opportunity to thank, on behalf of the Association, the Ministry and especially the Minister, Mr. Zmajlović, for recognizing the importance of the event.

At the beginning, allow me to briefly introduce to you the Croatian Association of Professionals in Nature and Environmental Protection which is the organizer of the event.

The Association was established by well-respected companies and individual experts that work professionally in the field of environmental and nature protection, back in 2004. Currently, it has more than 60 members, companies as well as individual members.

Main aims of the Association that are incorporated in our everyday operations are:

- advancing the expert knowledge and professionalism in performing expert tasks in the field of environmental and nature protection,
- advancing professional ethics,
- cooperating with domestic and international organizations and associations in this interdisciplinary field.

We have made a brave decision to organize a conference so it would bring together: professionals, scientists, authorities' representatives, local and regional government representatives, nongovernmental organizations, public relations experts, investors and developers from Croatia, region and further still, who participate in the environmental impact assessment procedures and who are willing to share their knowledge and experiences.

Today, we can say the Conference was a success because of an exceptionally large number of papers and a surprising number of participants. This makes us, as organizers, especially joyful since it suggests that the topics that were discussed are current and relevant. We thank all of participants for finding time, enthusiasm and financial means to participate at the Conference, especially in these hard times we are all living in.

I believe that we, as the organizers of this gathering, have lived up to your expectations, and that we have shared our knowledge, experiences and opinions on the topics of this conference in a constructive dialogue.

The topics were the following:

- Strategic Environmental Impact Assessment
- Environmental Impact Assessment
- Natura 2000 – Ecologic Network Impact Assessment
- Public participation in the Environmental Impact Assessment procedure
- Environmental protection and project financing

These topics are crucial from the nature and environmental protection perspective, especially given the significant investment potential of the region that has to be planned and realized, while making sure that the quality of nature and environment is protected.

We are witness that in practice there is often a discord between the stakeholders in an environmental impact assessment procedure which delays the entire procedure and introduces uncertainties regarding investment preparation and realization, which is a precondition of economic growth.

One of the main goals of the Conference was to remove communication barriers and increase mutual understanding and trust between the stakeholders, all the while respecting expert knowledge and best practice.

Numerous expert papers, more than 150 of them, which were presented during the Conference as well as theme round tables have brought forth a critical mass of knowledge and best practice that can motivate changes to the better.

We are aware that we must start from ourselves if we wish to change the existing behavioural patterns. This is exactly why this was the first “carbon neutral” conference in Croatia, and the region, which means that all of the greenhouse gas emission from the event were compensated. By investing in greenhouse gas reduction units created through renewable energy resources projects and forestation, emissions of participant transport and lodging, conference logistics and venue were neutralized.

We would like to thank our patron, sponsors, members of the Organizing, Scientific and Advisory Committees, authors, key lecturers, round table panellists, moderators, participants and all others that have contributed to the successful realization of the first conference of such scale and topic in the region!

Allow me to specially thank all sponsors without whose financial support this conference could not be organized.

Even though this was only the first Conference, we plan to keep the positive momentum and make it a traditional event.

Marta Brkić,
Association President

Procjena okoliša danas

Prof.dr.sc. Nenad Mikulć, predsjednik Znanstvenog odbora

U uvodnom izlaganju ću iznijeti pretežno naša iskustva u Republici Hrvatskoj. Držim da nam je mnogo toga zajedničko i da ta iskustva mogu biti od koristi posebno za one naše susjedne i prijateljske države pred kojima je trnovit pristupni put u Europsku uniju.

Procjena utjecaja pojedinačnog zahvata (projekta) - PUO

Prva iskustva bilježimo u SAD, Kanadi , Australiji i Novom Zelandu ranih '70-tih godina prošlog stoljeća, '80-tih godna širi se u Europi koja 1985 godine donosi Direktivu EU EIA Directive 85/337 da bi od '90-tih godina postala globalna i danas se primjenjuje u gotovo svim državama svijeta. I dok se metodološke cjeline postupka od države do države uglavnom bitno ne razlikuju (ocjena o potrebi procjene, određivanje sadržaja studije, opis zahvata i okoliša, opis i vrednovanje utjecaja, predlaganja mjera ublažavanja i programa monitoringa), postupci ocjene Studijske dokumentacije i vrednovanja prihvatljivosti zahvata svaka država uredila je shodno svome pravnom sustavu i stečenim iskustvima. Od detaljno uređenog upravnog postupka u kojemu sudjeluju nositelj zahvata, nadležna tijela, izrađivači studijske dokumentacije i javnosti, a koji završava upravnim aktom o prihvaćanju ili ne prihvaćanju namjeravanog zahvata, do gotovo neobvezatnog suradničkog odnosa nositelja zahvata i njegovog projektanta sa stručnjacima zaštite okoliša i službenicima nadležnih tijela. Na prostoru Europske unije kao i zemljama kandidatima obvezatnom primjenom Direktive postignuto je značajno ujednačavanje postupka, ali naravno da određene razlike i dalje postoje, pogotovo u načinu ocjene zahvata. U Republiku Hrvatsku, kao obvezatan, uvodi se postupak procjene utjecaja na okoliš 1984. godine Pravilnikom o izradi studije o utjecaju na okolinu; pod zakonskog propisa tadašnjeg Zakona o prostornom planiranju i uređivanju prostora. U sklopu usklađivanja zakonodavstva o zaštiti okoliša sa zakonodavstvom EU krajem 2007. donesen je novi Zakon o zaštiti okoliša (nedavno i treći), a sredinom 2008. i dvije nove uredbe kojima je uređeno područje procjene utjecaja na okoliš i sudjelovanja javnosti.

Za razliku od nadležnih tijela Europske unije, nadležna tijela u Hrvatskoj do sada nisu analizirala učinak njihove primjene u praksi s ciljem daljnjeg unapređivanja. Iz različitih, često i potpuno suprotstavljenih perspektiva, oba ova područja kritiziraju pojedini sudionici PUO.

Od prvih početaka do danas izrađeno je preko 2 000 Studija i provedeno isto toliko postupaka. Što o kvaliteti tog za zaštitu okoliša temeljnog instrumenta misle dionici pokazuje istraživanje koje je Hauska & Partner u okviru partnerske suradnje s Hrvatskom udrugom stručnjaka za zaštitu prirode i okoliša organizirala u razdoblju od 24.5. do 1.7.2013. s ciljem istraživanja stavova relevantnih sudionika u pojedinim pitanjima PUO i sudjelovanja javnosti. Dobiven je prvi cjeloviti uvid u kojoj mjeri PUO u Hrvatskoj doprinosi donošenju kvalitetnijih odluka a što je, kako navodi Barry Sadler (2006), pravi 'lakmus test' za sagledavanje učinkovitosti i uloge PUO na donošenje kvalitetnijih odluka.

Primjetno je i različito razumijevanje svrhe PUO među različitim skupinama, ima li ishod postupka PUO isključivo ulogu savjeta za donositelja odluka, ili pak može poslužiti i kao sredstvo okolišnog 'veta' za pojedine projekte, odnosno mjeri li se

uspješnost sudjelovanja time što je naprosto omogućeno veće sudjelovanje javnosti ili time što je rezultiralo nedvojbeno boljim odlukama. Ova dilema prisutna je i u trenažnim materijalima UNEP 2002.

Istraživanje je također potvrdilo visoku razinu kompleksnosti PUO, posebno društvene, jer su stavovi sudionika o mnogim pitanjima oprečni, što posredno upućuje i na značajne razlike u vrijednostima i/ili dijagnozi pojedinih problema u praksi. Rješenje stoga nije u pronalaženju pojedinačnih brzinskih rješenja za pojedine nedostatke, a bez sagledavanja međusobnih poveznica i mogućih nenamjeravanih posljedica takvih rješenja. Rješenje je u organiziranju procesa koji će omogućiti dublje sagledavanje različitih perspektiva, motiva i šireg konteksta donošenja odluka i usmjeriti se na pronalaženje onih rješenja koja će unaprijediti djelotvornost PUO u cjelini, a ne neke njegove pojedine nedostatke.

Strateška procjena na okoliš plana i programa (SPUO)

Negdje prethodno, negdje usporedno, a negdje iz Procjene utjecaja na okoliš pojedinačnog zahvata razvija se i postupak Strateške procjene utjecaja na okoliš politika (strategija), plana, programa, pravnih propisa. Zamišljen je kao elastični i mekani oblik suradnje pri izradi i donošenju tih dokumenata, njihovih izrađivača, stručnjaka zaštite okoliša i drugih sektora te javnosti.

Također, prisutna u velikom broju zemalja svijeta ova procjena razvija se kao temeljni instrument održivog razvitka. Autori navode uglavnom dva pristupa:

- Strateška procjena provodi se u tijelima nadležnim za zaštitu okoliša gdje se u suradnji s drugim sektorima razmatraju pitanja zaštite okoliša, te gospodarska i društvena pitanja,
- Strateška procjena svakog od tri pitanja održivog razvitka provodi se u suradnji s tijelima nadležnim za pojedini sektor, a koordinacija i sinteza odvija se u nezavisnoj instituciji ili tijelu.

U države Europske unije uvodi se 2001. godine SPUO Direktiva (SEA Directive 2001/42/EC) i tu direktivu prenose u svoj pravni sustav sve države EU i sve države pristupnice EU. U paneuropskom prostoru UNECE uvodi se kroz Protokol o strateškoj procjeni Espoo konvencije u Kijevu 2003. godine.

Spomenimo na ovome mjestu i Sofijsku inicijativu o EIA (1995-2003) koju je vodila Republika Hrvatska uz logističku potporu REC-a i često uz suradnju s WHO. Kroz Sofijsku inicijativu razmjenjivala su se iskustava između država istočne i jugoistočne Europe. Sofijska inicijativa posebnu pažnju posvećivala je SPUO i time pridonijela razumijevanju tog instrumenta i dala snažnu podršku inicijativama za pravno uređenje postupka SPUO.

Republika Hrvatska SPUO uvodi pri transpoziciji Acquisa u hrvatski pravni sustav Zakonom o zaštiti okoliša te podzakonskim propisima. Prenosi se i Direktiva o staništima (Habitat Directive 92/43/EEC) te se ratificira i Aarhuška konvencija. Ratificiran je također Protokol o SPUO Espoo konvencije. Strateška procjena uređena je kao objedinjeni postupak s postupkom prema Direktivi o staništima.

Uveden je u odnosu na druge države relativno kasno i do sada je provedeno, ili je u postupku, svega 10-tak strateških procjena. Iskustva pokazuju da nije postignuta

osnovna svrha postupka, a to je tijekom izrade plana i promišljanja varijanti, suradnja izrađivača plana sa stručnjacima zaštite okoliša i s javnosti. Kako se radi isključivo o dokumentima koje izrađuju tijela državne uprave, regionalne i lokalne samouprave odabir izrađivača Strateških studija obavlja se putem javne nabave. Kad se zbroje sve aktivnosti od odluke do kraja postupka dobiva se preko 400 dana trajanja postupka. Međutim niti to ne bi trebao biti razlog očito, blago rečeno, nevoljkog prihvaćanja obveze njegove provedbe. Na ovome mjestu bilježimo neke od pojava na koje svakako treba obratiti pažnju; nepoznavanje obveza, a pogotovo prednosti provedbe SPUO pri izradi prijedloga odgovarajućih dokumenata, izbjegavanja provedbe postupka, nedostatna komunikacija između sudionika, nedostatna edukacija sudionika, kasno i nedovoljno uključivanje javnosti u postupak, nedovoljno razvijene podloge plana i programa koje se koriste u izradi strateških studija, nedovoljno jasan postupak vezano za utvrđivanje prevladavajućeg javnog interesa i kompenzacijskih uvjeta za planove/programe...

Niti udruge civilnog društva („zeleni“) nisu prepoznale taj postupak kao područje svog djelovanja. Radije se fokusiraju na pojedinačne projekte gdje je poznat investitor i gdje se lakše mobilizira javnost.

Kako se sa Strateškom procjenom tj. izradom Strateške studije kreće u ranoj fazi izrade dokumenta (plana, programa…), dakle često tek prvim nacrtom, logična je stalna suradnja s izrađivačima dokumenta. Nažalost to je vrlo često usporedan, a katkad i postupak koji dokument procjenjuje u visokoj fazi njegove gotovosti.

Do tog zaključka dolazi i Stenek i sur. u radu s ove Konferencije. Autori su analizirali postupak Strateške procjene jedne županije i pratili su mjere i uvjete zaštite prirode i ciljeva očuvanja prema Direktivi o staništima. U konačnu inačicu plana ugrađene su samo mjere i uvjeti dani po posebnom propisu, a iz SPUO postupka nije ugrađen niti jedan uvjet/mjera. Samo monitoring i istraživanja!?

Operativni program za okoliš temeljni je programski dokument za povlačenje sredstava EU fondova koja su namijenjena za provedbu kohezijske politike Europske unije u sektoru okoliša u Republici Hrvatskoj. OP se prvenstveno veže na ciljeve i prioritete Nacionalnog strateškog referentnog okvira (NSRO) koji predstavlja temeljni referentni instrument za programiranje EU fondova u području kohezijskih i regionalnih politika. OP doprinosi postizanju općeg cilja NSRO-a, odnosno „ubrzavanja gospodarskog rasta i poticanja zapošljavanja kako bi se postigla stvarna konvergencija“. Provedba OP-a će štoviše doprinijeti trima strateškim ciljevima NSRO-a, te će izravno utjecati na Tematski prioritet 2 NSRO-a: Unapređenje okolišne infrastrukture i kakvoće vezanih usluga.

Razvidna su dva problema:
Prvo, postupak izrade SPUO za OP 2014.-2020. započeo je, kao i obično, prekasno što može dovesti do nekvalitetne SPUO te drugo, ne postoji Operativni program za okoliš koji treba usvojiti, već samo krovni OP iz područja kompetitivnosti i kohezije, što može dovesti da gospodarski razvoj zasjeni načela zaštite okoliša.

Pošaljimo poruku s ove Konferencije svim nadležnim tijelima da je SPUO ne samo obvezujući postupak, već i postupak koji u ranoj fazi izrade planskih i programskih dokumenta osigurava uravnotežen održivi razvitak. Zbog toga, posebno u izradi SPUO

za OP 2014.-2020. moraju uključivati vodeći međunarodni i domaći stručnjaci i primjenjivati najbolje tehnike i modeli.

Kontrola kvalitete i monitoring

Prema Direktivi u PUO štete okolišu trebaju se kontrolirati na izvoru tj. u najranijoj fazi planiranja i odlučivanja treba se voditi računa o utjecajima zahvata na okoliš. Tu se postavlja nekoliko osnovnih pitanja. Koja je uloga PUO ako se tako i tako svi standardi okoliša moraju zadovoljiti? Da li PUO unapređuje projekt ili samo ispravlja najveće greške? Što je u stvari „*good practice*"? Da li ste ikada bili pohvaljeni za dobar posao u PUO? Da li se studije o utjecaju na okoliš izrađuju da bi se dobile kvalitetne informacije, temeljem kojih će se donositi odluke ili je svrha da se unaprijedi projekt namjeravanih zahvata? To nije isto! Idealno bi bilo oboje, ali danas je naglasak uglavnom na procjenu utjecaja i mjere ublažavanja. Pitanja koja slijede; Koliko Studija o utjecaju na okoliš se zaista bave istraživanjima opcija projektnih rješenja: lokacijama, materijalima i korištenim resursima... Nisu li mnoge važne odluke vezane uz projektna rješenja u stvari donesene prije PUO što taj postupak i proces pretvara i birokratsku provjeru na kraju priče. Kao bi mogli unaprijediti taj proces? J.Dusik i N.Mikulić na nedavnom sastanku u Wroclawu, gdje su raspravljani prijedlozi amandmana na Direktivu o PUO, dali prijedlog da se u PUO razmisli o mogućim dobrim iskustvima primjene Direktive o objedinjenim uvjetima zaštite okoliša (OUZO). OUZO daje informacije o utjecajima i nudi najbolje referencirane tehnike kao rješenje. U usporedbi s PUO, OUZO je više proaktivan. Rasprave o referenciranim tehnikama i tehnologijama inspiriraju i unapređuju projekt. Te rasprave vrlo su korisne za raspravu s poduzetnicima i zainteresiranom javnosti.

Nameće se stoga pitanje: Da li postoji mogućnost uvođenja obvezatne usporedbe predloženih rješenja s najboljim referenciranim rješenjima u PUO? Takove reference mogle bi se lako uspostaviti za niz tipova razvojnih projekata; supermarketi, autoceste, vjetroparkovi... RDNRT („*BREF*") tip alternativa mogao bi biti korišten i u postupku određivanja sadržaja studije.

I sada dolazimo do pitanja koje često postavljaju udruge civilnog društva tražeći „nezavisnu izradu i ocjenu studije". Tko je najvjerodostojniji/najkompetentniji za ocjenu kvalitete studijske dokumentacije i ocjenu prihvatljivosti namjeravanog zahvata? Nadležna tijela uprave? Nezavisni stručnjaci koji nisu radili na izradi SUO? Udruge civilnog društva ili stručno povjerenstvo?

Treba znati da u većini država svijeta ocjena namjeravanog zahvata kroz PUO je zakonom uređeni postupak uglavnom u nadležnosti tijela nadležnog za okoliš. Postupak je uređen na način da nositelj zahvata temeljem SUO procjenjuje utjecaje i uvjerava državu da namjeravani zahvat neće imati značajne negativne utjecaje na okoliš. Država to provjerava jednim od gore opisanih načina. Rješenja u praksi su naravno različita. U Hrvatskoj to je povjerenstvo sastavljeno od predstavnika nadležnih tijela, predstavnika stručnih i znanstvenih institucija i predstavnika lokalne i regionalne samouprave. U Italiji npr. to je su od države ugovoreni nezavisni stručnjaci koji u timovima sastavljenim za svaku SUO daju svoje mišljenje. Za vrijeme trajanja ugovora s državom ne mogu izrađivati SUO ili obavljati neke druge poslove koji bi bili konfliktni s njihovom zadaćom.

Pravni sustav u kojemu se danas provodi postupak PUO zahtjeva izbalansirani pristup u razini zahtjeva prema SUO. Nisu dobre pojave da, pogotovo kod danas novog

instrumenta ocjene prema Direktivi o staništima, autori pojedinih poglavlja, često ugledni znanstvenici i nastavnici na Sveučilištu, koji su izvanredni taksonomi i poznavatelji neke skupine životinja ili biljaka ili ekologije neke vrste, svode svoj doprinos na nabrajanje vrsta, bez da su si dali truda da nauče što znače „ciljevi očuvanja“ i mjere njihove zaštite. S druge strane pojedinci iz redova državnih institucija postavljaju visoke znanstvene kriterije primjerene izradi vrhunskih znanstvenih radova. Očekivali smo danas da ćemo na ovome našem skupu, nesumnjivo najznačajnijem stručnom i znanstvenom događanju u regiji na području PUO i ocjene prema Direktivi o staništima, imati prilike da vidimo i njih i njihove radove.

Pitanje kvalitete i vjerodostojnosti SUO ovisi o nizu činitelja, ali svakako su na prvom mjestu poslovni moral i stručnost ovlaštenika, realna cijena studije i dostupnost podataka. No izgleda, sudeći prema iskustvima Republike Poljske, jedne od najsposobnijih država za povlačenje sredstava iz fondova EU, najučinkovitiji instrument garancije kvalitete SUO je diskreciona ocjena Europske komisije odnosno istaknutih financijskih institucija. Ako su oni ocijenili da SUO nema zadovoljavajuću kvalitetu, da nije bilo Strateške procjene, da javnosti nije bila uključena na odgovarajući način, da Direktiva o staništima nije primijenjena na odgovarajući način, da nisu obavljene konzultacije prema Espoo konvenciji... i to bez obzira na provedenu nacionalnu zakonsku proceduru, uskratili su financiranje projekta. Uvidjevši da je kvaliteta nužna investitori – nositelji zahvata počeli su tražiti najkvalitetnije izrađivače SUO.

Kad govorimo o podacima, danas preko 20 godina kako je Vlada Republike Hrvatske prihvatila prvi prijedlog uspostave informacijskog sustava, tada za prostor i okoliš, nikako ne možemo biti zadovoljni javno dostupnim bazama podataka. Tamo podataka valjanih za izradu SUO uglavnom nema ili nisu uređeni na način da se mogu koristiti u tu svrhu ili zahtijevaju veliki angažman visoko obrazovanih državnih službenika prenatrpanih poslom da ih u nesređenim bazama pronađu. Nadalje negdje se je država obvezala kroz pravne propise da će osigurati podatke (kao npr. o Ekološkoj mreži odnosno budućoj NATURI 2000), a tih podataka nema ili su zastarjeli i nevjerodostojni. I sada dolazi do situacije da oni koji bi trebali dobiti podatke temeljem kojih će obavljati procjene svojih zahvata, moraju obavljati detaljna, a često i proširena istraživanja, a oni koji su trebali osigurati podatke ocjenjuju kvalitetu tih istraživanja.

Nažalost taj bogati fond podataka iz SUO iz raznih razloga uglavnom se ne unosi u javno dostupne baze podataka iako su pribavljeni od, po državi, akreditiranih ovlaštenika. To često dovodi do toga da se istraživanje istih područja više puta plaća istim ljudima, a za potrebe različitih investicija.

Monitoring je instrument ne samo kontrole predviđanja i procjena izvršenih pri izradi SUO već postaje aktivni instrument korekcije i donošenja novih odgovarajućih mjera zaštite okoliša i prirode. Nadalje dobiveni rezultati bi trebali doprinijeti obogaćivanju baza podataka. Kvalitetne javno dostupne baze podataka kako o okolišu tako i SUO nužan su preduvjet za kvalitetne procjene pogotovo procjene sinergije s postojećim ili planiranim zahvatima kako u Strateškoj procjeni tako i u obuhvatu namjeravanog zahvata. I ovdje moramo ukazati na činjenicu da je Zakonom o zaštiti okoliša iz 2007. godine uređeno da se podaci dobiveni monitoringom propisanim kroz postupak PUO dostavljaju Agenciji za zaštitu okoliša. Do danas, prema našem saznanju, niti jedan takav podatak nije niti dostavljen niti unesen u odgovarajuće baze AZO.

Ocjena prihvatljivosti za Ekološku mrežu

Tu za Hrvatsku ne bi trebali biti neki novi izazovi. Trebamo iskoristiti to što smo, za razliku od drugih EU zemalja, imali OPEM postupak gotovo 6 godina prije ulaska i „vježbali se“, odnosno trebamo iskoristiti činjenicu što već 6 godina provodimo članak 6 Direktive o staništima, samo na nacionalnoj ekološkoj mreži. Postupak se zbog Nature 2000 neće korijenski mijenjati. Ali su se kroz godine nakupili problemi koje treba prepoznati i naći rješenja, odnosno proučiti i primijeniti rješenja drugih, nama bliskih država. S nacionalnom ekološkom mrežom smo naučili puno toga. Idemo sada s Naturom bit pametniji.

Ono što nas čeka, a što moramo napraviti za Naturu jest zonacija i to ne ona u smislu upravljanja, već ona o rasprostranjenosti vrsta unutar Natura 2000 područja. Naime, naša Natura 2000 područja su jako velika, neka vrlo heterogena i često imaju hrpu ciljnih vrsta i staništa. Te vrste i staništa najčešće nisu prisutne na cijeloj površini područja, već samo u određenim dijelovima pa ovakva zonacija (koju npr. ima Slovenija i Danska) omogućuje bržu procjenu koja se koncentrira na ciljne vrste prisutne na samom području zahvata.

Danas možemo ocijeniti da postoji dio mjera ublažavanja koje predlažemo i propisujemo, a da iskreno nismo sigurni u njihovu učinkovitost. Zbog toga se moramo usmjeriti na praćenje učinkovitosti mjera ublažavanja koje se propisuju i u skladu s rezultatima ih prilagođavati. Pri tome programi praćenja moraju se usmjeriti na onu ciljnu vrstu na koju zahvat ima ili može imati značajan utjecaj.

Kompenzacijske mjere su sigurno najosjetljivije pitanje postupka OPEM. I na njih smo najmanje spremni. Nije tajna da se te mjere u zemljama EU nastoje nadomjestiti mjerama ublažavanja. Mislim da ćemo i mi morati tome pribjegavati jer je kompenzacija nešto što svi želimo izbjeći. Ako i nađemo zamjensko područje na kojem bi npr. umjetno stvarali neko stanište javlja se niz otvorenih pitanja; u čijem je vlasništvu zemljište, što je tu predviđeno prostorno-planskom dokumentacijom, mora li se mijenjati prostorni plan, mora li se nekoga obeštetiti za taj prostor… A da bi uopće do nje došli, moramo sukladno Direktivi i tumačenjima Europskog suda pravde - ECJ-a, biti sigurni da nema alternativa za postizanje cilja zahvata, a koje bi bile manje štetne od samog zahvata. Da li je zaista na nositelju zahvata ili ovlašteniku da dokazuje nepostojanje alternativnih rješenja ili npr. da je alternativa za novu autocestu povećanje kapaciteta obližnjeg aerodroma?

Procjena utjecaja zahvata na Ekološku mrežu bremenita je nedostatkom znanja, iskustva, pa i razumijevanja postupka kod svih dionika. Ovlaštenici (izrađivači SUO) traže i mole da se organiziraju radionice na kojima bi se raspravila problematična pitanja i pokušala zajedno naći rješenja. Uz sve razumijevanje za nedostatak ljudskih resursa držimo da bi edukacija dionika i sebe samih morala bi biti jedna od glavnih obveza i aktivnosti onih u čijoj je postupak nadležnosti. Rokovi su novim zakonima skraćeni, država se kune u investicije i ubrzavanje postupaka. Nije dovoljno rješavati samo administrativne prepreke. Jednako ako ne i veća prepreka je nedostatak znanja i nerazumijevanje postupaka, kao i mogućih šteta koje iz toga proizlaze.

I na kraju valja reći da to što govorimo o problemima govorimo zato da potaknemo raspravu i razmjenu iskustava svih danas prisutnih sudionika. Zbog toga smo sigurni da ćemo s ove Konferencije otići zadovoljni, obogaćeni s novim spoznajama i mogućnostima.

Environmental assessment at present

Professor Nenad Mikulć, PhD, Scientific Committee Chair

Although in this introductory speech I will talk mainly about our experiences in the Republic of Croatia, I believe that we have a lot in common and that this experience is valuable for our neighbouring countries that have yet to walk the challenging accession path on their way to the European Union.

So, let us begin with the

Impact assessment of individual interventions (projects) - EIA

The first recorded examples date from the early 1970s in the USA, Canada, Australia and New Zealand, in the 1980s it spread through Europe and in 1985 the EIA Directive 85/337/EEC was adopted; since the 1990s the impact assessment has become a global phenomenon and today it is applied in most world countries. While methodological units of the procedure do not differ significantly from state to state (screening, scoping, description of the project and the environment, description and evaluation of impacts, proposing mitigation measures and monitoring programme), the assessment of the Study documentation and evaluation of impact of the project are regulated by each country in accordance with its legal system and experience; from a thorough administrative procedure which includes the developer, competent authorities, practitioners and the public, which is concluded with an administrative act either accepting or rejecting the planned project, to almost optional cooperative relationship of the developer and his project designer with environmental experts and competent authorities' staff. Mandatory application of the Directive in the territory of the EU and candidate countries resulted in significant unification of the procedure, although certain differences persist, especially in the assessment of the project. In 1984, the Republic of Croatia introduced the environmental impact assessment as mandatory in the Ordinance on preparation of the environmental impact study; a subordinate regulation under the then Physical Planning and Zoning Act. In the framework of harmonisation of environmental protection legislation with EU legislation, in late 2007 the new Environmental Protection Act was adopted (and the third one just recently), while in mid-2008 two new regulations were adopted governing the field of environmental impact assessment and public involvement.

Unlike the competent EU authorities, the competent authorities in Croatia have yet to analyse the effect of their application in practice with a view to further improvement. On account of different, often completely opposite perspectives, both these areas are criticised by certain participants in the EIA process.

From the start to the present day, more than 2,000 studies have been prepared and as many procedures carried out. What the stakeholders think of the quality of this fundamental environmental instrument is shown in research conducted by Hauska & Partner within the partner cooperation scheme with the Croatian Association of Professionals in Nature and Environmental Protection in the period from 24th May to 1st July 2013, aimed at examining the attitudes of the relevant participants regarding certain Environmental Impact Assessment (EIA) considerations and public involvement. The first comprehensive insight was obtained regarding the extent to which the EIA procedure in Croatia contributes to quality decision-making which is, citing Barry

Sadler (2006), a proper 'litmus test' for the performance and impact of EIA on making higher quality decisions.

Different perception of the purpose of EIA is noticed among different groups, and whether the outcome of the EIA process is only advisory to the decision maker, whether it could serve as an environmental 'veto' on certain projects, i.e. is the success of participation measured by simply allowing a higher degree of public involvement or by resulting in an undoubtedly better decision. This dilemma is also present in the UNEP 2002 training material.

The research also confirmed that the EIA procedure is highly complex, especially in social terms, as the attitudes of participants on many issues are conflicting, which indirectly indicates significant differences in values and/or identification of certain problems in practice. Thus, the solution is not in finding individual rapid solutions to certain deficiencies without considering the links and potential consequences of such solutions. The answer is to organise the process that will allow an in-depth consideration of different perspectives, motives and a wider context of decision-making, and focus on finding such solutions that will improve the efficiency of the overall IEA, not only some of its shortcomings.

Strategic Environmental Assessment of plans and programmes (SEA)
The procedure of Strategic Environmental Assessment of policies (strategies), plans, programmes and legislation was developed in some places prior to, in some concurrent with and in others it resulted from the Environmental Impact Assessment of individual projects. Envisaged as a flexible form of cooperation between the persons preparing the documents, environmental experts and other sectors and the public, for the purpose of preparing and adoption of the above documents.

This type of assessment, employed in a large number of countries worldwide, is evolving as the fundamental instrument of sustainable development. The authors mainly list two approaches:

- Strategic assessment is carried out by the authorities responsible for environmental protection and, in cooperation with other sectors, environmental considerations are examined, as well as economic and social issues,
- Strategic assessment of each of the three sustainable development issues is conducted in cooperation with the authorities responsible for the respective sector, while coordination and integration is carried out by an independent institution or body.

In 2001, the EU passed the SEA Directive (*2001/42/EC*), which was transposed into the legal systems of all EU Member States and acceding countries. It was introduced in the pan-European area UNECE by means of the Protocol on Strategic Environmental Assessment to the Espoo Convention in Kiev in 2003.

Let us also mention the Sofia EIA Initiative (1995-2003), which was headed by the Republic of Croatia with the organisational assistance from REC, often in cooperation with WHO. The Sofia Initiative helped to exchange experiences among Eastern and South-eastern European countries. The Sofia Initiative paid special attention to the SEA process thus contributing to a better understanding of this instrument and providing strong support to the initiatives for legal regulation of the SEA procedure.

The Republic of Croatia introduced the SEA in the process of transposition of the *acquis communautaire* in the Croatian legal system with the Environmental Protection Act and subordinate legislation. The Habitats Directive (Directive 92/43/EEC) was also transposed and the Aarhus Convention ratified. In addition, the SEA Protocol to the Espoo Convention was ratified. The Strategic Environmental Assessment is regulated as an integrated process following the procedure under the Habitats Directive.

In comparison to other states, it was introduced relatively late and so far only around 10 strategic environmental assessments have been completed or are under way. Experience shows that the main purpose of the procedure has not been achieved, which is the cooperation of the authors of the plan with environmental experts and the public during the preparation of the plan and while examining all possibilities. As these are specifically the documents prepared by the state administration bodies and local and regional self-government bodies, the selection of authors preparing Strategic Studies is conducted in a public procurement procedure. Once all activities are summed up, from the decision to the end of the procedure, the resulting duration is more than 400 days. However, not even this should not be the reason for the obvious – to put it mildly – reluctance to accept the obligation of its implementation, so here are some noteworthy facts; not being familiar with the obligations and particularly the advantages of the SEA implementation in preparing proposals for relevant documents, avoiding the procedure, insufficient communication between the participants, insufficient education of the participants, late and deficient public involvement in the procedure, inadequately developed plan and programme background documents to be used in drawing up strategic studies, unclear procedure in relation to establishing the overriding public interest and compensation measures for the plans/programmes...

Neither have civil society associations ("the Greens") recognised this procedure as a field of their activity. Instead, they focus on individual projects where the investor is known and the public is more easily mobilised.

Since the Strategic Environmental Assessment, i.e. drafting of the Strategic study, starts in the early stage of preparation of the documents (plan, programme…), meaning often having only the initial draft, it would be logical to have continuous cooperation with the authors of the document. Unfortunately, it is often a parallel procedure, sometimes assessing the document when it is almost completed.

This conclusion is reached by Stenek *et al.* in the course of this Conference. The authors analysed the SEA procedure in one county, they monitored environmental measures and conditions and environmental protection objectives under the Habitats Directive. The final version of the plan incorporates only the measures and conditions under the special regulation, and not a single condition/measure under the SEA procedure. Only monitoring and research!?

The Environmental Operational Programme is the fundamental programming document for withdrawing the resources from EU funds earmarked for the implementation of the EU cohesion policy in the environmental sector in Croatia. The OP primarily relies on the objectives and priorities of the National Strategic Reference Framework (NSRF), which is the basic reference tool for EU funds programming in the area of the Cohesion and regional policies. The OP contributes to achieving the general objective of the NSRF, i.e. "acceleration of economic growth and fostering employment to support actual convergence". Moreover, the implementation of the OP will contribute to the

three strategic objectives of the NSRF, and it will directly influence the NSRF Priority 2: Improving the environmental infrastructure and quality of related services.

Two problems are quite obvious:
First, the SEA preparation procedure for the OP 2014 – 2020 started too late, as usual, which can result in low quality SEA.
Second, there is no Environmental Operational Programme to be adopted but only the umbrella OP in the areas of competitiveness and cohesion, which can lead to economic development overshadowing environmental protection principles.

Let us send a message from this Conference to all competent authorities that the SEA is not only a binding process, but also the process which, in the early phase of preparation of plans and programmes, provides for balanced sustainable development. On account of this, and in particular for preparing the SEA for the 2014-2020 Operating Programme, the leading international and national experts must be included and the best techniques and models applied.

Quality control and monitoring
Under the EIA Directive adverse effects on the environment have to be controlled at source, i.e. the impact of a project on the environment should be considered at the earliest stage of planning and decision-making. Several important questions should be asked here. What is the role of EIA if all environmental standards have to be met anyway? Does the EIA improve the project or simply rectifies the biggest mistakes? What is actually "good practice"? Have you ever been praised for a job well done in the EIA? Are environmental impact studies prepared in order to get quality information as the basis for making decisions, or is their purpose to improve the planned project? These two are not one and the same! Both would be ideal, but nowadays the focus is mainly on impact assessment and mitigation measures. So, the following questions are raised: How many environmental impact studies are really concerned with analysing design solution options: locations, materials and used resources... Aren't many important decisions related to project solutions actually adopted before the EIA, which turns this process into a bureaucratic verification at the end of the road? How could this process be improved? In a recent meeting held in Wroclaw discussing the proposals of amendments to the EIA Directive, J. Dusik and N. Mikulić suggested that the EIA should consider favourable experiences of applying the IPPC Directive. The IPPC provides information about the impacts and offers the best-referenced techniques as solution. In comparison to the EIA, the IPPC is more proactive. The discussions about the referred techniques and technologies are inspiring and they enhance the project. These discussions are very useful for debating with the businesses and interested public.

Subsequently, the question arises: Is there a possibility to introduce mandatory comparison of proposed solutions with the best-referenced solution in the EIA? Such references could easily be established for a number of different types of development projects; supermarkets, highways, windfarms... The BREF-type alternative could also be used in the process of scoping.

And here we come to the question often put forward by the civil society organisations calling for an "independent preparation and assessment of the study". Who is the most trustworthy/most competent to assess the quality of the study document and evaluate the acceptability of the planned project? The competent administrative bodies?

Independent experts who did not participate in the preparation of the EIA? Civil society organisations or an expert committee?

We have to be aware that in the majority of countries worldwide the assessment of the planned project by means of an EIA is the process regulated under the law and is mainly in the scope of the environmental authority. The procedure is regulated so that based on the EIA study the developer estimates the impacts and tries to convince the state that the planned project will not have significant adverse impacts on the environment. The state verifies this using one of the above methods. In practice, the solutions are varied. In Croatia, this is a committee consisting of the representatives of competent bodies, representatives of professional and scientific institutions and local and regional self-government representatives. In Italy, for example, these are independent experts commissioned by the state and nominated into teams formed for each EIA study to give their opinion. During the contract with the state they cannot prepare EIA studies or perform any other tasks that could be in conflict with their assignment.

The legal system under which the EIA is conducted calls for a balanced approach at the level of requirements for the EIA studies. It is not really proper that, especially with the currently new assessment instrument under the Habitats Directive, the authors of certain chapters, quite often renowned scientists and university lecturers, who are exceptional taxonomists and an authority on a certain type of fauna or flora or ecology, reduce their contribution to itemising the species without making any effort to learn what "qualification features" and measures to protect them really mean. On the other hand, some people in the state administration institutions set such high scientific criteria appropriate for preparing superior scientific papers. Hence, it was our expectation that here today, at this Conference, which is undoubtedly the most important professional and scientific event in the region concerning the EIA procedure and evaluation pursuant to the Habitats Directive, we would have the opportunity to see their work as well.

The issue of quality and authenticity of the EIA studies depends on a number of factors, but in the first place on the business morals and expertise of the developer, the realistic price of the study and availability of data. It seems, however, judging by experience of the Republic of Poland, one of the most successful countries in withdrawing the resources from EU funds, that the most effective guarantee of the quality of the EIA study is the discretionary evaluation of the European Commission and prominent financial institutions. If they judge that the quality of the EIA study is not acceptable, that there was no strategic assessment, that the public was not adequately included, that the Habitats Directive was not appropriately applied, that consultations were not conducted pursuant to the Espoo Convention…. regardless of compliance with the national legal procedure, they deny financing to the project. Seeing that quality was indispensable the investors – developers started looking for the highest quality authors to prepare the EIA studies.

When we speak about the data today, more than 20 years after the Government of the Republic of Croatia approved the first proposal to set up the IT system for certain locations and the environment, we cannot be satisfied with the publicly available databases. In general, these databases do not contain valid data for preparing the EIA studies, nor are organised in the manner to be used for this purpose, or they require a high level of involvement on the part of highly qualified and overburdened civil servants to find them in disorganised databases. Moreover, in some cases the state pledged in legal acts that it shall provide the data (for example, on the Ecological

Network, i.e. the future NATURA 2000), but these data are not available or are obsolete and not authentic. And then we come across the situation where those who should obtain the data as the basis for the assessment of their project, they have to carry out detailed and often extended analysis, while those who should provide the data evaluate the quality of such research.

Unfortunately, the ample data from the EIA studies are, for various reasons, mostly not entered into publicly available databases, although they are obtained from authorised persons accredited by the state. This often leads to having the analysis of one and the same location paid several times over to the same people for the purposes of different investments.

Monitoring is an instrument not only for controlling predictions and assessments in the process of the EIA, but it becomes an active instrument for correcting and adopting the relevant environmental and nature protection measures. Moreover, the results obtained should contribute to improving the databases. Quality publicly available databases on the environment and the EIA studies are the prerequisite for quality assessment, especially of compliance with the existing or planned projects in the Strategic Environmental Assessment and the scope of the planned project. It should be underlined at this point that the 2007 Environmental Protection Act regulates that the data obtained through monitoring laid down in the EIA procedure are submitted to the Environmental Protection Agency (EPA). So far, at least to our knowledge, no such data were either submitted or entered in the relevant EPA databases.

Appropriate assessment for the Ecological Network

No new challenges for Croatia here. We should make use the fact that, unlike other EU countries, we had the Appropriate Assessment procedure in place for almost 6 years before the accession and we had “practice”; this means that we should make use of the fact that for 6 years we had been implementing Article 6 of the Habitats Directive, only on the National Ecological Network. The procedure will not be fundamentally changed on account of Natura 2000. However, over the years problems have accumulated so they have to be identified and solutions found, i.e. they should be examined and solutions employed by the countries in our vicinity applied. We have learned a lot through the National Ecological Network; let us be smarter with Natura.

What we have to face – and what we have to implement under Natura – is zoning, although not in the sense of management but in the sense of distribution of species within the Natura 2000 area. Croatia Natura 2000 areas are very large; some are very heterogeneous and often contain a number of target species and habitats. These species and habitats are often not distributed across the entire area but only in some of its parts, so this type of zoning (as applied Slovenia and Denmark), provides for faster assessment concentrated on the target species present on the very location of the project.

Nowadays we can assert that some mitigation measures are proposed and laid down without being entirely confident of their effectiveness. Due to this we have to focus on monitoring the set mitigation measures and adjust them according to the results. At the same time, the monitoring programmes have to be focused on the target species which could suffer the most significant impacts from the project.

The compensatory measures are surely the most sensitive issue of the Ecological Network Impact Assessment (ENIA) procedure. And we are least prepared for them. It

is no secret that EU countries made an attempt to replace these measures with mitigation measures. I believe that we will also have to resort to this because compensating is something we all want to avoid. Even if we find a substitute area were we could, for example, artificially create a habitat, a series of open issues arise; ownership of the land, what do physical planning documents envisage at the location, does the spatial plan have to be changed, does someone have to be indemnified for this land… And in order to have it in the first place, in compliance with the Directive and interpretation of the European Court of Justice – the ECJ – we have to be sure that there is no alternative to achieving the project target that would be less harmful than the project itself. Is it really the obligation of the developer or authorised person to prove the nonexistence of the alternative solution or, for example, that the alterative for the new highway is to increase the capacity of the nearby airport?

Ecological Network Impact Assessment of the project is replete with the lack of knowledge and experience, and even understanding of the procedures by all stakeholders. Practitioners (authors of the studies) require and plead to have workshops organised where problematic issues would be discussed and solutions found through joint effort. Although we have understanding for the lack of human resources, we believe that training of stakeholders and ourselves should be one of the main obligations and activities of those who are responsible for the procedure. The new acts reduced the deadlines and the state is promising new investments and speeding up the procedure. It is not sufficient to resolve only administrative barriers. Equally, if not an even larger obstacle is the lack of knowledge and incomprehension of procedures and potential damage that could result from them.

And finally, it has to be emphasised that the fact we are considering the problems is aimed at encouraging the debate and exchange of experiences between all participants. Because of this we are sure that we will leave this Conference satisfied, with new knowledge and aware of the possibilities we have at our disposal.

SEKCIJA 3 / SECTION 3

NATURA 2000 - PROCJENA UTJECAJA NA EKOLOŠKU MREŽU / NATURA 2000 – ECOLOGICAL NETWORK IMPACT ASSESSMENT

Slovenian experiences with Natura 2000 assessments – lessons learned

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Abstract

Slovenia is EU member since 2004 and many plans and projects have been assessed so far, bringing us experiences and knowledge about how Habitats directive assessments work and protect Natura 2000 sites. Since difficult cases can offer even more to learn from than best – practice cases, the aim of the article is to present lessons learned through dealing with difficult issues such as study of alternatives, replacing habitats, decisions about significance of plan impacts, economical interests etc. We will present a case of plan preparation that took too much time, money and energy trying to avoid some of the Directive's provisions or alter their interpretation. By studying EU court cases and Commission opinions we can predict the outcome of EU Commission pre-court procedures against Slovenia about disputable cases. Article shows that it is wiser and more effective (in terms of time, money and staff) to follow provisions and case law than trying to ignore it and wait for consequences.

Key words: Natura 2000, appropriate assessment, case – study, Habitats directive

Introduction

Joining European Union brings new obligations to a new member state; one of them is transposition of directives to the national legislation and their consideration. To preserve endangered species and habitats, Habitats directive determines different measures, such as designation of Natura 2000 sites, their management and appropriate assessment of plans and projects on these sites. While Natura 2000 rather than restriction of projects and activities on sites means assessment of their impacts on conservation objectives, people usually see it as an ultimate limitation. But this perception is incorrect. The truth is that only few projects are being rejected on Natura 2000 sites. Public opinion is shaped on basis of media, which report only about problematic cases leaving impression that Natura 2000 is an obstacle in the way of development.

Because of such perception some plan or project proponents try to facilitate realization of their projects with different interpretation or even ignorance of European and national legislation. Article presents one of such attempts that could become an often used practice. However, European commission is very attentive when it comes to such cases and had warned Slovenia with an EU pilot.

Appropriate assessment – legislative framework

A framework to biodiversity conservation, founded with Convention on Biodiversity, is in European Union posed by Habitats and Birds Directives. Both Directives determine obligation and rules for designation of sites, intended for conservation of endangered animal and plant species as well as habitats. Two different types of sites are joined into

the ecological network Natura 2000. The protection provided by the Directives is divided between species protection measures and site protection measures. One of the important site protection measures is the appropriate assessment, which is beside nature conservation guidelines one of the most effective nature conservation instruments in Slovenia. Habitats directive states in Article 6(3): "Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned''.

This provision, reinforced with the ECJ's 2004 decision in Waddenzee (ECJ, 2004) implies that an appropriate assessment is needed where significant effects on a protected site cannot be ruled out, rather than only where significant effects have been demonstrated to be likely; moreover, plan can be confirmed only ''where no reasonable scientific doubt remains as to the absence of such effects''. This sets a high threshold, which many plans and projects cannot pass (Jackson, 2011). If they are to proceed, the only available route is IROPI procedure (Imperative Reasons of Overriding Public Interest) in Article 6(4) of the Habitats Directive, but only when next conditions are met: (1) an ''absence of alternative solutions'' must be demonstrated; (2) ''imperative reasons of overriding public interest'' for proceeding with the plan or project must be demonstrated (and these reasons are limited in cases involving priority species or habitats); and (3) the Member State in question must take ''all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected'' (Article 6(4), Habitats Directive).

Directive itself does not determine methodology or the border between significant and insignificant impact. This issue is closely connected to boundary between mitigation and compensation measures, which is not as clear as it seems on the first sight. Dilemma turns up with creation of a new habitat, replacing a part of the original habitat, impacted by the execution of the plan or project. Such replacement habitat could serve as a mitigation (when the impacts of the plan or project are not significant) or compensation measure (when impacts are significant and plan preparation proceeds by provisions in Article 6(4) of the Habitats Directive). In some extent impacts of the plan could probably be mitigated with replacement of smaller part of the habitat, located close to impacted habitat and taking over its function. Such replacement could probably mitigate plan impacts to the level of insignificance. But what is the size or percentage of impacted habitat that could be replaced and still be estimated as an insignificant impact and how large replacement habitat can we still call a mitigation measure? Where is the boundary?

The European Commission doubts that such "compensatory mitigation", a replacement or compensation of habitat loss could be interpreted as a mitigation measure (Leiner, 2013, EC, 2013). In the Guidance document on the Article 6(4) (EC, 2007), replacement of habitats is in greater detail explained as a compensation measure, while it is not mentioned in connection with mitigation. However, the Guidance does not state specifically that replacing habitats cannot serve as a mitigation measure.

Appropriate assessment regulations in Slovenia

In Slovenia, Habitats Directive's provisions on appropriate assessment have been transposed into national legislation through Nature Conservation Act and its Decree on Special Protection Areas (Natura 2000 Areas), while methodology is in greater detail determined with Rules on the assessment of acceptability of impacts caused by the execution of plans and activities affecting nature in protected areas. Appropriate assessment in Slovenia is not a procedure on its own, it is integrated into already existing procedures of assessments and consenting of plans and projects. On the planning level, appropriate assessment is integrated into the procedure of Strategic Environmental Assessment (SEA) as a supplement to the environmental report. Environmental report and its supplement for protected areas, which represent Natura 2000 sites as well as protected areas according to Slovenian legislation, is prepared by various experts from private, research, non-governmental or other organisations. Expert opinions on all stages of assessment (opinion on probability of significant impacts of the plan – screening, opinion on quality of environmental report and its supplement, opinion on acceptability of plan impacts and in the case of 6(4) procedure opinion on alternative solutions and compensation measures) are prepared by Institute of the Republic of Slovenia for Nature Conservation (IRSNC), which is an official expert organization for nature conservation. Consenting authority is environmental ministry.

Appropriate assessment on the project level is integrated into several procedures; for projects with possible environmental impacts, assessment is part of Environmental Impact Assessment in the procedure of acquiring environmental consent. Similar as on the planning level, report with the supplement for protected areas is being prepared. For projects under the threshold for possible environmental impact, nature conservation consent has to be acquired. Expert opinion for assessment is prepared by IRSNC; consent is in both cases granted by Environmental Agency. Appropriate assessment is also a part of allowing other interventions in nature as well as consents acquired on the basis of other regulations. Opinions are in both cases prepared by IRSNC, and consents are given by local or other authorities.

Experiences with appropriate assessment in Slovenia

Since 2004, several procedures have been carried out. IRSNC is included in all procedures of Appropriate Assessment on both, planning and project level. That is why analysis of IRSNC expert opinions could provide a wider overlook over the situation with Natura 2000 and planning in Slovenia.

Analysis of IRSNC expert opinions

In Slovenia, those procedures are numerous; on the planning level IRSNC prepares around 200 opinions per year on the first two stages of SEA. The IROPI procedure has not yet took place in Slovenian Natura 2000 sites. As it turns out on the first stage of assessment ("screening"), no further assessment is required in approximately ¾ of plans because of the absence of possible significant impact (Figure 1).

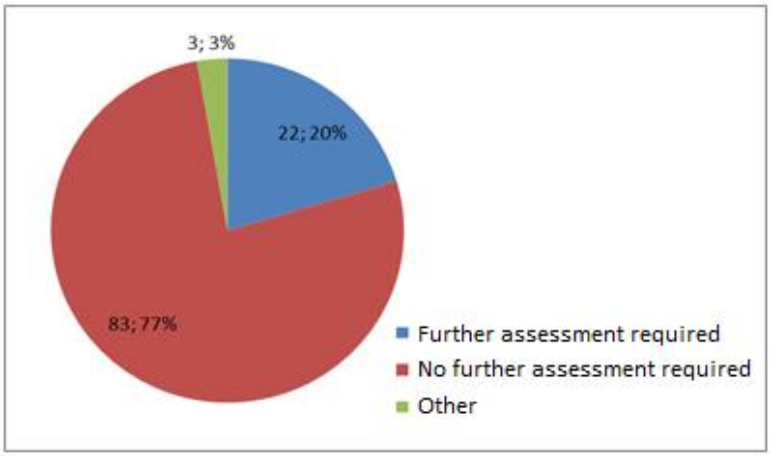

Figure 1: Number and percentage of opinions on the first stage of assessment on planning level (SEA) in 2012 (IRSNC Database)

Number of opinions is even higher on the project level and has doubled in the last five years (Figure 2). Those are the opinions prepared in previously described procedures, most of them present opinions in the procedure of acquisition of nature conservation consent.

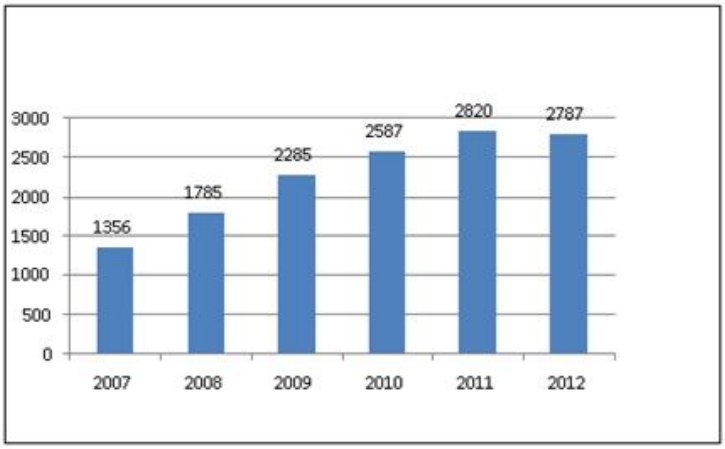

Figure 2: Number of opinions in assessment procedure on the project level from 2007 to 2012 (IRSNC Database)

General public opinion is that Natura 2000 is a huge problem when it comes to planning within the sites. Such opinion is strongly influenced by the selective reporting of the media, focusing only on problematic cases. However, analysis of IRSNC opinions shows a different picture (Figure 3).

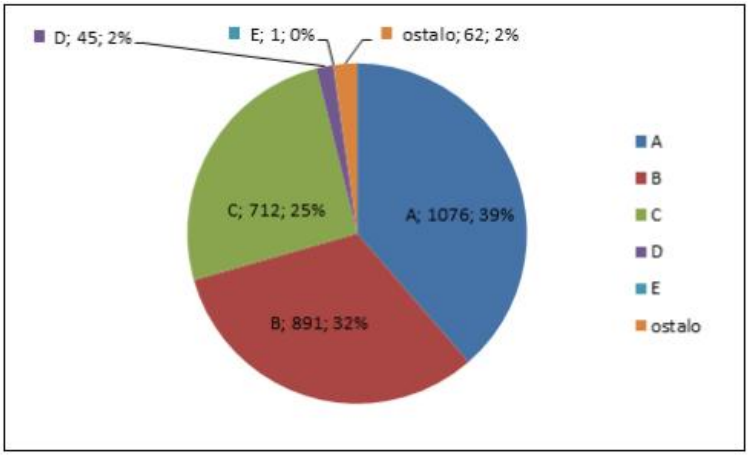

Figure 3: Number and percentage of opinions with impact estimations of projects in 2012 (A – positive or no impact, B – insignificant impact, C – insignificant impact with mitigation measures, D – significant impact, E – destroyable impact). (IRSNC Database)

The figure shows that majority of projects do not have a significant impact on Natura 2000 sites and do not have to be modified or their impacts mitigated in any way (A and B). Approximately ¼ of projects have impacts that have to be mitigated to be insignificant (C). Only about 2 % of projects could significantly impact protected sites (D and E) and therefore cannot be approved. Since approximately half of those projects are rejected because of their impact on nationally protected areas, only about 1 % of projects are rejected because of their impact on Natura 2000 sites.

Case study – Škofljica bypass

Traffic jams from the direction of Kočevje towards Ljubljana in the area of Škofljica settlement (8 km east from Ljubljana) triggered preparation of the national spatial plan for Škofljica bypass, which would cross Ljubljansko barje (Figure 4). Length of bypass within the site is between 4,5 and 7,5 km, depending on alternative.

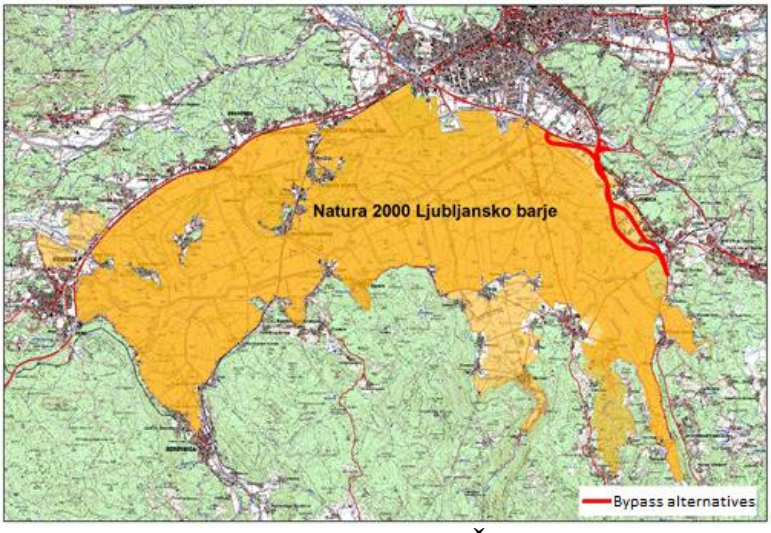

Figure 4: Natura 2000 site Ljubljansko barje with Škofljica bypass alternatives (IRSNC Database)

Ljubljansko barje is designated as a Natura 2000 site by both Directives; area of 13.560 ha is at the same time one of the most complex sites in Slovenia. Within the procedure of SEA and Appropriate assessment it was established in environmental report and its supplement for protected areas, that bypass impact together with long – distance

impacts would require, depending on the chosen alternative, between 250 and 370 ha of replacement habitats to mitigate impacts of plan to the level of insignificance. In its expert opinion in 2008, IRSNC agreed to such report with the remark, that site concerned is very sensitive and that other alternatives outside of the site should be assessed. After all, report assessed only different routes of bypass, which is only one of the solutions to plan's objectives. To study all possible alternatives, the objectives of the plan should be identified. In the case of Škofljica bypass, the objective was not exclusively building of a bypass; the objectives were (1) improvement of traffic safety, (2) ensuring traffic connectivity of the state from the direction of Kočevje – Ribnica with linkage to the motorway ring around Ljubljana and (3) reducing environmental and traffic burdens (Poboljšaj et al., 2008). For such objectives, alternatives could vary from building bypass outside of the site as well as other solutions: improvement and stimulation of road and railway public transport, introduction of P + R (park and ride) system, improvement of existing road by its widening and optimisation of traffic signalisation etc.

The plan has been therefore assessed according to Article 6(3) of the Habitats Directive. Agricultural ministry did not agree with such extent of replacement habitats, since it would demand the same area size with conversion of fields into the extensive lowland hay meadows. Plan preparation stopped for a while, political pressure escalated, tension in the area rose because of growing traffic jams. Consequently, investor of the plan changed the producer of environmental report with intention to reduce extent of required replacement habitats. But new assessor estimated impacts to be even bigger than previous report. Political nervousness rose, even the resignation of environmental minister has been demanded for not finishing the project as well as resignation of high public official because the organisation he directed strictly defended expert arguments. Whole procedure had high media profile. On the basis of reports in media, European Commission found out about the case and started an EU Pilot against Slovenia (EC, 2012) to get acquainted with procedure in greater details:

1. What is the difference between both environmental reports and why the second one had to be prepared?
2. Why was the alternative outside of the Natura 2000 site not chosen?
3. Which procedure (6(3) or 6(4) of Habitats Directive) has been used for this plan?

Slovenia had answered to those questions in detail. Consequently, European Commission took a point of view with a new EU Pilot (EC, 2013) that Slovenian legislation does not define precisely enough, when to use procedure 6(3), where mitigation measures are possible, and when to use IROPI procedure according to Article 6(4). European Commission also states, that for Škofljica bypass plan the procedure 6(4) should be carried out rather than 6(3) and wants to be informed about continuing of the plan preparation.

To carry out the 6(4) IROPI procedure, impacts of the plan should be recognized as not acceptable, because they are significantly affecting conservation objectives of the site and cannot be mitigated to the level of insignificance. Furthermore, it has to be proved that there is no other possible alternative solution with less impact on the site (ECJ, 2006) and take all compensatory measures necessary for compensation of impacted habitat. In case of Škofljica bypass it would mean approximately the same extent of replacement habitats as already stated in environmental report as mitigation measures.

National authorities consequently informally stopped the plan preparation, temporary solutions are being looked for, and traffic jams remain.

Conclusion

As the analysis of expert opinions shows, Natura 2000 does not interfere of even disables development. Expert opinions with negative outcome for investors are very few.

Forcing to execute a plan or project on Natura 2000 by all means is not a wise decision. It is much better to follow the procedure according to legislation and leave any political or other interests aside. Arrogance, lack of knowledge and disrespecting of nature conservation leads to blockade of project, which is neither good nor effective from a development point of view. It also leads to perception that Natura 2000 stands in the way of development. This of course is not true, since other solutions could have been found if there was an interest to find them. That is why one of the best instruments for achieving this goal is an equal participation of stakeholders in searching for the right solution. While in the case of Škofljica bypass Slovenia did not reach this goal, experiences from other IRSNC projects and from abroad show this way as very effective.

Literature

[1] Council Directive 79/409/EGS on the conservation of wild birds (2004).
[2] Council Directive 92/43/EGS on the conservation of natural habitats and of wild fauna and flora. (1992)
[3] Decree on special protection areas (Natura 2000 areas) ULRS 49/04, 110/04, 59/07, 43/08, 8/12, 33/13)
[4] EC (2002). Assessment of plans and projects significantly affecting Natura 2000 sites, Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, Luxembourg
[5] EC (2006). Nature and biodiversity cases, Ruling of the European Court of Justice. Office for Official Publications of the European Communities, Luxembourg
[6] EC (2007). Guidance document on Article 6(4) of the Habitats Directive' 92/43/EEC.
[7] EC (2012). 3931/12/ENVI. EU Pilot zadeva: Gradnja avtoceste skozi posebno varstveno območje (PVO) Barje
[8] EC (2013). ENVA.1/MDL/ip/EU-PILOT 3931/12. EU Pilot zadeva: Gradnja avtoceste skozi posebno varstveno območje (PVO) Barje
[9] ECJ (2004). Judgment of 7 September 2004 in Case C-127/02 Waddenzee.
[10] ECJ (2006). Judgment of 26 October 2006 in Case C-239/04 Commission of the European Communities v. Portuguese Republic.
[11] Gregorc T., Nekrep I., Šemrl M., Berce T., Hönigsfeld A. M., (2012): Presoja sprejemljivosti vplivov plana na varovana območja v postopku pripravo DPN za izgradnjo obvoznice Škofljica – 2. del. Dodatek k okoljskemu poročilu.
[12] IRSNC database
[13] Jackson A.L.R. (2011). Renewable energy vs. biodiversity: Policy conflicts and the future of nature conservation. Elsevier, Global Environmental Change 21 (2011) 1195–1208

[14] Leiner, S. (2013). The EU biodiversity and nature policy and legislation – focus on Art 6.3 and 6.4 Habitats Directive. Meeting with Slovenian Authorities, Ljubljana, 7/01//2013

[15] Nature Conservation Act Ur. l. RS 96/04

[16] Poboljšaj K., Govedič M., Hönigsfeld Adamič M., Jakopič M., Kotarac M., Kus Veenvliet J., Presetnik P., Rebušek F., Slapnik R., Šalamun A., Trčak B. (2008). Presoja sprejemljivosti vplivov izvedbe obvoznice Škofljica na varovana območja (Natura 2000 območji SPA SI5000014 Ljubljansko barje in SCI SI3000271 Ljubljansko barje). Dodatek.

[17] Rules on the assessment of acceptability of impacts caused by the execution of plans and activities affecting nature in protected areas, ULRS 130/04, 53/06, 38/10, 3/11

[18] The Convention on Biological Diversity (Rio de Janeiro, 1992)

Ecological Network RC/NATURA 2000 Appropriate Assessment of Plans and Programmes - Practical Experience and Possibilities for Further Application

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Abstract

The procedure of appropriate assessment of a plan or programme's impact on the ecological network is stipulated by the Ordinance on the Appropriate Assessment of the Impact of Plans, Programmes and Projects on the Ecological Network (OG 118/09). Within this procedure, it is assessed if there is any possibility of significant impact on the conservation objectives and in the integrity of the ecological network areas caused by the implementation of a plan or programme.
This work contains an overview of the present implementations of this process either individually or as a part of the strategic environmental impact assessment.
This work presents the structure of input data from plans/programmes and the ecological network, suggested data processing possibilities, levels of assessment of possible impacts on the ecological network and mitigation measures.

Key words: appropriate assessment, plan, programme, ecological network, NATURA 2000

Introduction

The appropriate assessment of the impact of a plan/programme on ecological network procedure (Appropriate Assessment) in Croatia is stipulated by the Nature Protection Act (OG 70/05, 139/08, 57/11)(Law) and also the Ordinance on the Appropriate Assessment of the Impact of Plans, Programmes and Projects on the Ecological Network (OG 118/09)(Ordinance).
Appropriate assessment procedure consists of three phases:

- Screening of a plan or programme (Screening)
- Main Assessment of a plan or programme with the assessment of alternative solutions (Main assessment)
- Determining of overwhelming public interest and compensation measures. [1]

Screening is conducted after reaching the Decision on Drafting of a Plan/Programme, and prior to the Decision on Conducting the Strategic Environmental Assessment of a Plan/Programme on the environment (SEA), i.e. in the early phase of preparation of a plan or programme. The decision on beginning of the SEA procedure must contain the Opinion on the necessity for Main assessment.
The Appropriate Assessment is being conducted since 2009 when Ordinance was enacted. Within the four-year period (2009 - 2013) there have been two Screening procedures carried out, both for the amendments and complements to physical plans in the sense that the Screening report has been prepared on the basis of which the conclusion was reached whether it is needed or not to implement the whole procedure, i.e. to conduct the Main assessment. The remaining procedures were carried out in a

way that the Ministry of Environmental and Nature Protection had issued a Decision on the necessity for conducting the main assessment on the basis of the data on programme postulates and objectives or content stated within the Decision on the drafting of a plan/programme.
In cases where Screening procedure resulted with the decision that main assessment was necessary, this procedure was executed as a part of the SEA procedure.
The purpose of this paper is to, using the example of practical cases, point out to different principles in approach to Appropriate Assessment procedure as well as to stress the differences in the level of analysis during the assessment of possible impacts on the ecological network depending on the amount and type of the input data from plans and also the data on ecological network. Screening and Main assessment of physical plans for Zadarska and Primorsko-goranska counties shall be used as examples. Licensed consultant who performed the task was, in both cases, the company Dvokut Ecro Ltd. from Zagreb.

Appropriate Assessment of the Primorsko-goranska County Physical Plan (PGC PP)

During the Screening procedure the Ministry of Culture, Department for Nature Protection, has issued an Opinion on the necessity for conducting the Main assessment within the SEA framework procedure on the basis of Decision on the Drafting of the PGC PP. [2] Screening Report has not been prepared. The Decision on the drafting of the PGC PP defines basic goals and programme postulates, directions for social and economic development, rational utilization of natural resources and protection of space. [3] Provided that, on the basis of such general objectives, possible impact on ecological network which spreads on more than 88% (the scope of the Plan) of the county's territory could not have been excluded, it was not possible to exclude the impact on ecological network at this stage.
Main assessment was conducted within the SEA framework, and the strategic impact study contained the chapter on main assessment, pursuant to legal prescriptions and bylaws, based on the Opinion of the Ministry of Environmental and Nature Protection, Department for Nature Protection which was obtained during the phase of determining the content of the strategic study, i.e. its scope (the so-called "scoping"). [4]
Basic background document used in the preparation of main assessment was entitled "Physical Plan of the Primorsko-goranska County - Draft Plan Proposal (Concept)", and besides were also used some additional sectorial studies which complemented the data on envisaged interventions, i.e. the activities that occupy space pertaining to the Plan. Also, each of the interventions had its spatial dimension presented in vector form, so that various layers with the data on envisaged activities were overlapped on the Google Earth base map and topographic maps on a scale of 1:100.000. Thus, spatial position and data on existent/planned construction of interventions/activities were defined on and in the vicinity of the location.
As input data on the ecological network, the Regulation on Proclamation of the Ecological Network was used (OG 109/07)(Regulation) with the list of target species and habitats as well as the guidelines for protection measures together with the boundaries of the ecological network and map of habitats in vector form. In certain cases, available data on large carnivores areal and ornithofauna were also used. After the first session of the Committee for Strategic Assessment (Committee), pursuant to the demands of the members of the Committee, the possibility was considered of including, for instance, the noted bears' dens, but due to too small a scale the conclusion was reached that such kind of analysis is too detailed for strategic assessment of possible impacts and that the results are not transparent. Vector layers of planned

interventions/activities were overlapped with the ecological network and habitats map layers, thus defining the possible conflict zones where the impacts on ecological network might occur.

Main assessment analysed those interventions/activities which were planned by the Draft Plan Proposal. Interventions/activities which were defined as existent within the Plan, as well as those for which the environmental impact assessment (EIA) has already been performed or which have obtained the necessary construction permits were not included in the analysis. Altogether four economic zones were defined, as well as 9 zones for sport and recreation (including golf courses), new road and railway directions, ports and expansion of airports, five potential locations for wind parks, five potential locations for solar power plants, two 400 kV of electricity power lines, one accumulation, major gas pipeline and part of an oil pipeline.

During the analysis of possible impacts on conservation goals and integrity of the ecological network, following elements were taken into account:

- distance of ecological network from the location of an intervention,
- potential spread of habitat types - ecological network conservation goals on the location of the intervention and its closer vicinity,
- spread of habitat types used by animal species - conservation goals on the location and its wider vicinity,
- potential presence of species - conservation goals on the location of the intervention and its closer vicinity,
- land development level of the surrounding area, and
- already present anthropogenic influence.

The following cases show the level of assessment of possible impacts on the basis of input data presented in the tables below (Table 1-3).

Table 1. Assessment of possible impacts on ecological network for the intervention of constructing the wind park Zebar

Intervention	Elements for impact assessment	Valorisation of impact	Justification
Wind park Zebar	- within the area HR1000019 Gorski kotar, Primorje and northern Lika (internationally important bird area), HR5000019 Gorski kotar, Primorje and northern Lika (important area for wild species and habitats) - in the vicinity of point locality HR2000713 under Medveđak towards the sea - mostly grassland habitats, on smaller areas beech and beech-fir forests - natural habitats, no existent constructions present - none anthropogenic influence	- possible significant impact on golden eagle population - habitats - conservation goals shall not be affected - not significant for habitats inhabited by species which are the conservation goals	- 3 km from location of the intervention is the active nest of the golden eagle - there are no conservation goal habitats on the site - takeover and fragmentation of habitats which are used by the conservation goal species, habitats are wide spread in the vicinity of the intervention

Table 2. Assessment of possible impacts on ecological network for the intervention of constructing the economic zone Kukuljanovo

Intervention	Elements for impact assessment	Valorisation of impact	Justification
Industrial zone Kukuljanovo	- within the area HR1000019 Gorski kotar, Primorje and northern Lika and HR5000019 Gorski kotar, Primorje and northern Lika - partly built-up area - anthropogenic influence present - overwhelming grasslands and shrubbery	- not significant	- conservation goal habitats of HR5000019 are not present at the site (mountain forests, grasslands endangered on the European level, caves) - target species (birds and large carnivores) mostly do not utilize this area

Table 3. Assessment of possible impacts on ecological network for the intervention of constructing the fast road Brestova-Opatija

Intervention	Elements for impact assessment	Valorisation of impact	Justification
Fast road D66: Brestova-Opatija	- mostly sessile oak and chestnut forests, pubescent oak thermophile forests and shrubberies, on smaller surfaces planted conifers, watercourses, limestone boulders and rock creeps - within the area HR2000640 chestnut forests above Lovran	- possible significant impact on chestnut forests - conservation goals	- impact due to fragmentation of habitat may cause forest ecosystem disturbance on the area

Of the total number of interventions/activities which were analysed, possible significant impact was recognized for seven interventions/activities for which mitigation measures were prescribed. Suggested measures were incorporated within the PGC PP, and they were designed in a way to bind subsequent "users" of the plan during the execution of individual projects either in the Environmental Empact Assessment phase or in the project documents preparation phase. [5]

After the completion of the Strategic Impact Study, which included the chapter on the Main assessment, three sessions were held as part of the SEA procedure on which the Committee evaluated expert bases and integrity of the Strategic Study and the Main Assessment.

Regarding the timeframe, overall Assessment procedure for the PGC PP starting with obtaining an Opinion on the necessity of drafting the Main Assessment until the end of the procedure lasted one year and six months. During that period, the procedure of determining the content ("scope") of the Strategic Impact Study and selection of licensed consultant was also conducted, Strategic Impact Study was written, Committee's sessions and public hearing took place. Collection of needed data and drafting of the Main Assessment chapter took one month, while complementing and

amending of the chapter in regard to the Committee's objections and comments took additional month (including the Committee's session's debates).

Appropriate Assessment of Acceptability of the Fifth (V.) Amendments and Complements to the Zadarska County Physical Plan on the Ecological Network

As the basis for conducting the Screening procedure for the Fifth (V.) Amendments and Complements to the Zadarska County Physical Plan (V. AC ZCPP), screening Report was made.
The Screening Report encompassed all the very broad newly planned interventions/activities which were subject to the Draft Proposal of the V. AC ZCPP, and which included production zones, touristic zones, recreational zones, mineral resources exploitation fields, areas for mariculture, road and air traffic, ports, electricity supply, gas supply, wind parks, accumulations, melioration systems, irrigation systems, flooded areas, waste water collection and sanitation protection zones. Apart from the newly planned activities/interventions, a large portion of amendments addressed the harmonization with the lower-ranked plans. This means that those areas are not the result of the newly planned activities, but are rather being placed within the County's Physical Plan for the very first time or are more clearly defined by polygons on cartographic maps.
Regulation with the list of target species and habitats, conservation measures guidelines and vector habitat map were used as input data on the ecological network.
Vector layers with planned interventions/activities were overlapped with the ecological network and habitat map layers, thus defining potential conflict zones where impact on ecological network is highly likely to occur. When needed, digital orthophoto maps from the State Geodetic Administration website were used for more detailed analysis.
During the analysis of possible impacts, same elements were considered as with the Main assessment of the PGC PP. After the determination of conflict zones, a series of consultations were held with the State Institute for Nature Protection (SINP) for the purpose of more detailed analysis on the basis of more accurate data on the conservation objectives of the ecological network and frequency of their appearance on concrete sites of interventions/activities. During these consultations, which directly included the proponent as well as the consultant, locations of specific interventions were modified in a way to reduce their possible impact on the ecological network to the maximum. In cases where this was not possible, guidelines were recommended, i.e. mitigation measures which need to be incorporated within the plan. For the interventions for which it was obvious that the impact cannot be avoided even with the application of mitigation measures, the decision was reached to exclude such interventions from the Plan.
The following examples show levels of assessment of possible impacts on ecological network on the basis of the input data (Table 4-6).[6]

Table 4. Assessment of possible impacts on the ecological network for the intervention irrigation accumulation and irrigation system Bokanjačko blato

Intervention	Impact assessment elements	Valorisation of impact	Justification
Irrigation accumulation (taken from the Physical Plan of the Town of Zadar) and	- within the area HR1000024 Ravni kotari - accumulation in the south-eastern part of HR2000916 area Bokanjačko blato (conservation goals - marsh habitats), almost completely covered by the	- accumulation: low-intensity impact - irrigation system: no impact	- new water surface is created - the impact on herpetofauna may even be positive - takeover of habitats

the irrigation system Bokanjačko blato (newly planned intervention)	envisaged irrigation system - intensive agriculture area on reparcelled, enlarged land with the existent melioration channels network		

Table 5. Assessment of possible impacts on the ecological network for the intervention wind park Lišane Ostrovičke

Intervention	Impact assessment elements	Valorisation of impact	Justification
Wind park Lišane Ostrovičke (total area 968 ha; taken from the Physical Plan of the Lišane Ostrovičke Municipality)	- outside of the ecological network area, but in the immediate vicinity of HR1000026 Krka and the surrounding plateau (internationally important area for birds) - its eastern border is adjacent to the potential wind park location Benkovac 4 (1.060 ha) - natural habitats - no anthropogenic influence	- possible impact on ornitofauna - conservation goals of the ecological network area - possible cumulative impact of Lišane Ostrovičke and VE Benkovac 4 wind parks	- recommended measure: conduct further research on ornitofauna in the area as part of subsequent EIAs

Table 6. Assessment of possible impacts on the ecological network for the intervention touristic zone Južni Pašman

Intervention	Impact assessment elements	Valorisation of impact	Justification
Pašman Municipality - abolition of 4 touristic zones and establishing of a unique new zone South Pašman	- marine part by the new touristic zone is positioned within the HR3000019 area. Soline lagoon (conservation goal coastal lagoons habitats) and the HR3000419 Južni Molat-Dugi-Kornat-Murter-Pašman-Ugljan-Rivanj-Sestrunj-Molat (conservation goal common bottlenose dolphin - *Tursiops truncatus*) - within the Velika and Mala tala lagoons are situated smaller coastal lagoons - habitats are mostly bushes/ sub Mediterranean and dry grasslands, epi Mediterranean dry grasslands and on lesser parts mixed evergreen forests and macchia of holm oak - partly built-up coastal area - area of the new touristic zone amounts 100 ha	- high intensity impact on the area HR3000019 -Soline lagoon	- possible devastation of coastal lagoons as a consequence of land use change - recommended measure: through lower-ranked physical plans implementation provisions exclude coastal lagoons from construction /utilization areas

On the basis of the detailed Screening Report, the Ministry of Environmental and Nature Protection, Department for Nature Protection, has issued the Certificate that the planned V. AC ZCPP, assuming the exclusion of certain interventions, shall not bear impact on the conservation goals and the integrity of the ecological network on condition that accumulation "Bokanjačko blato" and the irrigation system "Bokanjačko blato" are excluded from the Plan. [7]
Altogether, the process of collecting the needed data, drafting of the screening Report and consultations with SINP lasted roughly ten months.

Conclusion

On the examples of conducting the Appropriate Assessment, it is noticeable that the Screening REport for the V. AC ZCPP and the Main Assessment Report for PGC PP were drafted on the almost exact level regarding the scrutiny of possible ecological network impacts analysis.
In the case when the Screening procedure of PGC PP begun, the drafting of physical plan has just started and in that phase only objectives and programme directions of the Plan were known, i.e. there were still no interventions or their spatial locations defined on the bases of which could be concluded whether the impact on ecological network is possible or not. For that reason, it was impossible to exclude possible impact on the ecological network and thus detailed analysis of possible impacts was conducted in the Main Assessment.
In case of the Zadar County, at the time when the Screening procedure began, the proponents disposed with an abundance of data retrieved from the received requests for amendments and complements and on the bases of interventions/activities from lower-ranked physical plans to be included within the Amendments and Complements to the Plan, on which bases it was possible to determine possible impacts on ecological network more accurately. Besides, the Zadar County approached to this problem in a more practical manner, i.e. by determining the possible conflict areas in the starting phase of the process and, based on consultations with the consultant and the SINP concurrently modified the Plan in order to make it acceptable to the ecological network. As a result, the Screening Report was drafted on the Main Assessment level, and the time needed for the drafting of the report including all the consultations was eventually longer than the time needed in the PGC PP case.
As opposed to the case of drafting the V. AC ZCPP, in most physical planning cases there are no sufficient, concrete data on interventions/activities for performing a sound, comprehensive, detailed assessment of impacts on ecological network in the phase of issuing a Decision on drafting of the Amendments and Complements to the Plan. Provided that the purpose of Screening is not to determine possible impacts, but rather to assess whether the possible impact on ecological network caused by the implementation of the Plan could be excluded, the overall procedure should be simplified to the greatest possible extent. If not, there is a possibility of significant prolongation of the whole process if it is determined that the possible impact on ecological network cannot be excluded and that the Main assessment procedure has to be carried out. Also, there is a possibility that in the later planning phases some new interventions/activities are added, in which case the procedure must be repeated.
After the execution of the Screening procedure, assuming that the possible impact on ecological network cannot be excluded, it is necessary to determine contingent problems and conflict zones for which more detailed analysis of possible impacts shall be performed within the Main assessment procedure. Within the Main assessment procedure, through mutual communication of consultant, proponent, the competent authority and the SINP, the Plan has to be modified in a way that certain

interventions/activities are relocated if needed, or mitigation measures are proposed in order to reduce the possible impacts on ecological network caused by the implementation of the Plan.

Literature

[1] Ordinance on the Appropriate Assessment of the Impact of Plans, Programmes and Projects on the Ecological Network . Official Gazzette No. 118/09.
[2] Ministry of Culture, Department for Nature Protection. Opinion that Main Assessment Procedure for the Physical Plan of the Primorsko-goranska County has to be carried out as part of the Strategic Environmental Assessment.
[3] Decision on Drafting of the Primorsko-goranska County Physical Plan. Official Gazzette of the Primorsko-goranska County, No. 3/2011.
[4] Ministry of Culture, Department for Nature Protection. Physical Plan of the Primorsko-goranska County - Opinion on the Content of the Study.
[5] Dvokut Ecro d.o.o. Strategic Environmental Impact Assessment Study for the Primorsko-goranska County Physical Plan.
[6] Dvokut Ecro d.o.o. Previous Assessment Elaborate for the Fifth (V.) Amendments and Complements to the Zadar County Physical Plan.
[7] Ministry of Environmental and Nature Protection. Certificate that the planned V. (Fifth) Amendments and Complements to the Zadar County Physical Plan, with the exclusion of interventions "Bokanjačko blato Irrigation System" and “Irrigation Accumulation Bokanjačko blato" shall not bear significant impacts on conservation goals and the integrity of the ecological network area.

Compensatory Measures
Legislative framework and practice – implementation in Croatia

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Abstract

Habitats and Birds Directives are two central pillars of the EU biodiversity legal order. They provide legal protection for habitats and species through NATURA 2000 network. For projects, plans or programs that influence spreads within this areas, Appropriate Assessment (AA) is carried out. When projects, plans or programs are evaluated as non-acceptable, compensatory measures can be considered in presence of greater economic or social value. One of the obligations that Croatia has to meet in the accession process to the EU is proclamation of NATURA 2000 Network areas. In 2009 Croatia has set up Croatian Ecological Network areas as areas of special importance for certain species and habitats types. AA was also introduced. Compensatory measures even though they have been introduced in legislation, have not yet been implemented in practice. This review investigates current legislation framework and implementation in practice for compensatory measures according to EU and Croatian national legislation.

Key words: NATURA 2000, Croatian ecological network, compensatory measures

Introduction

It is undeniable that nature conservation is one of the leading sectors of European Commission environmental policy. Directive 79/409/EEC on the conservation of wild birds – the 'Birds Directive' (EC, 1979) and Directive 92/43/EEC on the conservation of natural habitats, wild fauna and flora – the 'Habitats Directive' (EC, 1992) are two central pillars of the EU biodiversity legal order (García-Ureta, 2007). They provide legal protection for habitats and species of European importance through an EU-wide network of sites – the NATURA 2000 network. The NATURA 2000 network consists of Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Birds Directive. Articles 6(3) and (4) of the Habitats Directive set out the decision making tests for plans or projects affecting NATURA 2000 sites. These tests are referred to as appropriate assessment. Appropriate assessment (AA) is a detailed impact assessment of the implications of a plan, programme or project, alone and in combination with other plans and projects, on the integrity of a NATURA 2000 site in view of its conservation objectives. The assessment is a statement which outlines whether the plan or project does, or does not; affect the integrity of a European site(s) in this respect.

Imperative reasons of overriding public interest (IROPI) and compensatory measures are introduced into EU legislation, but they are considered as final solutions when all other alternatives have been assessed and studied.

This review investigates current legislation framework for compensatory measures according to EU and Croatian national legislation. Also it presents several case studies

of implementation of related legislative in EU countries and practice in Croatia. On 1st July 2013 Croatia will join EU and through this paper few propositions for implementation of compensatory measures practice have been drafted.

Materials and methods

This paper is based on legal acts of EU and national legislation, and as well materials regarding some cases used to show possible solutions and outcomes in cases where compensatory measures have been carried out.
Evaluation of legal standards and practical cases was done according to literature findings and authors' personal opinions. For the purpose of providing implementation solutions regarding compensatory measures effect in Croatia, both EU legislative and currently valid Croatian national legislation on this subject have been studied.

Legal background

The first response of the **EU legislation** to the biodiversity decline trend were EU directive 92/43/EEC on natural habitats protection and wild species of flora and fauna ("Habitats Directive") and EU Directive 79/409/EEC, 2009/147/EC on wild birds protection ("Birds Directive"). The main goal of these Directives was to create an ecological network of protected areas around Europe (NATURA 2000 network) in order to protect more than 1000 threatened, rare, ecologically significant and endemic species, and around 230 natural and semi-natural habitats (listed in appendices of both directives).
Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora, Habitats Directive, was adopted in 1992. The Directive is the means by which the EU meets its obligations under the Bern Convention. The Directive was amended in 1997 by a technical adaptation Directive. The annexes were further amended by the Environment Chapter of the Treaty of Accession in 2003 and in 2007 when Bulgaria and Romania joined the EU. The main aim of the Directive is to contribute towards ensuring bio-diversity through the conservation of natural habitats and of wild fauna and flora in the European territory of the Member States to which the Treaty applies (EC, 1992, Art. 2(1)).
The Habitats Directive also aims to promote the maintenance of biodiversity by defining a common framework for the conservation of habitats, plants and animals of Community interest. Member States must undertake initiatives to maintain or restore natural habitats and wild species at a favorable conservation status through the introduction of vigorous protection measures for the habitats and species of European Importance. Annex I (Natural habitat types of community interest) and Annex II (Animal and plant species of community interest) of the Habitats Directive list the habitats and species whose conservation requires the designation of SACs. Some habitats or species are defined as 'Priority' habitats or species (in danger of disappearing) and Annex IV lists animal and plant species in need of particularly strict protection. Member States must take all of the necessary measures to guarantee the conservation of habitats in SACs and to avoid their deterioration. Member States must therefore:

- Encourage the management of landscape features that are essential for the migration, dispersal and genetic exchange of wild species.
- Establish systems of strict protection for those animal and plant species that are particularly threatened (listed in Annex IV) and study the desirability of reintroducing those species in their territory.

- Prohibit the use of non-selective methods of taking, capturing or killing certain animal and plant species - as listed in Annex IV (Scott Wilson et al. 2006).

Directive 2009/147/EC of the European Parliament and of the Council of 30th November 2009 on the conservation of wild birds (this is the codified version of Directive 79/409/EEC as amended) is the EU's oldest piece of nature legislation and one of the most important, creating a comprehensive scheme of protection for all wild bird species naturally occurring in the Union. It was adopted in 1979 as a response to increasing concern about the declines in Europe's wild bird populations resulting from pollution, loss of habitats as well as unsustainable use. It was also recognition of the fact that wild birds, many of which are migratory, are a shared heritage of the Member States and that their effective conservation required international co-operation. The directive recognizes that habitat loss and degradation are the most serious threats to the conservation of wild birds. It therefore places great emphasis on the protection of habitats for endangered, as well as migratory species (listed in Annex I), especially through the establishment of a coherent network of Special Protection Areas (SPAs) comprising all the most suitable territories for these species. Since 1994 all SPAs form an integral part of the NATURA 2000 network.
The main provisions of the Directive include:

- The maintenance of the populations of all wild bird species across their natural range with the encouragement of various activities to that end.
- The identification and classification of Special Protection Areas (SPAs) for rare or vulnerable species listed in Annex I of the Directive, as well as for all regularly occurring migratory species, paying particular attention to the protection of wetlands of international importance. (Together with Special Areas of Conservation designated under the Habitats Directive, SPAs form a NATURA 2000 network).
- The establishment of a general scheme of protection for all wild birds.
- Restrictions on the sale and keeping of wild birds.
- Specification of the conditions under which hunting and falconry can be undertaken. (Huntable species are listed on Annex II of the Directive).
- Prohibition of large-scale non-selective means of bird killing.
- Procedures under which Member States may derogate from stated directive provisions that is, the conditions under which permission may be given for otherwise prohibited activities.
- Encouragement of certain forms of relevant research (Annex V).
- Requirements to ensure that the introduction of non-native birds does not threaten biodiversity.

Compensatory measures within the EU legislation
The aim of compensatory measures is to offset the negative impact of a project and to provide compensation which corresponds to the negative effects on the habitat or species concerned. Compensatory measures are distinct from mitigation measures. Mitigation measures aim to minimize or even cancel the negative impacts on a specific site that are likely to arise as a result of the implementation of a plan or project and they are an integral part of the plan or project specifications. Compensatory measures are independent of the project (including any associated mitigation measures). They are intended to offset the negative effects of the plan or project so that the overall ecological coherence of the NATURA 2000 network is maintained. Compensatory measures are additional to the actions that are normal practice under the Habitats and Birds Directives or obligations laid down in EU law. The implementation of a management plan, the proposal or designation of an area, already inventoried as a site of community importance, are considered normal. Measures and compensatory measures must go

beyond the normal/standard measures required for the protection and management of NATURA 2000 sites. Compensatory measures should only be considered where an assessment of the implications of a plan or project on the site has concluded that there would be negative implications for the site and in the absence of alternative solutions; a plan or project must still be carried out because of imperative reasons of overriding public interest. Compensatory measures constitute a last resort and should only be used when the other safeguards provided for in the Directive are ineffectual and the final assessment decision states that a plan or project will have a negative effect on the NATURA 2000 site. Compensatory measures should fulfill the same purpose that motivated the site's designation under the Habitats or Birds Directive.

Compensatory measures necessary to offset the adverse effects on NATURA 2000 sites can consist of:

i. Restoration or enhancement in existing sites: restoring the habitat to ensure its conservation value and compliance with the conservation objectives of the site or improving the remaining habitat in proportion to the loss due to the plan or project.
ii. Habitat recreation: recreating a habitat on a new or enlarged site to be incorporated into NATURA 2000.
iii. Proposing a new site under the Habitats or Birds Directive.
iv. Species reintroduction, recovery and reinforcement (EC, 2007).

The compensatory program must consist of ecological measures and therefore payments to members or towards special funds, regardless whether these are ultimately directed to nature conservation projects, are not suitable under the Habitats Directive. A precautionary approach should be adopted and the assessment of adverse effects should be based on a worst-case scenario. Compensatory measures must be feasible and operational in reinstating the ecological conditions needed to ensure the overall coherence of the NATURA 2000 network. The timing of the compensatory measures should ensure a tight coordination between the plan or project implementation and the measures implementation. Compensatory measures should be located within the same bio-geographic region for sites designated under the Habitats Directive or within same range, migration route or wintering areas for bird species, within the Member State concerned. The compensatory measures should be located as close as possible to the area affected by the plan or project in order to replicate the local conditions necessary to reinstate the ecological assets at stake. If compensatory measures take place on a non-designated location, the area must be subsequently designated as a NATURA 2000 site and be subject to all the requirements of the nature Directives. In line with the polluter pays principle, the project developer bears the cost of the compensatory measures.

More rigorous requirements apply where a plan or project concerns a site with priority habitats and/or species and is likely to affect these priority habitats or species. These plans and projects can only be justified if the imperative reasons of overriding public interest concern human health and public safety or overriding beneficial consequences for the environment, or if, before granting approval to the plan or project, the Commission has not expressed an opinion on the initiative envisaged. The opinion of the Commission is not binding and the national authorities can move away and decide to implement the plan or project, however in the case of non-conformity with Community law, the Commission may initiate appropriate legal action.

One of the obligations that the Republic of Croatia has to meet in the accession process to the European Union is preparation of the NATURA 2000 Network for over 230 species and 70 habitat types that occur in Croatia and that are considered to be of EU importance.

At the proposal of the Ministry of Culture (at that time authorised body for nature protection in Croatia), the Government of the Republic of Croatia has proclaimed in

2007 the ecological network (NEN) with a system of areas of ecological importance and ecological corridors. NEN covers 47 per cent of Croatian Land Territory and 39 per cent of the Territorial Sea. NEN includes international and national ecologically important areas and serves as the preliminary basis for proposal of the future NATURA 2000 network in Croatia. Preservation of the ecological network is one of the fundamental goals to be achieved through implementation of measures identified in the Croatian Nature Protection Act (OG 70/05, 139/08 and 57/11) and the Regulation on proclamation of the ecological network (OG 109/07). It is required to ensure the conservation of target species and habitat types in a favourable state or regeneration of habitats whose favourable state was impaired.

All projects and activities in the ecological network areas that could have a negative impact on the area conservation objectives are subject to the procedure of appropriate ecological network impact assessment, pursuant to the Ordinance on the appropriate assessment of the impact of plans, programmes and projects on the ecological network (OG 118/09). The procedure consists of three stages:

- Screening
- Main assessment with the assessment of other alternative solutions
- Establishment of overriding public interest and compensatory measures.

If the conclusion of the Main assessment has determined that there are significant negative impacts to certain areas of ecological network, and alternative solutions do not exist or their impacts are also significantly negative, the intervention can be approved only if imperative reasons of overriding public interest exist for its implementation. It should be pointed out that it is not enough to prove the existence of the public interest, but it is necessary to show that this particular public interest prevails over the public interest for the protection of nature. Even if imperative reasons of overriding public interest for the project are proven, it is necessary, to ensure the preservation of the coherence of ecological network areas through compensation requirements before the project implementation.

Compensatory measures within Croatian legislation

According to national Nature Protection Act, forms of compensation terms are:

- Establishment of the compensation area, which has the same or similar features as “damaged” area of the Ecological Network,
- Establishment of a new ecological network area,
- Payment of a sum in the amount of damage caused to the ecological network areas in case where it is not possible to implement compensation requirements (not applicable to NATURA 2000 areas).

There are several steps in determining compensation terms:

1) Separating feasible compensatory measures from non-feasible measures,
2) Finding appropriate potential sites (in relation to biodiversity, pedological and geological characteristics, hydrological conditions, etc.),
3) Identifying possible problems related to definite choice of potential location (propriety problems, land use and expropriation process, financial and legal issues, etc.)
4) Preparing well-reasoned information on the value and meaning of a chosen area of ecological network, needed for an objective determination of imperative reasons of overriding public interest (IROPI). Information for this needs to be based on all of the data collected within previously carried out procedures (appropriate assessment) and needs to be addressed to all of the levels of public interest (local, regional, national and international), even though special accent is given to national and international level.

According to EC guidelines there are three inevitable conditions for compensatory measures:

1) Target species and habitats in considered area are retrievable,
2) (in case that first condition is fulfilled) suitable location for compensatory measures application can be found
3) (in case that both of previous state conditions are fulfilled) mechanisms for assuring the implementation of compensatory measures must exist in order to meet the pre-determine requirements for executing the intervention.

When proposed compensatory measures do not meet the above mentioned conditions, the intervention cannot be carried out, despite the evidence of imperative reasons of overriding public interest.

Case studies (results)

Bathside Bay Container Terminal, 2006, England

This case study presents an overview of the process of defining compensatory habitat area within the procedure of determining the best solution for increaseing port capacities in England. Four alternatives have been considered, and the imperative reasons of overriding public interest overview (IROPI) procedure has been carried out.
Final decision on location of Bathside Bay Container Terminal has been followed by damaging of: 69ha intertidal area; 2240 roosting birds and 1560 feeding birds. Compensation measures/ compensation site included an area altogether of 138ha of intertidal habitat.

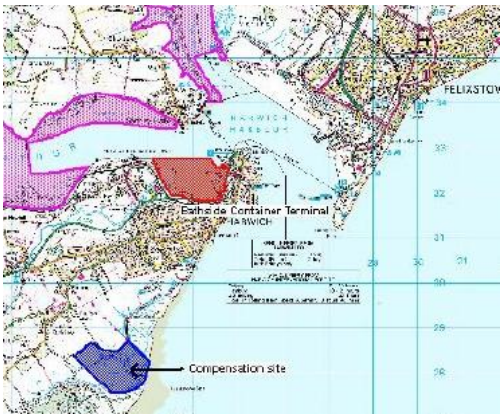

Figure 1 Locations of Bathside bay container terminal and compensation site
Source: "Interpreting the Article 6(4) Tests –Experience from the UK"; Daniel Pullan; Royal Society for the Protection of Birds

Agreed habitat compensation included several issues needed for final decision on compensation site location feasibility: clear species and habitats targets, phasing in compensation site establishment, proximity to the damaged area and calculation of potential risks of compensation site sustainability.

Compensatory Habitat as Mitigation Measure for a Motorway Maribor –Pince (segment Beltinci -Lendava), Slovenia

The investor of motorway Maribor –Pince construction was state company Motorway Company of the Republic of Slovenia. The entire motorway consisted of 8 road segments that had 8 individual plans. Proceedings started before 2000, and NATURA 2000 network areas in Slovenia have been established since 2004.

Figure 2 Location of motorway Maribor –Pince within Slovenia
Source: "Compensatory Habitat as Mitigation Measure for a Motorway Plan"; Tina Klemenčič, Simona Kaligarič, Institute of the Republic of Slovenia for Nature Conservation; Dublin, Nov 2009

Segment Beltinci –Lendava has the length of 17.4 km. A Study of alternatives has been carried out and the chosen alternative was the less favourable for NATURA 2000 network sites.
The assessment detected following short-term and long-term adverse effects: short – term (during construction): noise, habitat destruction, habitat fragmentation, change of abiotic factors and long –term (during use): noise, loss or fragmentation of habitats, mortality due to accidents, pollution, etc. Mitigation measures prescribed within the assessments were the following: protection fences for big mammals and amphibians; passages for amphibians; ecoducts (green bridges over the motorway); construction limitations during nesting season and compensatory habitats for birds. Compensatory habitats for birds have been found for both types of habitats that were damaged due to motorway construction: forest habitat for Middle Spotted Woodpecker (*Dendrocopus medius*) and Collard Flycatcher (*Ficedulla albicollis*) and wet meadows for Barred Warbler (*Sylvia nisoria*) and Snake's head Fritillary (*Fritillaria meleagris*)

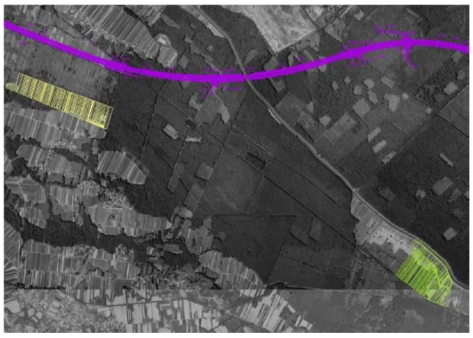

Figure 3 Locations of Compensatory Habitats (purple – new motorway, yellow – compensation sites)
Source: "Compensatory Habitat as Mitigation Measure for a Motorway Plan"; Tina Klemenčič, Simona Kaligarič, Institute of the Republic of Slovenia for Nature Conservation; Dublin, Nov 2009

Excavation of gravel sand from river Mura, on location of the mouth of river Mura into river Drava, at 236,00 km; Croatia

The investor of this project was the state – owned company Croatian waters (Hrvatske vode). The procedure started in 2010, and an appropriate assessment followed by a main assessment including the assessment of alternative solutions was done. The project was planned on a location within Croatian territory but close to the border with the Republic

of Hungary. The intervention consisted of kinete digging on Croatian side of the river, construction of a barrier within the river Mura flow, construction of two feathers that would serve to direct the flow, and of the reparation of the existing embankment (coastal defence facility).
Within the main assessment it was presented that only one possible solution can be considered for stabilizing the left embankment of the river Mura, protecting it from erosion and consequently protecting the railway corridor in Hungary area.
Based on the findings, the authorized body decided that this intervention will have a significant effect on three ecological network sites, and also that the intervention will lead to a permanent displacement of forest vegetation, it will affect the distribution of fauna species and potential pollution and will have great impact on sandbank habitats. This especially relates to the population of a rare and protected species - tamarisk (*Myricaria germanica*) that with the olive willow (*Salix eleagnos*) constitutes a very rare floral community *Salici-Myricarietum* M. Moor 1958. This community has one of its last patches in Croatia, in the area of the planned intervention. This area is also a feeding area of two rare and protected bird species: common tern (*Sterna hirudo*) and little tern (*Sterna albifrons*). As no other alternatives have been presented or considered for this intervention, the authorized body refused the investors request for project realization, and gave the possibility to start the procedure of establishment of overriding public interest and compensatory measures.
This procedure has started and lasted for two years, when in 2012, the authorized body issued the solution of intervention implementation refusal since in the procedure of establishment of overriding public interest, the overriding public interest was not determined and since the proposed compensation sites would not replace all of the damaged habitats. During the procedure, the public and authorized bodies have been consulted and a negative opinion from the European Commission has been received as well.

Discussion

Prior to implementing compensatory measures, the imperative reasons of overriding public interest (IROPI) procedure should be carried out, according to both the EU and Croatian legislation. Types of public interest can be various: social or economic interests (long-term benefits for the entire society of the area and not only for the investors or individuals); human health; public safety and environmental importance.
For providing an accurate and valid IROPI overview the essential information about the intervention, plan or programme needs to be assessed and collated. Predicted adverse effects on NATURA 2000 sites need to be classified and characterized (qualifying interests affected, priority or non-priority habitats or species; nature, scale and duration of adverse effects), as well as the public need for a plan or a project (nature, level and duration of the need) and its contribution to that need.
In order to determine whether a need is overriding, it is necessary to scale the significance of the impact on NATURA 2000, to scale the public need and to determine the timeframe of the need (i.e. the greater the impact, the lesser and shorter the need - less likely a plan or a project will be found of overriding public interest). Further on, it should be evaluated whether the specific plan or project is the optimal and feasible manner of meeting the overriding need of the public. IROPI results can lead to a rejection of a plan or a project or to an implementation of compensatory measures.
If all of the above mentioned steps prove that the project or plan needs to be implemented and realized, despite seriously affecting the NATURA 2000 sites, the compensatory measures need to be implemented. They are the last solution, after all alternatives have been examined. Even though Croatia does not have an example of

compensatory measures implementation, national legislation has provision for them. According to currently valid national legislation there are three possibilities for implementation of compensatory measures, one of which – financial payment is not acceptable according to EU legislation

For compensatory measures determination four main questions need to be addressed: What? (kind of measures); Where? (suitable location); How much? (extent of the area) and When? (time-frame in which the measures have to be implemented).

Compensation measures determination, can also lead to a rejection of a plan or a project if it is evaluated that the damage cannot be compensated, to full replacement (compensation site) of ecological functions that are lost due to a project or a plan realization or to establishing new site areas that will be included in NATURA 2000 network.

Compensation measures bring with its implementation few other issues that have to be resolved in order for measures to be fully successful. Some of the issues are often considered as real or potential problems in compensatory measures implementation. One is finding appropriate location for a compensation habitat, because of land ownership problems and acquisition issues - whether the land can be bought or sustainable land management contracts need to be signed (lease contracts). Full ownership of potential land is considered as a better solution since the responsibility and management roles are then clearer. Next, the “Polluters Pay” principle is sometimes difficult to impose to investors. Here, an important question is whether the investor can provide and manage the compensation site or he should contract a third party that is registered for this kind of work. Also, it is important to set up a responsible body to perform long-term monitoring of compensation habitat sites (a systemic solution that will secure long lasting management plans of new-established sites) and also an independent body is needed to oversee the monitoring. According to the Aarhus convention, all of the collected information should be available to the public. All of this takes a long procedure that can very often be difficult to complete before the original habitat destruction takes place due to a plan or a project implementation. Resolving these issues is essential to have a fully functional establishment of compensation habitats.

IROPI and compensatory measures are procedures applied when it is considered that the original habitat or species of importance for NATURA 2000 sites are being destroyed, but it is very difficult to determine the line between destruction and reduction of habitat, where only mitigation measures are proscribed and implemented. Also, compensatory habitat can often be seen as a mitigating but also as a compensation measure. For this, clearer rules need to be prescribed and interdisciplinary team of experts needs to be included in the evaluation process. Also, protection of compensatory habitat and some restriction for new plans and projects should be legally defined, since if the compensation habitat is destroyed its function will be lost.

Conclusion

Within the legally prescribed procedures for NEN preservation, appropriate and main assessments, findings about the status of target species and habitats within the plan or project area have to be presented, significant effects of considered plan or project, with cumulative effects, have to be assessed. If the effects are determined to be significant but can be reduced by implementing mitigation measures, a project or a plan can be realized if the prescribed measures and monitoring programme is strictly followed.

Imperative reasons of overriding public interest and compensatory measures are implemented if the previous procedures determine that significant effects cannot be

reduced by mitigating measures, but project/plan realization is of public interest and has great importance. These procedures are a final solution after all alternatives are been examined. Both are incorporated in EU and Croatian legislation, even though current national legislation gives three options for implementing compensatory measures (compensation habitat establishment, financial compensation and establishment of another ecological network/ NATURA 2000 site area). Financial compensation is not considered as option and Croatian legislation needs to align with EU prior to accession.

IROPI and compensatory measures introduction procedure can have three possible outcomes: rejection of a plan or a project if it is evaluated that the damage cannot be compensated; replacement (compensation site) of ecological functions that are lost due to a project or a plan realization or establishment of new site areas to be included in NATURA 2000 network.

To minimize possible difficulties in implementing these procedures in Croatia, following propositions are drafted:

- IROPI and compensatory measures are final solutions when all alternatives have been assessed and validly rejected;
- Responsibility of providing a compensation site and managing it should be stated more clearly within the legal acts;
- A clearer definition is needed for what is considered to be destruction and what reduction of significant habitats and species, in order to facilitate decisions on whether IROPI and compensatory measures are needed or a plan or a project can be realized with implementation of mitigation measures alone;
- A multidisciplinary team of experts should be involved in IROPI and compensatory measures procedures.

Literature

[1] European Commission Nov 2001 “Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC”,.
[2] García-Ureta, A. 2007. Habitats Directive and Environmental Assessment of Plans and Projects. Journal for European Environmental and Planning Law, 2: 84-96.
[3] Klemenčić T., Kaligarč S. Nov 2009 “Compensatory Habitat as Mitigation Measure for a Motorway Plan”; Institute of the Republic of Slovenia for Nature Conservation; Dublin
[4] Ministry of Environmental and Nature protection of Republic of Croatia, Nature protection web portal http://www.zastita-prirode.hr
[5] O’Connell F. 2010 thesis Appropriate Assessment of Natura 2000 Sites in Ireland: Shortcomings and Improvements in Practice; School of Agriculture, Food Science & Veterinary Medicine
[6] Pullan D. “Interpreting the Article 6(4) Tests –Experience from the UK”; Royal Society for the Protection of Birds
[7] Scott Wilson, Levett-Therivel Sustainability Consultants, Treweek Environmental Consultants and Land Use Consultants. 2006. Appropriate assessment of plans. London: http://www.landuse.co.uk/Downloads/AppropriateAG.pdf

Ekološka mreža u kontekstu izrade i provedbe prostornih planova, primjer Primorsko-goranske županije

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Sažetak

Prema Nacrtu prijedloga uredbe o ekološkoj mreži NATURA 2000, ekološka mreža u Primorsko-goranskoj županiji obuhvaća gotovo 80% kopnene površine. Takav prijedlog izaziva zabrinutost šire javnosti zbog mogućih ograničenja za budući razvoj, pa se u radu sagledavaju posljedice uključivanja ekološke mreže u prostorno-plansku dokumentaciju, odnosno analiziraju se postojeća građevinska područja u odnosu na područja koja će činiti sastavni dio ekološke mreže.

Na temelju provedene analize zaključuje se da je unatoč velikom obuhvatu buduće ekološke mreže NATURA 2000 u prostorno-planskoj dokumentaciji ipak moguće postići ravnotežu između razvojnih potreba i zaštite prirode u užem smislu.

Ključne riječi: prostorno planiranje, ekološka mreža, NATURA 2000, Primorsko-goranska županija

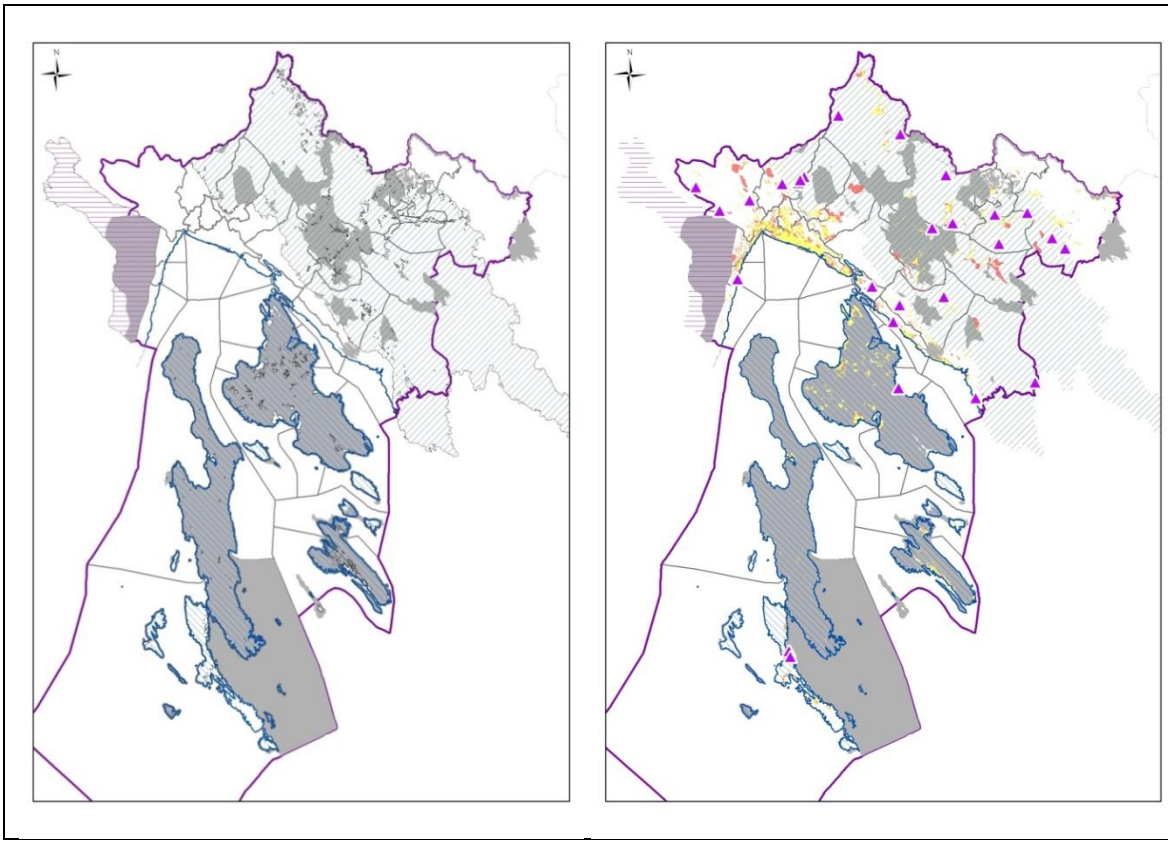
Uvod

Na prijedlog Državnog zavoda za zaštitu prirode (u nastavku: DZZP) Vlada Republike Hrvatske je u listopadu 2007. godine donijela Uredbu o proglašenju ekološke mreže („Narodne novine“, broj 109/07 – u daljnjem tekstu Uredba). Uredbom je određeno da sastavni dio Nacionalne ekološke mreže (u nastavku: NEM) čini ukupno 44% površine Hrvatske. Na području Primorsko-goranske županije (u nastavku: Županija) površina NEM-a značajno je veća od nacionalnog prosjeka jer ekološka mreža obuhvaća 88% kopnenog teritorija ili 61% ukupne površine Županije. No kada Republika Hrvatska postane članicom Europske unije (1. srpnja 2013. godine) postojeća NEM-a prestaje se primjenjivati, a na snagu stupa ekološka mreža NATURA 2000 čije je proglašenje preduvjet ulaska Republike Hrvatske u Europsku uniju.

Prijedlog ekološke mreže NATURA 2000 za područje Republike Hrvatske također izrađuje DZZP. Iako su kriteriji za izradu NEM-a i mreže NATURA 2000 svoje ishodište pronašli u važećim europskim direktivama (Direktiva o staništima i Direktiva o pticama), obuhvat NEM-a i budućeg prijedloga ekološke mreže NATURA 2000 nije u potpunosti identičan. Neka područja trenutno važeće NEM-e više neće biti sastavni dijelovi NATURA 2000, pa trenutni prijedlog ekološke mreže NATURA 2000 obuhvaća 37% ukupnog teritorija Republike Hrvatske. Smanjenje obuhvata mreže NATURA 2000 u odnosu na NEM-u ogleda se i u manjem obuhvatu površine uključene u ekološku mrežu i na razini Županije. Trenutnim prijedlogom mreže NATURA 2000 u Županiji je obuhvaćeno 78% kopnenog teritorija, odnosno 10% manje od obuhvata NEM-e.

Zbog specifičnosti prirodnih vrijednosti na području Županije, gdje se na relativno malom prostoru nalaze tri velike biogeografske regije Europe: alpska, kontinentalna i mediteranska, prijedlog obuhvata mreže NATURA 2000 za područje Županije značajno odskače od prosjeka, bilo na hrvatskoj ili europskoj razini. Razmatrajući distribuciju ekološke mreže NATURA 2000, činjenica je da su u Županiji ostali sačuvani raznovrsni stanišni tipovi te da na njenom području obitavaju brojne biljne i životinjske vrste značajne na europskoj i nacionalnoj razini.

Slijedom navedenoga, Nacrtom prijedloga uredbe o ekološkoj mreži (u daljnjem tekstu: Nacrt prijedloga), koji je na uvid javnosti stavljen u svibnju 2013. godine, u Županiji je mrežom NATURA 2000 obuhvaćeno ukupno 113 lokaliteta i/ili područja, većeg ili manjeg obuhvata. Kartografski prikaz obuhvata ekološke mreže NATURA 2000 u Županiji prikazan je na Slici 1.



Slika 1: Kartografski prikaz obuhvata ekološke mreže NATURA 2000 u Primorsko-goranskoj županiji

Slika 2: Postojeća građevinska područja na području Primorsko-goranske županije u odnosu na područja uključena u ekološku mrežu NATURA 2000

Izvor: GIS baza podataka JU Zavod za prostorno uređenje Primorsko-goranske županije, prema www.dzzp.hr

Građevinska područja i ciljevi očuvanja područja buduće ekološke mreže NATURA 2000 u Primorsko-goranskoj županiji

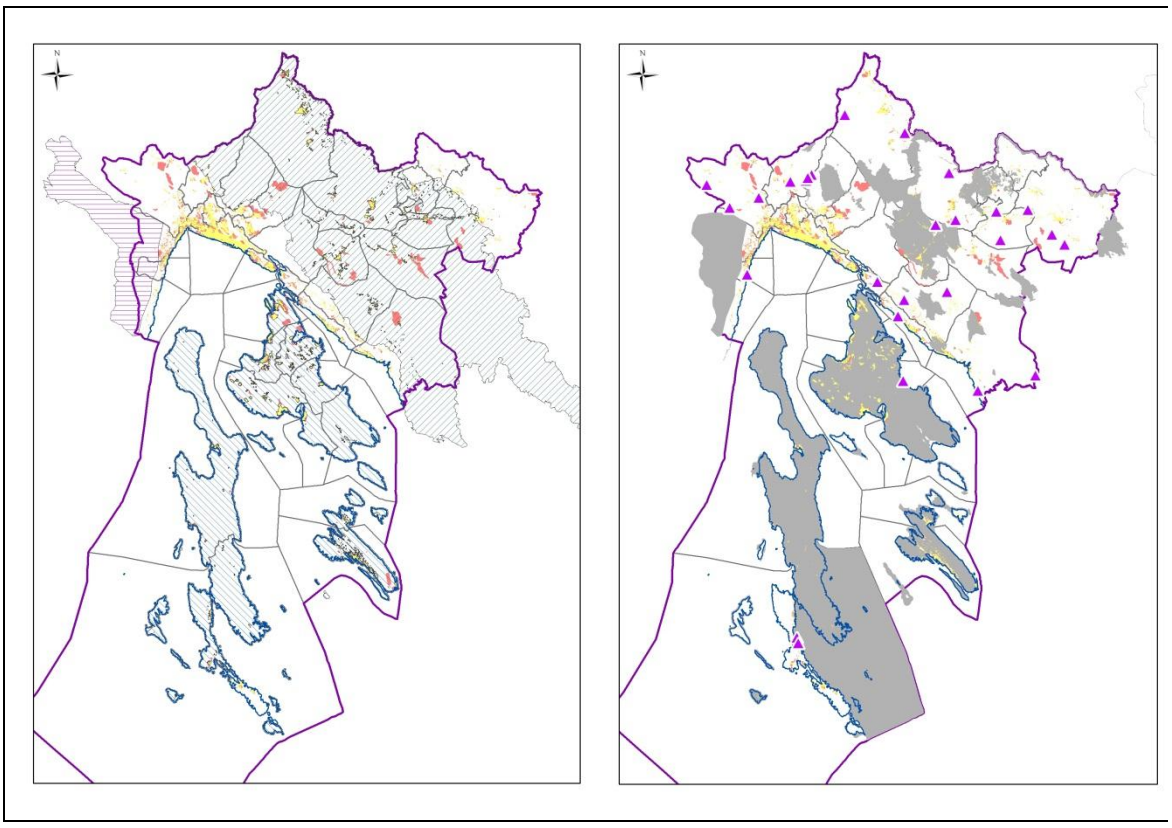
Županijski prostorni planovi smatraju se strateškim dokumentima prostornog uređenja, a strateške razine planiranja od posebne su važnosti za implementaciju ciljeva i smjernica ekoloških mreža jer se upravo ravnoteža između razvojnih potreba i zaštite prostora (odnosno zaštite prirode u užem smislu) treba postići efikasnim provođenjem smjernica ekološke mreže.

Budući da je prijedlog obuhvata mreže NATURA 2000 za područje Županije vrlo visok i da izaziva zabrinutost šire javnosti zbog mogućih ograničenja za budući razvoj, u nastavku će se analizirati posljedice koje će proizaći iz zakonske obveze uvođenja buduće mreže NATURA 2000 u prostorno-plansku dokumentaciju na području Županije.

U cilju sagledavanja mogućih posljedica i obveza koje sa sobom u smislu organizacije i uporabe prostora Županiji nosi proglašenje mreže NATURA 2000, u suradnji s Javnom ustanovom Zavod za prostorno uređenje Primorsko-goranske županije, postojeća građevinska područja, i to bez obzira da li govorimo o njihovom izgrađenom ili neizgrađenom dijelu, preklopljena su s prijedlogom obuhvata mreže NATURA 2000, što je prikazano na Slici 2.

U kontekstu analize utjecaja buduće mreže NATURA 2000 na razvoj Županije, značajno je napomenuti da su u Nacrt prijedloga na području Županije uključena dva površinom iznimno velika područja, a to su: Gorski kotar, kao stanište velikih zvijeri i ptica te kvarnerski otoci kao staništa značajna za ptice. O veličini obuhvata navedenih područja unutar buduće ekološke mreže dovoljno govori činjenica da izostavljajući navedena područja iz Nacrta prijedloga, površina obuhvata mreže NATURA 2000 u Županiji iznosi 37% ukupne kopnene površine. Upravo zbog činjenice da se s navedenim područjima preklapa značajan broj područja i lokaliteta koji su puno manjeg obuhvata, a uključeni su u ekološku mrežu sa ciljem očuvanja drugačijih tipova staništa i/ili vrsta, za detaljniju analizu mogućih utjecaja buduće ekološke mreže na postojeća građevinska područja, pripremljene su dvije karte.

Prva karta prikazana je na Slici 3, a na njoj su s građevinskim područjima preklopljena samo najveća SPA i pSCI područja koja čine sastavni dio ekološke mreže na području Županije. To su područja Gorski kotar i sjeverna Lika (HR 1000019 i HR 5000019) te područje Kvarnerski otoci (HR 1000033). Na području Županije postoji još jedno prostrano SPA područje – HR 1000018 Učka i Ćićarija, ali s obzirom da se obuhvat područja velikim dijelom preklapa s obuhvatom Parka prirode Učka, navedeno se područje u nastavku neće razmatrati jer je formiranje građevinskih područja unutar samih granica Parka ograničeno.



Slika 3: Postojeća građevinskih područja u Primorsko-goranskoj županiji u odnosu na dva prostorno najveća područja - Gorski kotar i sjeverna Lika te Kvarnerski otoci

Slika 4: Postojeća građevinska područja u odnosu na točkaste lokalitete i područja manjeg prostornog obuhvata u dijelu predložene ekološke mreže u Primorsko-goranskoj županiji

Izvor: GIS baza podataka JU Zavod za prostorno uređenje Primorsko-goranske županije, prema www.dzzp.hr

Prilikom ocjene utjecaja organizacije i rasporeda građevinskih područja na buduću ekološku mrežu unutar dva najveća prostrana područja, nužno je ponoviti da su područja Gorski kotar i Kvarnerski otoci uvršteni u mrežu NATURA 2000 najvećim dijelom sa ciljem očuvanja velikih zvijeri (samo Gorski kotar) i rijetkih vrsta ptica (za oba područja) te njihovih staništa, pa će se utjecaj zahvata unutar postojećih građevinskih područja na ekološku mrežu u nastavku razmatrati prvenstveno s navedenih aspekata.

Na drugoj karti, koja je prikazana na Slici 4, s postojećim građevinskim područjima preklopljena su sva preostala područja predložena za uključivanje u mrežu NATURA 2000, a radi se o ukupno 111 područja većeg ili manjeg prostornog obuhvata. Od navedenih 111 područja, 83 područja smatraju se pSCI poligonima, a 27 je pSci točkastih lokaliteta.

Ciljevi očuvanja za 111 područja i lokaliteta koji će biti uključeni u buduću ekološku mrežu mnogobrojni su i različiti i ne mogu se, kao u slučaju Gorskoga kotara i kvarnerskih otoka, barem ugrubo svesti pod zajednički nazivnik. Na području Gorskoga kotara, osim velikih zvijeri i ptica, u ekološkoj mreži su uglavnom vrste vezane uz travnjake, osobito cretna staništa, a veliki dio vrsta je vezan i uz bogate goranske šume (npr. tisa, ljiljani, božikovina, velecvjetni kukurijek i slično), manji dio vezan je uz vodena i slatkovodna staništa, a tek jedna vrsta uz područja vjetrometina. U odnosu na

područja koja su uključena u NEM-u, u Nacrtu prijedloga su na području Gorskoga kotara iz ekološke mreže izostavljeni cjeloviti kompleksi očuvanih goranskih šuma i travnjaci. Na kvarnerskim se otocima ekološkom mrežom štite najvećim dijelom obalna staništa i vrste koje su vezane uz stare šume s odumirućim deblima i dupljama, osobito strmi tereni sa liticama, točilima i obalnim grebenima, koja po svojim svojstvima nisu povoljna za bilo kakvu gradnju. Suhi travnjaci nisu raširenи na većim površinama, a više su, od eventualne izgradnje, ugroženi zbog procesa zarastanja drvenastom vegetacijom.

Važeći propisi i dosadašnji trendovi u korištenju prostora na području Primorsko-goranske županije

Prije sagledavanja mogućih posljedica uključivanja buduće mreže NATURA 2000 u prostorno-plansku dokumentaciju na području Županije, valja ukratko sagledati i dio važećih propisa iz područja prostornog uređenja, zaštite okoliša i prirode, a koji mogu imati utjecaj na izdavanje akata za građenje, zatim odredbe sadržane u prostorno-planskoj dokumentaciji te dosadašnje trendove u korištenju prostora na području Županije. U navedenom se kontekstu kao ključne činjenice posebno mogu istaknuti sljedeće:

- Osim područja ekološke mreže, na području Županije do danas je zaštićeno 7% kopnene površine, a Županijskim prostornim planom za zaštitu je predloženo i više od stotinjak vrijednih prirodnih područja ili ukupno 14% površine Županije. Navedena su područja u prostorno-planskoj dokumentaciji namijenjena prvenstveno zaštiti.
- Građevinska područja u Županiji obuhvaćaju svega 7% ukupne površine.
- Većina građevina i zahvata može se graditi samo unutar građevinskih područja u kojima su uvjeti gradnje definirani dokumentima prostornog uređenja.
- Unutar građevinskih područja treba razlikovati njihov izgrađeni i neizgrađeni dio. Ako se građevina gradi unutar izgrađenog dijela građevinskog područja, nije potrebno ishoditi nikakav dokument glede utjecaja zahvata za ekološku mrežu.
- Ako se zahvat namjerava realizirati u neizgrađenom dijelu građevinskog područja, tada se prije podnošenja zahtjeva za izdavanje lokacijske dozvole treba provesti postupak ocjene prihvatljivosti zahvata za ekološku mrežu. Od 2008. do sredine 2012. godine u Županiji je izdano više od 100.000 akata prostornog uređenja i gradnje, od čega je na državnoj razini za 45 predmeta proveden postupak ocjene prihvatljivosti zahvata za ekološku mrežu, a samo su 3 zahvata upućena na glavnu ocjenu. Na županijskoj razini u navedenom je razdoblju provedeno 12 postupaka, a na glavnu su ocjenu upućena samo 2 zahtjeva.
- Unutar obuhvata buduće ekološke mreže na području Županije na područjima HR 1000019 i 5000019 Gorski kotar i sjeverna Lika i HR 1000033 Kvarnerski otoci, svi neizgrađeni dijelovi građevinskih područja unutar naselja izuzeti su iz obuhvata buduće ekološke mreže.
- U odnosu na ukupan broj izdanih dozvola za gradnju, na području Županije najveći je udio izdanih dozvola za gradnju obiteljskih kuća manjih od 400 m².
- Na godišnjim razinama, udio izdavanja dozvola za građenje izvan građevinskih područja je vrlo malen, a građevine koje se u takvim slučajevima mogu graditi su građevine infrastrukture (prometne, energetske, komunalne), zdravstvene i rekreacijske građevine, građevine obrane, građevine za istraživanje i iskorištavanje mineralnih sirovina te stambene i gospodarske građevine koje se grade za vlastite potrebe i za potrebe seoskog turizma, odnosno u funkciji obavljanja poljoprivredne, šumarske, vodnogospodarske i pomorske djelatnosti.
- Na području Županije već su najvećim dijelom izgrađene velike građevine prometne infrastrukture, a u budućnosti se može očekivati intenzivnija izgradnja

ostalih građevina infrastrukture kao što su npr. male hidroelektrane, vjeroelektrane, sunčeve elektrane i telekomunikacijski stupovi.

- Za najveći dio građevina i zahvata koje se provode izvan izgrađenog dijela građevinskog područja, sukladno zakonskoj regulativi, potrebno je provesti postupak procjene utjecaja na okoliš u sklopu kojeg se provodi i postupak ocjene prihvatljivosti zahvata za ekološku mrežu.
- Važeća zakonska regulativa ograničava provođenje određenih zahvata u području zaštićenog obalnog područja mora koje obuhvaća sve otoke, pojas kopna u širini od 1.000 metara od obalne crte i pojas mora u širini od 300 metara od obalne crte, a u navedenom je području sukladno Zakonu o prostornom uređenju i gradnji zabranjeno planirati i izvoditi zahvate kao što su primjerice iskorištavanje snage vjetra za električnu energiju, skladištenje, obrada i odlaganje otpada, uzgoj plave ribe, nasipavanje obale i/ili mora izvan građevinskog područja i drugo.

Moguće posljedice uključivanja buduće ekološke mreže NATURA 2000 u prostorno-plansku dokumentaciju na području Primorsko-goranske županije

Sa ciljem ocjene odnosa između postojećih građevinskih područja i područja koja će činiti sastavni dio buduće ekološke mreže, u nastavku se, uzimajući u obzir ciljeve očuvanja područja buduće ekološke mreže, važeće propise i dosadašnje trendove u korištenju prostora, zasebno analiziraju moguće posljedice preklapanja planiranih građevinskih područja s područjima koja će biti uključena u buduću ekološku mrežu. S obzirom na specifične ciljeve očuvanja ekološke mreže, analiza će se posebno izvršiti za područja HR 5000019 i 1000019 Gorskoga kotara i HR 1000033 Kvarnerski otoci te posebno za preostalih 111 lokaliteta većeg ili manjeg prostornog obuhvata.

Sukladno smjernicama za zaštitu ekološke mreže, na opstanak velikih zvijeri i očuvanje njihovih staništa u Gorskome kotaru, najznačajniji negativni utjecaj mogla bi imati fragmentacija staništa odnosno cjepkanje jedinstvenog područja na "otoke" i pojačano iskorištavanje šuma. Stoga, kod analize preklapanja građevinskih područja i buduće ekološke mreže u Gorskome kotaru valja prvenstveno ocijeniti utjecaj izgradnje velikih infrastrukturnih zahvata na buduću ekološku mrežu NATURA 2000. Kao primjeri zahvata koji mogu prouzročiti fragmentaciju staništa posebno se mogu izdvojiti zahvati kao što su izgradnja autocesta, pruga ili sličnih infrastrukturnih građevina te velikih rekreacijskih centara što su uglavnom građevine od javnog interesa. No, međutim, uzimajući u obzir utjecaj velikih infrastrukturnih zahvata na fragmentaciju staništa, valja istaknuti da zahvati kao što su izgradnja plinovoda, naftovoda ili dalekovoda u pravilu nemaju utjecaj na fragmentaciju staništa velikih zvijeri jer se infrastruktura potrebna za realizaciju navedenih zahvata polaže u tlo. Značajni utjecaj na očuvanje populacije velikih zvijeri na području Gorskoga kotara mogla bi, primjerice, imati i realizacija odlagališta otpada jer bi njegova realizacija bez poštivanja odgovarajućih mjera zaštite prirode mogla ugroziti opstanak velikih zvijeri. Ključna mjera zaštite koja bi se u takvim slučajevima morala provesti jest onemogućavanje dostupnosti samog odlagališta velikim zvijerima. Također, kao jedan od zahvata koji bi na području Gorskog kotara mogao imati utjecaja na ciljeve očuvanja velikih zvijeri, ali i ptica i njihovih staništa, može se navesti primjer izgradnje vjetroelektrana. Negativan utjecaj izgradnje vjetroelektrana na područja koja su u Gorskome kotaru uključena u ekološku mrežu ogleda se prvenstveno u mogućem štetnom utjecaju vjetroelektrana na stradanja ptica u preletu, na neprimjereni smještaj vjetroelektrana na specifična i rijetka staništa na kojima obitavaju ugrožene životinjske, ali i biljne vrste ili mogućem cjepkanju šireg pristupnog područja vjetrolektranama brojnim i/ili širokim cestama.

Kao jedan od problema očuvanja ekološke mreže na područjima vodotoka i izvora u dijelu Gorskoga kotara te na otoku Krku, može se pojaviti i izgradnja vodoopskrbne infrastrukture (umjetna jezera, građevina za crpljenje vode i sl.) jer dio vrsta s popisa NATURA 2000 obitava upravo na takvim staništima.

Izgradnja vjetroelektrana sukladno već postojećoj zakonskoj regulativi ne može se realizirati na kvarnerskim otocima, ali se zato u cilju očuvanja ugroženih vrsta ptica koje obitavaju ili prelijeću kvarnerske otoke, posebna pažnja mora posvetiti primjerice kod izgradnje elektro-energetske infrastrukture, dalekovoda i solarnih elektrana (izbjegavanje postavljanja elektrana na specifičnim staništima), zatim kod planiranja turističke infrastrukture (vidikovaca i pješačkih staza) koja ne bi smjela prolaziti kroz staništa na kojima se primjerice nalaze gnjezdišta ptica i slično. Na kvarnerskim otocima također značajnu prijetnju očuvanju ptica može prouzročiti i izgradnja aerodroma (npr. planirani aerodrom na otoku Rabu na kamenjarskim pašnjacima gdje su najvažnija hranilišta za eleonorinog sokola). Halofilne zajednice na niskim muljevitim obalama kvarnerskih otoka također mogu biti ugrožene zbog izgradnje turističkih objekata, marina, lučica i plaža te ostalih obalnih sadržaja. Specifična ugroza na otocima se može pojaviti i zbog planske prenamjene prirodnih plaža u uređene.

Kao što je već navedeno, ciljevi očuvanja za 111 područja i lokaliteta koji će biti uključeni u buduću ekološku mrežu mnogobrojni su i različiti. Nakon provedene analize preklapanja postojećih građevinskih područja i obuhvata buduće ekološke mreže utvrđeno je da unatoč činjenici što se veliki broj planiranih građevinskih područja preklapa s obuhvatom ekološke mreže, ciljevi očuvanja ekološke mreže u većini slučajeva neće biti ugroženi. Isključivanje mogućnosti ugroze za područja ekološke mreže temelji se na činjenicama da na čitavom području obuhvata ekološke mreže prirodne vrijednosti koje se nalaze na popisu ugroženih vrsta ili staništa nisu ravnomjerno raspoređene te da su postojeća građevinska područja unutar obuhvata ekološke mreže uglavnom planirana na način da su smještena najvećim dijelom unutar ili oko postojećih naselja gdje reprezentativnost ugroženih prirodnih vrijednosti nije toliko velika. Za razliku od područja ekološke mreže većeg ili manjeg obuhvata, svi točkasti lokaliteti koji su uključeni u ekološku mrežu nalaze se izvan građevinskih područja.

Ipak, tijekom analize utvrđeno je da se rijetke vrste ili staništa mogu ugroziti na dva područja ekološke mreže koja se dijelom preklapaju s planiranim građevinskim područjima. Radi se o području Pleteno iznad Novog Vinodolskog (HR 2000854) koje je u ekološku mrežu uključeno sa ciljem očuvanja suhih travnjaka i biljne vrsta sasa te u manjem dijelu otoka Raba gdje su specifična staništa uvrštena u ekološku mrežu zbog očuvanja eumediteranskih travnjaka (HR 2001359). U oba slučaja, navedene specifične vrijednosti zbog kojih su područja uključena u ekološku mrežu mogla bi izazvati probleme u organizaciji prostora unutar građevinskih područja, pa se predviđa da će se zahvati koji će se realizirati unutar navedenih područja morati podvrgnuti postupku ocjene prihvatljivosti zahvata za ekološku mrežu kako bi njihova realizacija bila usklađena sa smjernicama za očuvanje ekološke mreže.

Zaključak

Može se zaključiti da posljedice koje proizlaze iz zakonske obveze uvođenja ekološke mreže u prostorno-plansku dokumentaciju na području Primorsko-goranske županije, neće imati značajniji utjecaj na postupke izrade i provođenja dokumenata prostornog uređenja. Navedeni se zaključak temelji na činjenici da na područjima velikog obuhvata

ekološke mreže (Gorski kotar i kvarnerski otoci) sukladno prostorno planskoj dokumentaciji nije planirana gradnja značajnijih infrastrukturnih građevina koje bi mogle prouzročiti fragmentaciju staništa ciljanih vrsta. Građevine koje bi mogle imati utjecaj na ekološku mrežu i koje se sukladno Prostornom planu Primorsko-goranske županije mogu graditi izvan građevinskih područja (npr. aerodromi, autoceste, željezničke pruge, dalekovodi, stupovi, rekreacijski centri i slično), u pravilu već sukladno važećim propisima idu na postupak procjene utjecaja na okoliš u sklopu kojeg se sagledava i utjecaj na ekološku mrežu pa će njihova realizacija kroz navedeni postupak omogućiti stvaranje ravnoteže između razvojnih potreba i zaštite prirode u užem smislu.

Prostorni plan Primorsko-goranske županije strateški je dokument prostornog uređenja od posebne važnosti za implementaciju ciljeva ekološke mreže. Odgovornim planiranjem u važećem županijskom prostornom planu postignuta je ravnoteža između razvojnih potreba i zaštite prostora, a broj ocjena prihvatljivosti na ekološku mrežu na razini zahvata sveden na vrlo razumnu i najmanju moguću mjeru. Takvim pristupom i planiranjem u kojem su zahtjevi prirodnih vrijednosti razmotreni i zadovoljeni u ranoj fazi izrade plana, postupci ishođenja dozvola za gradnju neće se nepotrebno odugovlačiti, a izbjegavanje problema na razini plana doprinijet će uštedi resursa, vremena i smanjenju troškova.

Literatura

[1] Dokumentacija o provedenim postupcima ocjene prihvatljivosti zahvata za ekološku mrežu Ministarstva zaštite okoliša i prirode, Državnog zavoda za zaštitu prirode i Upravnog odjela za graditeljstvo i zaštitu okoliša Primorsko-goranske županije
[2] GIS baza podataka JU Zavod za prostorno uređenje Primorsko-goranske županije
[3] NATURA 2000 i prostorno planiranje, Državni zavod za zaštitu prirode, www.dzzp.hr
[4] Pravilnik o ocjeni prihvatljivosti plana, programa i zahvata za ekološku mrežu, Narodne novine 118/09
[5] Prijedlog uredbe o ekološkoj mreži, svibanj 2013., www.mzoip.hr
[6] Prostorni plan Primorsko-goranske županije, Službene novine Primorsko-goranske županije 14/00, 12/05, 50/06, 8/09 i 3/11
[7] Uredba o proglašenju ekološke mreže, Narodne novine 109/07
[8] Zakonu o prostornom uređenju i gradnji, Narodne novine 76/07, 38/09, 55/11, 90/11, 50/12 i 55/12
[9] Zakon o zaštiti prirode, Narodne novine 70/05, 139/08 i 57/11

Ecological network in the context of the elaboration and implementation of spatial plans – the example of the County of Primorje-Gorski Kotar

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Abstract

According to the Draft proposal for the Regulation on the NATURA 2000 ecological network, the ecological network in the County of Primorje-Gorski Kotar will cover almost 80% of its land area. Such a proposal raises the concern of the general public due to possible restrictions on future development. In this paper we analyse the consequences of the introduction of the ecological network into spatial planning documents, and make a comparative analysis of the existing building areas and those areas which will form an integral part of the ecological network.

Based on the analysis, we come to the conclusion that despite the large coverage of the future NATURA 2000 ecological network in spatial planning documents, it is nevertheless possible to achieve a balance between the needs of development on the one hand, and the protection of nature in the strict sense on the other.

Keywords: spatial planning, ecological network, NATURA 2000, County of Primorje-Gorski Kotar

Introduction

At the proposal of the State Institute for the Protection of Nature (hereinafter: DZZP), in October 2007 the Government of the Republic of Croatia issued the Regulation on the proclamation of the ecological network (*Narodne novine* official gazette, No. 109/07 – hereinafter the Regulation). The Regulation provides that 44% of the total area of Croatia will be part of the National Ecological Network (hereinafter: NEM). In the area of the County of Primorje-Gorski Kotar (hereinafter: the County), the coverage of the NEM is significantly higher than the national average, because in the County the ecological network covers as much as 88% of the land area, which is 61% of the total area of the County. However, when the Republic of Croatia enters the European Union (1 July 2013), the existing NEM will cease to exist, and will be replaced by the NATURA 2000 ecological network, whose proclamation was a prerequisite of Croatian accession to the European Union.

The proposal of the NATURA 2000 ecological network for the Republic of Croatia is also being prepared by the DZZP. Although the criteria for the elaboration of both the NEM and NATURA 2000 networks are based on applicable European directives (the Habitats Directive and the Birds Directive), the coverage of the NEM and the proposed NATURA 2000 ecological network are not completely identical. Some areas of the current NEM shall not be included in NATURA 2000, which is why the current proposal of the NATURA 2000 ecological network encompasses 37% of the total area

of the Republic of Croatia. The reduced coverage of the NATURA 2000 ecological network in relation to the NEM is also reflected in the reduced size of the area of the County that will be included in the ecological network. The current proposal of the NATURA 2000 network encompasses 78% of the land area of the County, which is 10% less than the current coverage of the NEM network.

Owing to the specific value of the natural environment in the territory of the County, where, in a relatively small area, three major biogeographical regions of Europe are to be found – the Alpine, the Continental, and the Mediterranean – the proposed coverage of the NATURA 2000 ecological network in the territory of the County stands out significantly from the average, both in Croatia and in Europe. Considering the distribution of the NATURA 2000 ecological network, we can conclude that the County includes a variety of preserved types of habitats, and that it is home to numerous plant and animal species that are significant on both European and national levels.

With regard to all these facts, the Draft proposal for the Regulation on the ecological network (hereinafter: the Draft Proposal), which was made available to the public in May 2013, includes a total of 113 smaller or larger locations and/or areas in the County that will be parts of the NATURA network. A map of the coverage of the NATURA 2000 ecological network in the County is shown in Figure 1.

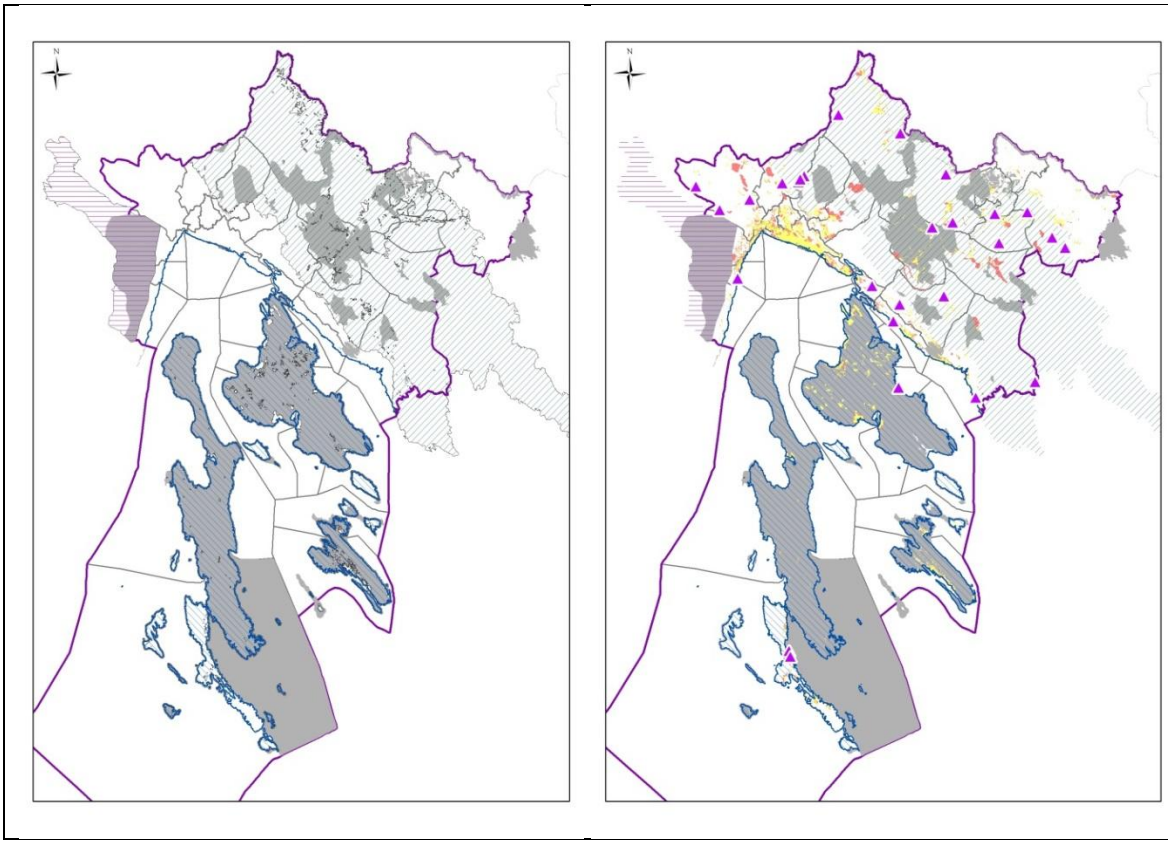

Figure 1. Map of the coverage of the NATURA 2000 ecological network in the County of Primorje-Gorski Kotar

Figure 2: Comparative analysis of existing building areas in the territory of the County of Primorje-Gorski Kotar and building areas included in the NATURA 2000 ecological network

Source: GIS database, Institute for Spatial Planning of the County of Primorje-Gorski Kotar, according to www.dzzp.hr

Building areas and conservation objectives for future NATURA 2000 ecological network areas in the County of Primorje-Gorski Kotar

The spatial plans of the County are considered strategic spatial planning documents, and strategic levels of planning are of particular importance for the implementation of the goals and guidelines of ecological networks, because the balance between the needs of development on the one hand, and the protection of the environment (that is, nature in the strict sense) on the other, must be achieved through the effective implementation of ecological network guidelines.

Because the proposed coverage of the NATURA 2000 ecological network in the territory of the County is very large, which raises the concerns of the general public due to possible restrictions on future development, on the following pages we will analyse the consequences of the legal obligation to introduce the NATURA 2000 ecological network into the spatial planning documentation of the County.

In order to analyse the possible consequences and obligations that the proclamation of the NATURA 2000 ecological network will bring to the County with regard to the use of land, in collaboration with the Institute for Spatial Planning of the County of Primorje-Gorski Kotar, existing building areas (whether developed or not) were overlapped with the proposed coverage of the NATURA 2000 network, which is shown in Figure 2.

In the context of the analysis of the impact of the future NATURA 2000 network on the development of the County, it must be emphasised that the Draft Proposal encompasses two particularly large areas of the County: Gorski Kotar, which is the habitat of large carnivores and birds, and the Kvarner Islands, which are significant bird habitats. With regard to the size of the mentioned areas within the future ecological network, it is sufficient to say that if these areas were excluded from the Draft Proposal, the coverage of the NATURA 2000 network in the County would be reduced to 37% of its total land area. Because of the fact that the mentioned areas overlap with numerous smaller areas and locations, which have been included in the ecological network in order to preserve different types of habitats and/or species, we have prepared two maps for a more detailed analysis of the possible impacts of the future ecological network on existing building areas.

The first map is shown in Figure 3. In this map, only the largest SPA and pSCI areas that form an integral part of the ecological network in the area of the County have been overlapped with the building areas. These are the areas of Gorski Kotar and northern Lika (HR 1000019 and HR 5000019) and Kvarner Islands (HR 1000033). In the County there is another spacious SPA area (HR 1000018 Učka and Ćićarija), but because this area largely overlaps with the area of Učka Nature Park it will not be discussed in this paper, because the formation of building areas within the Park is restricted.

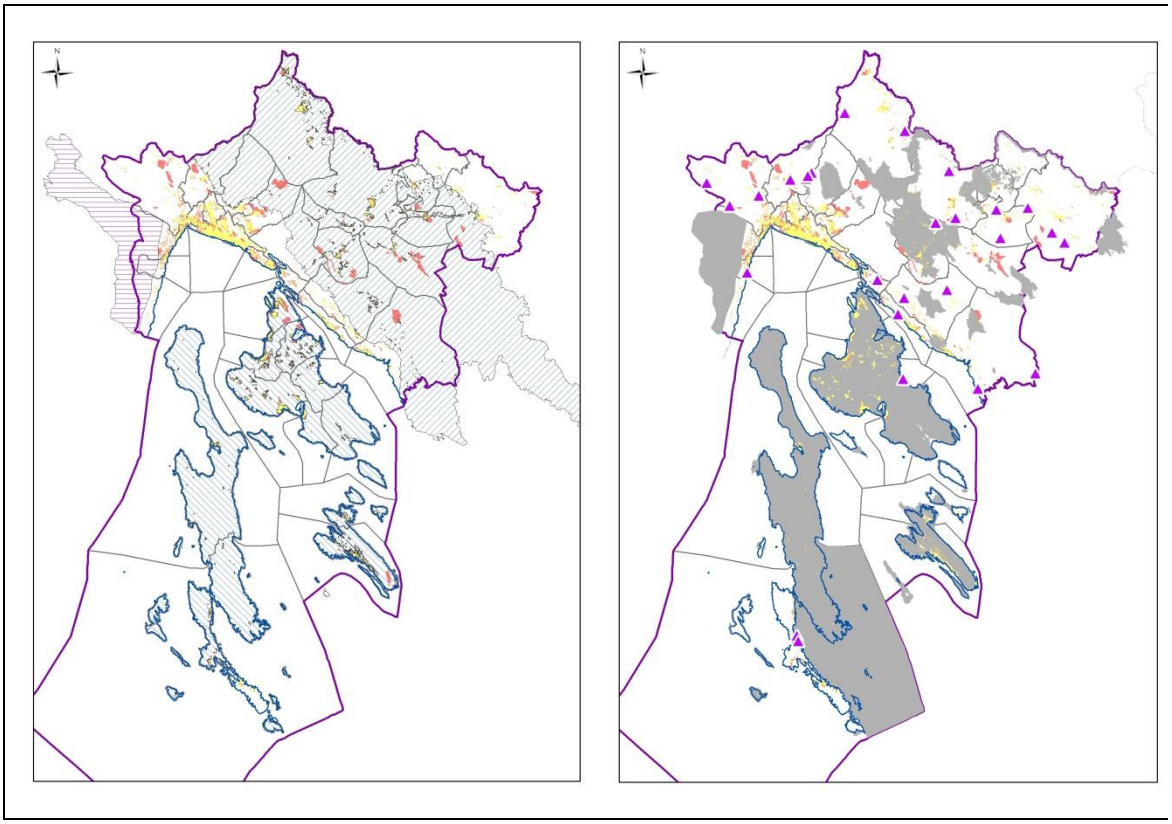

Figure 3: Comparative analysis of existing building areas in the County of Primorje-Gorski Kotar and the two largest areas - Gorski Kotar and northern Lika, and Kvarner Islands

Figure 4: Comparative analysis of existing building areas and single sites and smaller areas within the proposed ecological network in the County of Primorje-Gorski Kotar

Source: GIS database, Institute for Spatial Planning of the County of Primorje-Gorski Kotar

When assessing the impact of the organisation and location of building areas on the future ecological network within the two most spacious areas, it must be stressed that the areas of Gorski Kotar and Kvarner Islands have been included in the NATURA 2000 network primarily in order to preserve large carnivores (Gorski Kotar only) and rare bird species (both areas) and their habitats. For this reason, the impact of interventions within existing building areas on the ecological network will be considered primarily in the light of these primary priorities.

In the second map, which is shown in Figure 4, existing building areas have been overlapped with all other areas that were proposed for inclusion in the NATURA 2000 network, which amount to 111 larger or smaller areas. Of these 111 areas, 83 are considered pSCI areas, and 27 are pSci single sites.

The conservation objectives for the 111 areas and sites that will be included in the future ecological network are numerous and varied and cannot – even approximately – be reduced to a common denominator, as in the case of Gorski Kotar and Kvarner Islands. In the area of Gorski Kotar, apart from large carnivores and birds, the ecological network primarily includes species that are associated with grasslands, especially mire habitats; many species are associated with the local forests (such as yew, lilies, holly, Christmas rose etc.), some are associated with water and freshwater habitats, and only one species is associated with wind habitats. In contrast to the areas included in the NEM network, the Draft Proposal for the ecological network does not

include the integral preserved forest and grassland areas of Gorski Kotar. The ecological network on the Kvarner Islands protects mostly coastal habitats and species that are associated with old forests with rotting trunks and tree holes, particularly steep terrains with cliffs, screes and coastal reefs; in other words areas that, due to their features, are not suitable for any type of building. Dry grasslands are not widespread in the larger areas, and are more threatened by the process of being overgrown with trees than any possible development.

Applicable regulations and current trends in the use of space in the area of the County of Primorje-Gorski Kotar

Before looking at the possible consequences of including the future NATURA 2000 network into the spatial planning documentation of the County, we should look briefly at some of the current regulations from the field of spatial planning, and environmental and nature protection, which can affect the issuing of building documentation, then at regulations in spatial-panning documentation, and at current trends in the use of space in the County. In this context, the following key facts should be pointed out:

- Apart from the area of the ecological network, 7% of the land area of the County has been protected until today, and more than 100 additional valuable natural areas, or a total of 14% of the area of the County, have been proposed for protection under the County Spatial Plan. In the spatial-planning documentation, these areas are designated primarily for protection.
- Building areas in the County make up only 7% of the total area.
- Most buildings and interventions may be built only within building areas where building conditions are defined by spatial-planning documentation.
- One must differentiate between developed and undeveloped sections of building areas. If a building is being constructed within the developed section of a building area, it is not necessary to obtain any document with regard to its impact on the ecological network.
- If the intervention is intended within the undeveloped section of a building area, then before applying for a location permit, the impact assessment procedure for the ecological network must be conducted. From 2008 to mid-2012, more than 100,000 spatial planning and building permits and orders were issued in the County. Impact assessment procedures for the ecological network were conducted in 45 of these at a national level, and only 3 interventions were sent for the main assessment. At the level of the County, 12 procedures were conducted in that period, of which only 2 were sent for the main assessment.
- Within the ecological network in the County, in the areas HR 1000019 and 5000019 Gorski Kotar and northern Lika, and HR 1000033 Kvarner Islands, all undeveloped sections of building areas in inhabited areas were excluded from the coverage of the future ecological network.
- With regard to the total number of issued building permits, the largest number of permits issued in the area of the County was for family houses smaller than 400 m^2.
- Annually, the portion of issued building permits for construction outside building areas is very low, and the buildings being constructed in such cases are infrastructural buildings (traffic, energy supply, communal infrastructure), health and recreational facilities, defensive structures, structures for the exploration and exploitation of mineral resources, and residential and commercial buildings that are built for own use as well as for the needs of rural tourism, or buildings with an agricultural, forestry, water management or maritime function.

- The large traffic infrastructural installations in the area of the County have for the most part already been constructed. In the future one can expect more intense construction of the remaining infrastructure, such as, for example, small hydroelectric power plants, wind turbines, solar power plants and telecommunications poles.
- For most of the buildings and interventions that are carried out outside the developed sections of building areas, it is necessary, in accordance with legislation, to conduct an environmental impact assessment, which includes the impact assessment procedure for the ecological network.
- Current legislation limits the implementation of specific interventions in the protected coastal zone, which encompasses all the islands, a strip of land of 1,000 metres from the coastline, and a marine belt of 300 metres from the coastline. According to the Act on Spatial Planning and Construction, in this area it is forbidden to plan and implement interventions such as harnessing wind power for electricity, storage, waste treatment and disposal, oily fish farming, filling in the shore and/or the sea outside building areas etc.

The possible consequences of the inclusion of the future NATURA 2000 ecological network in the spatial-planning documentation of the County of Primorje-Gorski Kotar

In order to assess the relation between existing building areas and areas that will form an integral part of the future ecological network, and taking into account the conservation objectives for the areas of the future ecological network, as well as applicable regulations and current trends in the use of the land, below we will separately analyse the possible consequences of the overlapping of planned building areas and areas that will be included in the future ecological network. With regard to the specific conservation objectives of the ecological network, there will be a separate analysis for areas HR 5000019 and 1000019 Gorski Kotar and HR 1000033 Kvarner Islands, and a separate analysis for the remaining 111 areas of larger or smaller coverage.

According to the guidelines for the protection of the ecological network, the fragmentation of the habitat (that is, the division of a unique area into isolated fragments) and the increased exploitation of forests, could have the biggest negative impact on the survival of large carnivores and the preservation of their habitats in Gorski Kotar. Therefore, when analysing the overlapping of building areas and the future ecological network in Gorski Kotar, one should primarily assess the impact of the construction of large infrastructure installations on the future NATURA 2000 ecological network. Examples of interventions that could cause the fragmentation of habitats include the construction of highways, railways or similar infrastructure, as well as large recreation centres, which are mostly buildings of public interest. However, taking into account the impact of large infrastructure interventions on the fragmentation of habitats, it should be pointed out that interventions such as the construction of gas or oil pipelines, or transmission lines, generally have no impact on the fragmentation of habitats of large carnivores, because the infrastructure that is necessary for such interventions is laid in the ground. An example of an intervention that could have a significant impact on the preservation of the population of large carnivores in the area of Gorski Kotar is the construction of landfills, because if such projects are implemented without respecting relevant nature protection measures, they could endanger the survival of large carnivores. The key protection measure that should be implemented in such cases is to make the landfills inaccessible to large carnivores. Another example of an intervention which could affect the conservation objectives of large carnivores, but

also of birds and their habitats, in Gorski Kotar, is the construction of wind turbines. The negative impact of the construction of wind turbines in the areas of Gorski Kotar that are included in the ecological network is primarily reflected in the possibility of birds being harmed while flying over wind turbines, in the inappropriate location of wind turbines in specific and rare habitats that are home to endangered animal and plant species, or in the possible fragmentation of wider access areas to wind turbines by numerous and/or wide roads.

One of the problems with regard to the preservation of the ecological network in zones of water streams and springs, in some parts of Gorski Kotar and on the island of Krk, is the construction of water supply infrastructure (artificial lakes, water pump facilities etc.), because some of the species from the NATURA 2000 list live in such habitats.

Under current legislation, water turbines cannot be constructed on Kvarner Islands. However, in order to preserve threatened species of birds that inhabit or fly over Kvarner Islands, particular attention is required with regard to the construction of electrical energy infrastructure, transmission lines and solar power plants (avoiding locating power plants in specific habitats), and to the planning of tourism infrastructure (vantage points and walking paths) which should not pass, for example, through habitats used by birds for nesting etc. The construction of airports on Kvarner Islands could also pose a threat to the conservation of birds (e.g. the planned airport on the island of Rab on rocky pastures where the most important feeding zones for Eleonora's falcon are located). The halophile populations in shallow muddy shores on Kvarner Islands could also be threatened by the construction of tourism facilities, marinas, harbours, beaches and other coastal infrastructure. A specific type of threat on the islands could arise from the transformation of natural beaches into paved ones.

As already stated, the conservation objectives for 111 areas and sites that will be included in the future ecological network are numerous and varied. The analysis of the overlapping of existing building areas and the coverage of the future ecological network showed that, despite the fact that a large number of planned building areas overlap with the coverage of the ecological network, in most cases this will not pose a threat to the conservation objectives of the ecological network. The exclusion of the possibility of threat in areas covered by the ecological network is based on the fact that, in the entire area of the ecological network, particularly valuable parts of nature that have been included in the list of threatened species or habitats are not evenly distributed, and that existing building areas within the coverage of the ecological network are, in the majority of cases, planned in a way that they are located mostly within or around existing inhabited areas, where the occurrence of threatened natural environment is not that high. Unlike larger or smaller areas within the ecological network, all single sites that are included in the ecological network are located outside building areas.

However, the analysis showed that rare species or habitats could be threatened in two areas of the ecological network that partly overlap with planned building areas. These are the area of Pleteno in the hinterland of Novi Vinodolski (HR 2000854), which was included in the ecological network in order to preserve dry grasslands and sedge plant species, and some parts of the island of Rab, where specific habitats were included in the ecological network in order to preserve eumediterranean grasslands (HR 2001359). In both cases, the specific values for which these areas were included in the ecological network could cause problems in the organisation of space within building areas. Therefore it is assumed that, for interventions realised within these areas, the impact assessment procedure for the ecological network will be required in order to make sure

that such interventions are in accordance with the guidelines for the preservation of the ecological network.

Conclusion

It can be concluded that the consequences arising out of the legal obligation to include the ecological network in the spatial planning documentation of the County will not have a significant impact on the procedures of issuing and implementing spatial planning documentation. This conclusion is based on the fact that, in accordance with the spatial planning documentation, in the large areas within the ecological network (Gorski Kotar and Kvarner Islands) there are no plans to build significant infrastructure which could cause the fragmentation of the habitats of target species. Structures which could have an impact on the ecological network and which, in accordance with the Spatial Plan of the County, can be built outside building areas (such as airports, highways, railways, transmission lines, poles, recreational centres etc.), require an environmental impact assessment anyway, in accordance with current regulations, and this includes the impact assessment for the ecological network. This means that the realisation of such constructions through the mentioned procedure will provide a balance between the needs of development and the protection of nature in the strict sense.

The Spatial Plan of the County of Primorje-Gorski Kotar is a strategic spatial planning document of particular importance for the implementation of the objectives of the ecological network. Thanks to responsible planning, the current Spatial Plan of the County has achieved a balance between the needs of development on the one hand, and the protection of the environment on the other. At the same time, the number of impact assessments for the ecological network at the level of interventions has been reduced to a very reasonable minimum. With this approach and planning, in which the requirements of the protection of nature were discussed and addressed in the early stages of the elaboration of the Plan, procedures for obtaining building permits will not be unnecessarily delayed. In addition, avoiding problems at the level of the Plan will contribute to saving resources and time, and reducing costs.

Literature

[1] Documentation on the procedures of impact assessment procedure for the ecological network from the Ministry for the Protection of Nature and the Environment, the State Institute for the Protection of Nature, and the Department of Construction and Environmental Protection of the County of Primorje-Gorski Kotar
[2] GIS database of the Institute for Spatial Planning of the County of Primorje-Gorski Kotar Public Institution
[3] NATURA 2000 and Spatial Planning, State Institute for the Protection of Nature, www.dzzp.hr
[4] Regulation on the assessment of the acceptability of the plan, programme and intervention for the ecological network, *Narodne novine* official gazette No. 118/09
[5] Draft proposal for the Regulation on the ecological network, May 2013, www.mzoip.hr
[6] Spatial Plan of the County of Primorje-Gorski Kotar, Official gazette of the County of Primorje-Gorski Kotar Nos. 14/00, 12/05, 50/06, 8/09 and 3/11

[7] Regulation on the proclamation of the ecological network, *Narodne novine* official gazette No. 109/07
[8] Act on Spatial Planning and Construction, *Narodne novine* official gazette Nos. 76/07, 38/09, 55/11, 90/11, 50/12 and 55/12
[9] Protection of Nature Act, *Narodne novine* official gazette Nos. 70/05, 139/08 and 57/11

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