Recommendations on priorities for Slovenia's Prioritised Action Framework

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Ljubljana, 29.3.2013 (version 3)

This document identifies the main threats to qualifying bird species at Important Bird Areas (IBAs) and Natura 2000 sites in Slovenia. Needed conservation actions are listed under every threat, as well as the most threatened sites and bird species.

Threats were divided into two parts: (1) critical threats that affect the highest number of sites and qualifying species and act on the largest surface (threats 1-2), and (2) remaining threats that are more localized but nevertheless very important (threats 3-7).

All IBAs that have not yet been declared as Natura 2000 sites for birds (SPAs) are marked with an asterisk (*).

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1. Threat: Construction of new forest roads and extensive opening of last remaining unfragmented forests in Slovenia with EU funds

Description of threat:

In period 2011-2020, 2700 km of new forest roads will be constructed with EU funds (Rural Development funds). Priority sites for road construction will be Natura 2000 sites. Thus, EU funds will be used to deteriorate conservation status of qualifying bird species (e.g. 229 km of new roads expected to be built in period 2011-2020 at forestry region that covers SPA Snežnik-Pivka; this forestry region measures 1073 km^2 and already has 1491.8 km of forest roads). As a rule, new roads result in higher logging pressure. It is well known that some species are very sensitive to fragmentation, intensive logging, removing of dead wood, disturbances by people and noise (e.g. Capercaillie *Tetrao urogallus*, White-backed Woodpecker *Dendrocopos leucotos*, Three-toed Woodpecker *Picoides tridactylus*, Red-breasted Flycatcher *Ficedula parva* etc.).

Without EU funds is would not be economical to construct forest roads in many sites accross Slovenia.

Forestry plans in Slovenia are accepted as Natura 2000 management plans without any environmental impact assessment.

Needed action or conservation measures:

No subsidies should be available for detrimental forestry operations such as construction of new forest roads at IBAs / Natura 2000 sites.

Natura 2000 sites / IBAs most affected:

Snežnik-Pivka, Kočevsko-Kolpa, Krakovo forest and Šentjernej plain, Gluha loza*, Julian Alps, Dobrava-Jovsi, Eastern part of Karavanke and Kamnik-Savinja Alps, Jelovica, Mura, Goričko

Qualifying species most affected:

Dendrocopos leucotos, Picoides tridactylus, Dendrocopos medius, Tetrao urogallus, Ciconia nigra, Ficedula parva, Ficedula albicollis, Aquila pomarina, Haliaeetus albicilla

2. Threat: Disappearance of grasslands as key habitats for farmland bird species at Natura 2000 sites

Description of threat:

Extensively managed meadows are disappearing due to intensification (multiple applications of fertilizers, multiple cuts, early first cuts, sowing of grass mixtures etc.), ploughing into fields or permanent plantations (e.g. of highbush blueberry *Vaccinium corymbosum*), intensive grazing, spreading of greenhouses, urbanization, and in some parts overgrowing by shrubs as a result of land abandonment. For example, at Natura 2000 Ljubljansko barje 12 km^2 of grasslands were lost to agricultural intensification in the last 10 years. EU funds from CAP Pillar I are being used to intensify and destroy grasslands at Natura 2000 sites, including habitat types classified as Natura 2000 habitat types from Annex I of Habitat Directive (e.g. habitat types code 6210, 6410, 6510). Compared to subsidies for intensive agriculture, agri-environmental measures from Rural Development funds are not financially stimulating for farmers and some might need modifications.

In addition, Habitat Directive was not properly transposed to Slovene legislation so it is possible to plough a qualifying grassland habitat type into a field or a permanent plantation without any environmental impact assessment.

Needed action or conservation measures:

1. no detrimental subsidies for farming should be available on IBAs / Natura 2000 sites designated for farmland birds (e.g. no subsidies for maize cultivation, intensification of meadows, intensive grazing, green-house cultivation)
2. instead, these subsidies should be diverted to Rural Development funds for those agri-environmental measures that are expected to benefit qualification bird species (e.g. late mowing, leaving uncut grass stripes, non-intensive grazing etc.)
3. at Natura 2000 sites for grassland bird species the basic payments (»plačilne pravice« in Slovene) for meadows should be considerably larger than those for fields. Currently, Slovene basic payments for fields are approximately three times larger than for meadows (in 2011, 332 €/ha and 108.7 €/ha, respectively) which stimulates the destroying of meadows.

Natura 2000 sites / IBAs most affected:

S*ites with intensification of meadows, ploughing of meadows into fields and intensive grazing as the main problem*: Ljubljansko barje, Doli Slovenskih goric, Dolina Reke, Planinsko polje, Goričko, Krakovo forest and Šentjernej plain, Southern slopes of Trnovo forest and Nanos plateau (enlarged in 2011 and renamed to IBA Vipavski rob), Kozjansko

Sites with overgrowing of meadows as the main problem: Breginjski stol and Planja, Dobrava-Jovsi, Kras, Snežnik-Pivka

Estimated surface (ha) on which above mentioned action or conservation measures for grasslands should be implemented is given in Table 1.

Table 1: Estimated surface for implementation of conservation measures on grasslands and cost estimate for those measures. Abbreviations for agri-environmental measures:
VTR – maintenance of habitats for birds of wet unmanaged grasslands at Natura 2000 sites (first cut after 1.8., no grazing allowed)
HAB – maintenance of special grassland habitats (first cut or grazing after 15.7. – enables fledging of first clutch of Corncrake and many other grassland birds)
EKP – maintenance of extensive Carst meadows (mechanical restriction of growth of thorny shrubs, renaturation of grassland on cleared woodland, regular cutting and thinning of bush lines)
ETA – maintenance of extensively managed grasslands (first cut or grazing after flowering of dominant grass species)
MET – maintenance of grassland habitats for butterflies (cutting or grazing allowed before 1.7. and after 20.8.)

All cost estimates were made in a way that already includes a combination of subsidies (e.g. basic payment (»plačilne pravice« in Slovene) + payment for areas with limited possibilities for farming + payment for agri-environmental measure). They are calculated for a period of 7 years (2014-2020) (cost estimate is calculated for one year and then multiplied by 7 - see final column).

Site	**Total surface (ha)**[1]	**Estimated surface (ha) for conservation measures (grasslands)**	**Cost estimate 2014-2020 or suitable measure proposed**
Ljubljansko barje	12672	2600 ha (VTR) + 3160 ha (HAB) = 5750 ha[2]	(2600 ha x 755 €[3] + 3160 ha x 500 €)x7= **24.801.000 €**
Doli Slovenskih goric	4976	2300 ha[4]	- mosaical meadow cut (some parcels or some parts of parcels cut sooner and some later; dry meadows cut before wet ones) - not more than 2-3 cuts per year - leaving strips of uncut vegetation (several m wide or 10% of whole surface) - mower blade set at least 10 cm above ground - use of bar mower better than use of rotary mower - low intensity grazing, especially of sheep, goats and horses - no use of mineral fertilizers - no drainage and commassations A very rough cost estimate is (2300 ha x 500 €)x7

			= **8.050.000 €.**
Dolina Reke	2251	661 ha (VTR) + 570 ha (HAB) = 1231 ha[5]	(661 ha x 755 € + 570 ha x 500 €)x7 = **5.488.385 €**
Planinsko polje	1042	376 ha (VTR) + 480 ha (HAB) = 856 ha[6]	(376 ha x 755 € + 480 ha x 500 €)x7 = **3.667.160 €**
Goričko	40842	11600 ha[7]	- same measures as for Doli Slovenskih goric - a very rough cost estimate is (11600 ha x 500 €)x7 = **40.600.000 €**
Krakovo forest and Šentjernej plain	9526	4130 ha[8]	- same measures as for Doli Slovenskih goric - a very rough cost estimate is (4130 ha x 500 €)x7 = **14.455.000 €**
Southern slopes of Trnovo forest and Nanos plateau (new name: Vipavski rob)	17124	5070 ha[9]	- same measures as for Doli Slovenskih goric - a very rough cost estimate is (5070 ha x 500 €)x7 = **17.745.000 €**
Kozjansko	27804	3540 ha[10]	- same measures as for Doli Slovenskih goric - a very rough cost estimate is (3540 ha x 500 €)x7 = **12.390.000 €**
Breginjski stol	3873	440 ha (VTR) + 890 ha (extensive goat grazing) = 1330 ha[11]	(440 ha x 755 € + 890 ha x 400 €)x7 = **4.817.400 €** - extensive goat grazing should be implemented especially in lower parts of IBA where overgrowing is most intensive
Dobrava-Jovsi	2809	387 ha (VTR) + 475 ha (HAB) = 862 ha[12]	(387 ha x 755 € + 475 ha x 500 €)x7 = **3.707.795 €**
Kras	59560	21470 ha[13]	- meadows that are currenly only cut (not grazed) should retain such use in the future (grazing not allowed) - on the remaining surface we recommend implementation of several existing agri-environmental measures that prevent overgrowing: EKP, ETA, HAB, MET, possibly also REJ (but attention should be payed to grazing intensity); we recommend equal proportions of each of these measures to be implemented

			- a very rough cost estimate is (21470 ha x 400 €)x7 = **60.116.000 €**
Snežnik-Pivka	55159	702 ha (VTR) + 6650 ha (HAB) = 7352 ha[14]	(702 ha x 755 € + 6650 ha x 500 €)x7 = **26.985.070 €**
TOTAL		**65491 ha**	**≈ 186.300.000 € (186.282.810 €)**

[1] total surface of revised IBAs is given (Denac *et al.* 2011)

[2]2600 ha was estimated to be core area of wet meadows at Ljubljansko barje in LIFE project Corncrake (LIFE03NAT/SLO/000077), 5750 ha was the surface of meadows on Ljubljansko barje in 1999 obtained by survey of habitat types (Kotarac & Grobelnik 1999).

[3]amount taken from Polish agri-environmental measures (http://www.bagna.pl/cmok/pl/broszura.pdf, 15.3.2013); combines all possible subsidies that a farmer can apply for on a wet meadow for Corncrake (basic payment, late mowing, areas with limited possibilities for farming etc.)

[4]surface calculated by the following method: in 2002 Landuse data, site had 1571.8 ha of meadows (code 1300) and 1419.5 ha od fields (code 1100); needed surface for agri-environmental measures calculated as whole surface of meadows 2002 (1571,8 ha) + ½ of surface of fields 2002 (0.5*1419.5 ha=709.8 ha) – yields 2281.6 ha, rounded to 2300 ha.

[5]661 ha was estimated to be core area of wet meadows at Dolina Reke in LIFE project Corncrake (LIFE03NAT/SLO/000077), 1231.2 ha was the total surface of meadows (code 1300 and 1321) at Dolina Reke in 2002 from landuse dataset (http://rkg.gov.si/GERK/).

[6]376 ha was estimated to be core area of wet meadows at Planinsko polje in LIFE project Corncrake (LIFE03NAT/SLO/000077), with additional 480 ha we reach 856 ha, which is almost the total surface of meadows (code 1300 and 1321) at Planinsko polje in 2002 from landuse dataset (http://rkg.gov.si/GERK/) (exact surface in 2002 = 857.2 ha).

[7]surface calculated by the following method: in 2002 Landuse data, site had 5717.9 ha of meadows (code 1300 and 1321) and 11812.4 ha od fields (code 1100); needed surface for agri-environmental measures calculated as whole surface of meadows 2002 (5717.9 ha) + ½ of surface of fields 2002 (0.5*11812.4 ha=5906.2 ha) – yields 11624.1 ha, rounded to 11600 ha.

[8]surface calculated by the following method: in 2002 Landuse data, site had 3154.6 ha of meadows (code 1300) and 1958.7 ha od fields (code 1100); needed surface for agri-environmental measures calculated as whole surface of meadows 2002 (3154.6 ha) + ½ of surface of fields 2002 (0.5*1958.7 ha=979.4 ha) – yields 4134 ha, rounded to 4130 ha.

[9]surface calculated by the following method: in 2002 Landuse data, site had 3898.2 ha of meadows (code 1300 and 1321) and 2336.8 ha od fields (code 1100); needed surface for agri-environmental measures calculated as whole surface of meadows 2002 (3898.2 ha) + ½ of surface of fields 2002 (0.5*2336.8 ha=1168.4 ha) – yields 5066.6 ha, rounded to 5070 ha.

[10]surface calculated by the following method: in 2002 Landuse data, SPA 2011 Kozjansko (not IBA 2011 Kozjansko which is ca. three times larger!) had 2753.4 ha of meadows (code 1300 and 1321) and 1574.1 ha od fields (code 1100); needed surface for agri-environmental measures calculated as whole surface of meadows 2002 (2753.4 ha) + ½ of surface of fields 2002 (0.5*1574.1 ha=788 ha) – yields 3541.4 ha, rounded to 3540 ha.

[11]surface calculated by the following method: in 2002 Landuse data, site had 1203.3 ha of meadows (code 1300) and 124.1 ha of surface under ovegrowing (code 1410) – this together is considered the needed surface for agri-environmental measures (rounded to 1330 ha). Site has very steep slopes so only 1/3 of surface (440 ha) is suggested for VTR (first cut after 1.8., no grazing allowed) and the rest for goat grazing of low intensity (890 ha).
[12]387 ha was estimated to be core area of wet meadows at Dobrava-Jovsi in LIFE project Corncrake (LIFE03NAT/SLO/000077), 862 ha was the total surface of meadows (code 1300) at Dobrava-Jovsi in 2002 from landuse dataset (http://rkg.gov.si/GERK/).
[13]surface calculated by the following method: in 2002 Landuse data, site had 16405.6 ha of meadows (code 1300 and 1321) and 5067.2 ha of surface under ovegrowing (code 1410) – this together is considered the needed surface for agri-environmental measures (rounded to 21470 ha).
[14]702 ha was estimated to be core area of wet meadows at Snežnik-Pivka in LIFE project Corncrake (LIFE03NAT/SLO/000077), with additional 6650 ha we reach 7352 ha, which is slightly more than the total surface of meadows (code 1300 and 1321) at Snežnik-Pivka in 2002 from landuse dataset (http://rkg.gov.si/GERK/) (exact surface in 2002 = 7349.5 ha).

Qualifying species most affected:

Crex crex, Lullula arborea, Coracias garrulus, Lanius minor, Lanius collurio, Emberiza hortulana, Numenius arquata, Saxicola rubetra, Coturnix coturnix, Alauda arvensis, Miliaria calandra, Otus scops, Upupa epops, Locustella naevia, Phoenicurus phoenicurus, Scolopax rusticola

3. Threat: Increase in amount of cut wood

Description of threat:
Forestry plans in Slovenia are accepted as Natura 2000 management plans without any environmental impact assessment. New forestry plans for 2011-2020 predict a substantial increase of max. possible amount of cut wood compared to period 2001-2010 - e.g. by 58.6% at forestry region that covers SPA Snežnik-Pivka and by 50% at the forestry region that covers SPA Kočevsko-Kolpa. The majority of old-growth forests will be cut in this period.

Needed action or conservation measures:
1. environmental impact assessments for forestry plans should be obligatory
2. set up several new forest reserves of at least 100 ha each
2. lower the planned amount of cut wood

Natura 2000 sites / IBAs most affected:
Snežnik-Pivka, Kočevsko-Kolpa, Krakovo forest and Šentjernej plain, Gluha loza*, Julian Alps, Mura, Eastern part of Karavanke and Kamnik-Savinja Alps

Qualifying species most affected:
Dendrocopos leucotos, Picoides tridactylus, Dendrocopos medius, Tetrao urogallus, Ciconia nigra, Ficedula parva, Ficedula albicollis, Haliaeetus albicilla, Aquila pomarina

4. Threat: Changes in river ecosystems

Description of threat:

Most large rivers in Slovenia already have altered dynamics due to hydro-power plants (Sava, Drava, Soča). They only exceptionally form new gravel bars, sand walls and natural islands (only after extensive floods) on which several qualifying bird species depend (e.g. Kingfisher *Alcedo atthis*, Common Tern *Sterna hirundo*, Little Ringed Plover *Charadrius dubius*, Common Sandpiper *Actitis hypoleucos*, Sand Martin *Riparia riparia*, €opean Bee-eater *Merops apiaster*). There is a plan to construct new hydro-power plants at several sites (e.g. rivers Mura and Sava) that will destroy habitat of waterbirds (river bed as well as riparian forest).

Gravel is extracted on many gravel bars, often under the excuse of anti-flood protection. For that same reason new stone embankments are built on many river stretches. Riparian forest is often destroyed as a result of all above mentioned activities.

Several forms of tourism threaten qualifying bird species at riverine Natura 2000 sites: boating, rafting, driving with four-wheelers and sleeping on gravel bars. These activities either disturb birds or deteriorate their habitat.

Needed action or conservation measures:

1. no subsidies should be available for: (a) construction of new hydro-power plants on rivers in Natura 2000 sites and IBAs, (b) regulation of rivers within their normal flood zone, (c) gravel extraction on IBA / Natura 2000 rivers that hold qualifying bird species dependent on the river bed and natural river dynamics (e.g. *Alcedo atthis*, *Charadrius dubius*, *Actitis hypoleucos, Riparia riparia*, *Merops apiaster*) and (d) for opening of riparian forests with new forest roads in IBAs / Natura 2000 sites
2. any kind of building in the flood zone of rivers should be prohibited
3. soft forms of tourism should be promoted
4. information tables with suitable visitor regimes should be set-up on the most vulnerable parts of IBAs / Natura 2000 sites
5. certain parts should be inaccessible at least during the breeding season (e.g. gravel bars).

Natura 2000 sites / IBAs most affected:

Drava, Mura, Lower Sava*, Middle Sava*, Krakovo forest and Šentjernej plain (river Krka)

Qualifying species most affected:

Alcedo atthis, Sterna hirundo, Ciconia nigra, Dendrocopos medius, Ficedula albicollis, Nycticorax nycticorax, Haliaeetus albicilla, Charadrius dubius, Actitis hypoleucos, Riparia riparia, Merops apiaster

5. Threat: Disappearance of mosaically structured agricultural landscape

Description of threat:
Several elements of mosaically structures agricultural landscape are quickly disappearing: tree lines, groups of trees and bushes, solitary large trees, traditional orchards, macadam roads, cart tracks, fallow land, grassy field margins. Landscape is being homogenized - large areas of uniform habitat are starting to prevail (e.g. maize fields, improved meadows). Several sites have been degraded and impoverished by commassations and drainage projects partly financed by EU funds through Rural Development Programme.

Needed action or conservation measures:
1. no subsidies should be available for: removing elements of mosaically structured agricultural landscape (see above), commassations, drainage of wet meadows
2. instead, these subsidies should be used to re-create the lost landscape heterogeneity or diverted to Rural Development funds for those agri-environmental measures that are expected to benefit qualification bird species

Natura 2000 sites / IBAs most affected:
Doli Slovenskih goric, Goričko, Krakovo forest and Šentjernej plain, Kras, Drava, Mura

Estimated surface (ha) on which above conservation measures for mosaical agricultural landscape should be implemented is presented in Table 2.

Table 2: Estimated surface for implementation of conservation measures on mosaical agricultural lansdscape and cost estimate for those measures.

Site	**Total surface (ha)**[1]	**Estimated surface (ha) for conservation measures (mosaic)**	**Suitable measure proposed**
Doli Slovenskih goric	4976	675 ha[2] (+ additional 2300 ha for conservation of grasslands - see Table 1 above)	- conservation or establishment of tree lines, groups of bushes and trees, solitary trees, belts of trees alongside rivers and streams, traditional orchards, cart tracks, grassy field margins, marshy and swampy areas etc. - leaving more dead and decaying trees (lower intensity of forestry in tree belts along rivers) - small scale agriculture (no large monocultures) - heterogenous landuse on a given patch + conservation of dry and wet grasslands through suitable agri-environmental measures (see Table 1)
Goričko	40842	4300 ha[3] (+ additional 11600 ha for conservation of grasslands - see Table 1 above)	same measures as for Doli Slovenskih goric
Krakovo forest and Šentjernej plain	9526	790 ha[4] (+ additional 4130 ha for conservation of grasslands - see Table 1 above)	same measures as for Doli Slovenskih goric
Kras	59560	6100 ha[5] (+ additional 21470 ha for conservation of grasslands - see Table 1 above)	- small-sized grain fields should be established around villages (especially oat and barley) + conservation of grasslands through suitable agri-environmental measures (see Table 1)
Drava	12563	2035 ha[6] (+ additional 3295 ha for conservation of grasslands - see footnote 6 under table 2)	same measures as for Doli Slovenskih goric
Mura	15747	1995 ha[7] (+ additional 4260 ha for	same measures as for Doli Slovenskih goric

		conservation of grasslands - see footnote 7 under table 2)	
TOTAL		**15895 ha**[8]	

[1] total surface of revised IBAs is given (Denac *et al.* 2011)

[2]surface calculated by the following method: (a) surface of certain landuse codes that represent minority habitats of agricultural mosaic was taken from Landuse dataset 2002 (http://rkg.gov.si/GERK/) (specifically, codes 1222 - traditional orchards, 1410 - areas in the process of overgrowing, 1500 - trees and bushes, 4220 - marshy areas; other suitable codes were not represented in landuse 2002) - this yielded 319 ha; (b) ¼ of surface of fields from landuse 2002 was added (because many tree lines, groups of bushes and trees, grassy field margins etc. disappeared due to commassations and drainage projects which resulted in larger fields; 354.9 ha) - the total surface is 319 ha + 354.9 ha = 673.9 ha, rounded to 675 ha. **Total surface intended for nature conservation at IBA Doli Slovenskih goric would therefore be 2300 ha (for grasslands, see Table 1 above) + 675 ha (mosaic) = 2975 ha.**

[3]surface calculated by the following method: (a) surface of certain landuse codes that represent minority habitats of agricultural mosaic was taken from Landuse dataset 2002 (http://rkg.gov.si/GERK/) (specifically, codes 1222, 1410, 1500, 4100 - moors, 4210 - reedbeds, 4220; other suitable codes were not represented in landuse 2002) - this yielded 1346.8 ha; (b) ¼ of surface of fields from landuse 2002 was added (because many tree lines, groups of bushes and trees, grassy field margins etc. disappeared due to commassations and drainage projects which resulted in larger fields; 2953.1 ha) - the total surface is 1346.8 ha + 2953.1 ha = 4299.9 ha, rounded to 4300 ha. **Total surface intended for nature conservation at IBA Goričko would therefore be 11600 ha (for grasslands, see Table 1 above) + 4300 ha (mosaic) = 15900 ha.**

[4]surface calculated by the following method: (a) surface of certain landuse codes that represent minority habitats of agricultural mosaic was taken from Landuse dataset 2002 (http://rkg.gov.si/GERK/) (specifically, codes 1222, 1410, 1500; other suitable codes were not represented in landuse 2002) - this yielded 301.3 ha; (b) ¼ of surface of fields from landuse 2002 was added (because many tree lines, groups of bushes and trees, grassy field margins etc. disappeared due to commassations and drainage projects which resulted in larger fields; 489.7 ha) - the total surface is 301.3 ha + 489.7 ha = 791 ha, rounded to 790 ha. **Total surface intended for nature conservation at IBA Krakovo forest and Šentjernej plain would therefore be 4130 ha (for grasslands, see Table 1 above) + 790 ha (mosaic) = 4920 ha.**

[5]surface calculated by the following method: (a) surface of certain landuse codes that represent minority habitats of agricultural mosaic was taken from Landuse dataset 2002 (http://rkg.gov.si/GERK/) (specifically, codes 1222, 1410, 1500, 5000 - open dry areas, 6000 - open areas without significant vegetation cover; other suitable codes were not represented in landuse 2002) - this yielded 5874.2 ha; (b) ¼ of surface of vineyards from landuse 2002 was added (because many elements of mosaical landscape disappeared due to establishment of vineyards; 224.2 ha) - the total surface is 5874.2 ha + 224.2 ha = 6098.4 ha, rounded to 6100 ha. **Total surface intended for nature conservation at IBA Kras would therefore be 21470 ha (for grasslands, see Table 1 above) + 6100 ha (mosaic) = 27570 ha.**

[6]surface calculated by the following method: (a) surface of certain landuse codes that represent minority habitats of agricultural mosaic was taken from Landuse dataset 2002 (http://rkg.gov.si/GERK/) (specifically, codes 1222, 1410, 1500, 4210, 4220, 5000, 6000; other suitable codes were not represented in landuse 2002) - this yielded 840.1 ha; (b) ¼ of surface of fields from landuse 2002 was added (because many tree lines, groups of bushes and trees, grassy field margins etc. disappeared due to commassations and drainage projects which resulted in larger fields; 1194.7 ha) - the total surface is 840.1 ha + 1194.7 ha = 2034.8 ha, rounded to 2035 ha. This is only the surface of needed elements of mosaical landscape without grasslands. To include grasslands, an

additional surface of 3295 ha should be added (calculated as surface of meadows (codes 1300, 1321) from landuse 2002 + ½ of surface of fields from 2002). **Total surface intended for nature conservation at IBA Drava would therefore be ha 3295 ha (for grasslands) + 2035 ha (mosaic) = 5330 ha.**

[7]surface calculated by the following method: (a) surface of certain landuse codes that represent minority habitats of agricultural mosaic was taken from Landuse dataset 2002 (http://rkg.gov.si/GERK/) (specifically, codes 1222, 1410, 1500, 1800 - agricultural land with trees, 4210, 4220; other suitable codes were not represented in landuse 2002) - this yielded 935.6 ha; (b) ¼ of surface of fields from landuse 2002 was added (because many tree lines, groups of bushes and trees, grassy field margins etc. disappeared due to commassations and drainage projects which resulted in larger fields; 1059.3 ha) - the total surface is 935.6 ha + 1059.3 ha = 1994.9 ha, rounded to 1995 ha. This is only the surface of needed elements of mosaical landscape without grasslands. To include grasslands, an additional surface of 4260 ha should be added (calculated as surface of meadows (codes 1300, 1321) from landuse 2002 + ½ of surface of fields from 2002). **Total surface intended for nature conservation at IBA Mura would therefore be 4260 ha (for grasslands) + 1995 ha (mosaic) = 6255 ha (rounded to 6260 ha).**

[8]this number only contains needed surface for conserving elements of agricultural mosaic on sites listed (needed surface of meadows is NOT included in this number)

Qualifying species most affected:

Coracias garrulus, Lanius minor, Lanius collurio, Otus scops, Upupa epops, Lullula arborea, Phoenicurus phoenicurus, Miliaria calandra

6. Threat: Energetics

Description of threat:
There is a plan to construct new solar-power plants and wind turbines at several sites (through subsidies from EU Regional Development funds). This will alter habitat (especially grasslands and shrubland on which solar-power plant will be built) of many qualifying birds and pose a serious new threat to large soaring raptors.
Some species, especially Eagle Owl *Bubo bubo* and White Stork *Ciconia ciconia*, suffer substantial losses due to electrocution on low- and medium-voltage powerlines.

Needed action or conservation measures:
1. no subsidies should be available to construct wind turbines at sites with qualifying large raptors (e.g. *Gyps fulvus, Aquila chrysaetos*)
2. no subsidies should be available to construct solar-power plants on grasslands and shrubland that are Natura 2000 habitat type and home to many qualifying bird species
3. subsidies should be made available for (a) isolation of existing low- and medium-voltage powerlines and (b) in case of future powerlines, a construction of powerlines that are safe for birds

Natura 2000 sites / IBAs most affected:
Snežnik-Pivka, Kras, Southern slopes of Trnovo forest and Nanos plateau (enlarged in 2011 and renamed to IBA Vipavski rob)

Qualifying species most affected:
Gyps fulvus, Aquila chrysaetos, Bubo bubo, Ciconia ciconia, Emberiza hortulana, Lullula arborea

7. Threat: Fishery

Description of threat:

According to Slovene legislation fishermen are responsible for management of rivers and standing waters. This also includes all artificial water bodies (clay pits, gravel pits) for which they must have concession agreements. This results in water management that is often inappropriate for qualification bird species because it follows fishing interests (clearing of riverine and water vegetation, introduction of herbivorous fish such as Silver carp *Hypophthalmichthys molitrix*, Grass Carp *Ctenopharnyngodon idella* - they destroy water vegetation needed for breeding of certain birds, and constant excessive presence of fishermen). At sites that no longer suit fishermen's economical interest, there is lack or absence of management which results in inappropriate water regime for breeding waterbirds (e.g. sluices left open after cessation of fish breeding - water level drops, overgrowing by reed and bulrush occurs).

At several artificial water bodies fishermen do not have concession agreements but nevertheless use them for their own economical benefit. They often oppose to the implementation of nature conservation measures or inclusion in Natura 2000 network.

Needed action or conservation measures:

1. certain river stretches and water bodies that hold qualifying waterbird species should be excepted from fishing management
2. subsidies or project financing should be available for renaturation of clay and gravel pits that would only serve nature conservation aims (no fishing, no stocking with fish).

Natura 2000 sites / IBAs most affected:

Drava, Mura, Črete*, Lower Sava*

Qualifying species most affected:

Ixobrychus minutus, Porzana porzana, Porzana parva, Aythya nyroca, Nycticorax nycticorax, Sterna hirundo

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