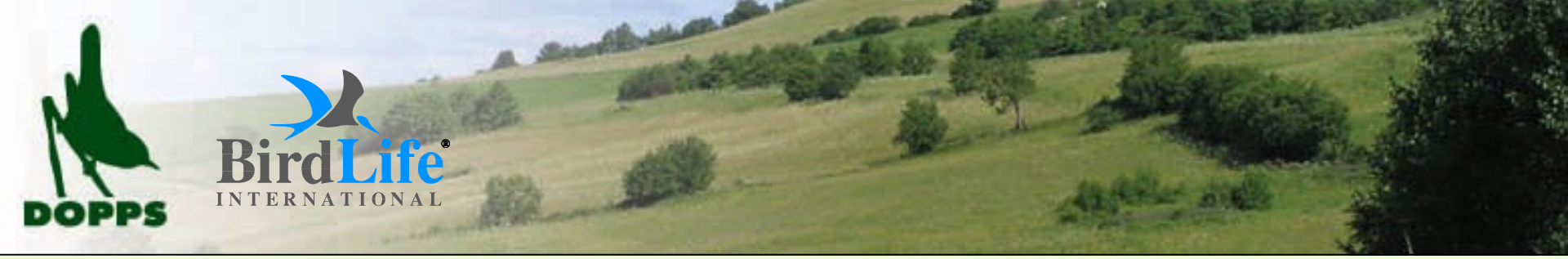

MONITORING SPLOŠNO RAZŠIRJENIH VRST PTIC ZA DOLOČITEV SLOVENSKEGA INDEKSA PTIC KMETIJSKE KRAJINE (FBI)

2007-2010

Naročniki:

Ministrstvo za kmetijstvo, gozdarstvo in prehrano

Ministrstvo za okolje in prostor

Predstavitev FBI, maj 2010

PECBMS

- **PECBMS** (*Pan-European Common Bird Monitoring Scheme*) je shema monitoringa pogostih vrst, zasnovana v partnerstvu EBCC (*European Bird Census Council*), RSPB (*Royal Society for the Protection of Birds*), BirdLife International in Statistics Netherlands
- **PECBMS** zbira podatke o populacijskih spremembah pogostih vrst ptic v Evropi - **Evropski indeks pogostih vrst ptic (*Common Bird Index – CBI*)**

  - indeks pogostih vrst kmetijske krajine
  - indeks pogostih gozdnih ptic
  - indeks vseh vrst ptic

TRIM

Obdelava s programom TRIM

- nekatere ploskve niso popisane vsako leto in zato moramo prazne vrednosti vstaviti “imputirati” glede na ostale vrednosti
- manjkajoče vrednosti lahko namreč s svojim vzorcem bistveno spremenijo rezultat
- praznih podatkov ne sme biti preveč!


EBCC
European Bird Census Council
every bird counts
HOMEPAGE
SITE MAP
What is EBCC?
Who are we?
Conferences & Workshops
Bird Census News
European Breeding Bird Atlas
Pan-European Common Bird Monitoring Scheme (PECBMS)
SEED Birds Indicators
Country Reports
Useful reading and references
Monitoring software and methods
How to get involved
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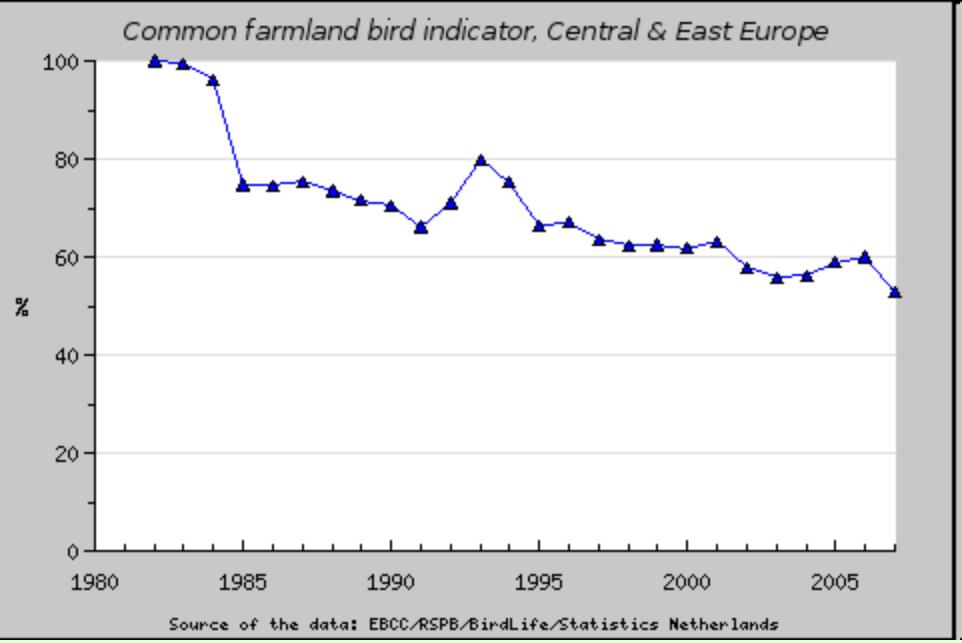
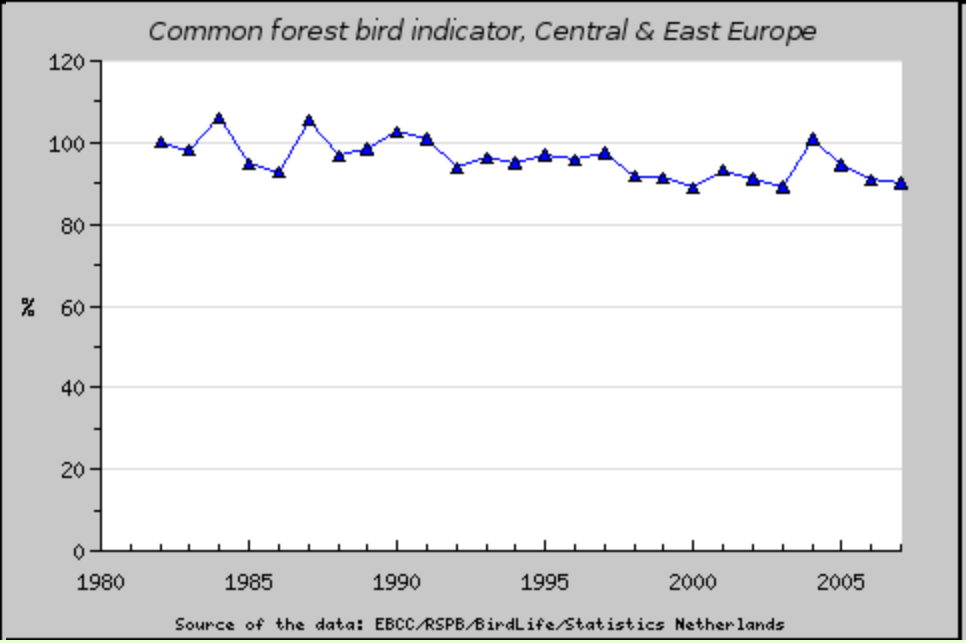
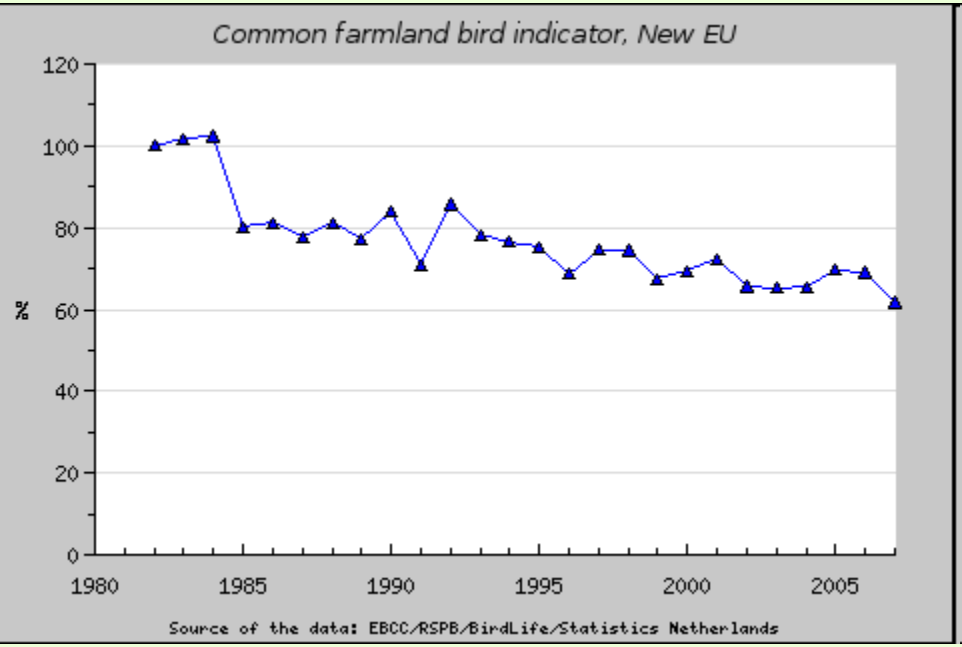
TRIM
TRIM (TRends and Indices for Monitoring data) is a software package used to determine species' population trends. It allows for missing counts using estimation, and yields yearly indices and standard errors using Poisson regression. The latest version can be downloaded from the web site of Statistics Netherlands.
BirdSTATs v 1.1
Species Trends Analysis Tool (STAT) for European bird data (including TRIM 3.54) can be downloaded here (1.65 MB).
The Species Trends Analysis Tool for birds (BirdSTATs) is an open source Microsoft Access database for the preparation and statistical analysis of bird counts data in a standardised way. The BirdSTATs tool is programmed to use and automatically run the program TRIM (TRends and Indices for Monitoring data) in batch mode to perform the statistical analysis for series of bird counts in the dataset. In this way it is suitable for use in all European countries participating in the Pan European Common Bird Monitoring Scheme (PECBMS). Using the BirdSTATs tool results in standardised indices that are used as subsets by the PECBMS for the calculation of overarching European wild bird indicators.
The BirdSTATs tool is developed at the request of the Pan European Common Bird Monitoring Scheme (PECBMS) by Bioland Informatie. Designing and programming of the tool is funded by the European Commission through British Royal Society for the Protection of Birds (RSPB).
The fact that this tool is an open source database allows users to adapt or expand the tool to their own demands. The tool is also usable for other species groups.
Characteristics of the tool:
it is capable of importing different kinds of counts data
it enables stratification of count sites and selection of subsets of counts data
it produces standardised TRIM input and command files and runs TRIM in batch mode for all or a selection of strata
it collects the output of the batched TRIM runs in a convenient and standardised format to fit the requirements of PECBMS
15.07.2004
Monitoring methods and software
TRIM
DISTANCE
More advanced software
Copyright Š - EBCC 2004-2010 - All rights reserved

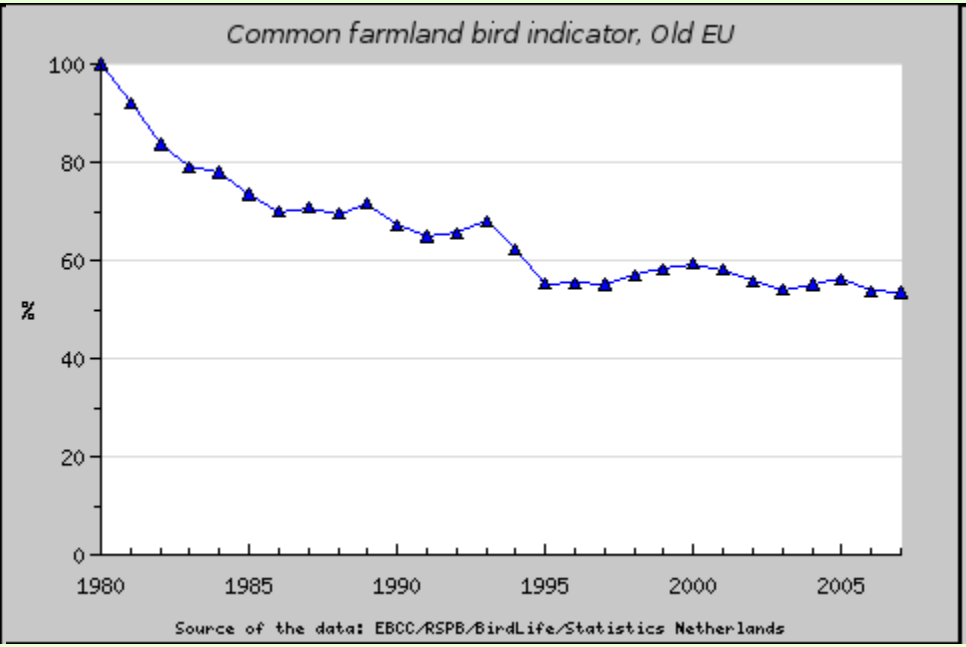
INDEKSI IN TRENDI

- nacionalni
- Evropske unije
- novih / starih članic
- regionalni / biogeografski









http://www.ebcc.info/index.php?ID=382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European wild bird indicators, 2009 update
This report presents the fifth update of the European wild bird indicators produced by the Pan-European Common Bird Monitoring Scheme (PECBMS). The indicators cover the period until the year 2007 and are computed for Europe and its regions (West, North, Central & East and South Europe), and EU, New and Old EU states for common farmland, common forest, and all common birds. Both single European and BioGeo regional species habitat classification are used to assess if each bird species belongs to farmland, forest or other habitat. The report also briefly describes methods used for computation of indices and indicators and sources of data.
Data
The individual species indices that are used for computation of European indicators were produced for 136 European common birds. These indices were published in November 2009 on the EBCC website and can be found in the special report. For computation of regional indicators for West, North, Central & East, and South Europe or for EU, New and Old EU states, the regional and EU individual species indices are used, respectively.
Methods
Computation of individual species indices
Firstly, individual national species indices are produced. These are based on count data from annually operated national breeding bird schemes spanning different time periods. Currently, 22 European countries of those that are involved in the Pan-European Common Bird Monitoring Scheme network provided their national indices in 2009. The countries are: Austria, Belgium, Bulgaria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Latvia, Netherlands, Norway, Poland, Portugal, Slovakia, Spain, Sweden, Switzerland, United Kingdom. These individual national species indices are computed using a software package named TRIM which allows for missing counts in the time series and yields unbiased yearly indices and standard errors using Poisson regression (Pannekoek & van Strien 2001).
The next step is the hierarchical combination of individual national indices into individual supranational species indices (regional, European or EU indices). This combination is also computed in the TRIM and in doing so, the national indices are weighted by estimates of national species population sizes (derived from Birds in Europe 2 (BirdLife International 2004)). Weighting is used because different countries hold different proportions of each species´ European population. Although national schemes differ in field methods, these differences do not influence the supranational results because the indices are standardised before being combined. More detailed information on computation methods and data quality control is summarized in the special report.
The computation methods are also described in the papers by Van Strien et al. (2001) and Gregory et al. (2005).
Computation of indicators
Indicators (multi-species indices) are a geometric mean of the set of individual (either European, EU or regional) species indices. By using the geometric mean, the species are weighted equally in the indicators. In case, the species indices are provided for a time period of a different lenght, the method of chain index (e.g. Ter Braak et al. (1994)) is used in the indicator computation.

METODA POPISA

- opredeljena v: Strokovne podlage za določitev slovenskega indeksa ptic kmetijske krajine (Farmland Bird Index) in njegovo spremljanje (2006)
- v sistematični mreži v naprej določene popisne ploskve, ki smo jih nato nenaključno izbrali še glede na možnost popisa
- terensko gradivo (obrazci, DOF5)
- linijski transekt približno 2 km
- beleženje registracij v dveh pasovih (0-50 m, >50 m)
- dva popisa: prvi popis (1.4.-5.5.), drugi popis (6.5.-30.6.)
- popis habitata (šifrant)

POPISNE PLOSKVE

Predstavitev FBI, maj 2010

POPISNE PLOSKVE

GEOGRAFSKE REGIJE:

- Panonski svet / ravninski in gričevnati svet SV Slovenije
- Alpski svet / ravnine – Savska ravan, Celjska kotlina
- Dinarski svet / Ljubljansko barje, kraška polja in kraške planote
- Sredozemski svet / Kras in flišna gričevja

TIPI KMETIJSKE KRAJINE:

- Intenzivna kmetijska krajina
- Mozaična, večinoma ekstenzivna kmetijska krajina
- Kmetijska krajina, kjer prevladujejo ekstenzivni vlažni travniki na ravninah
- Kmetijska krajina s prevladujočimi ekstenzivnimi suhimi travišči

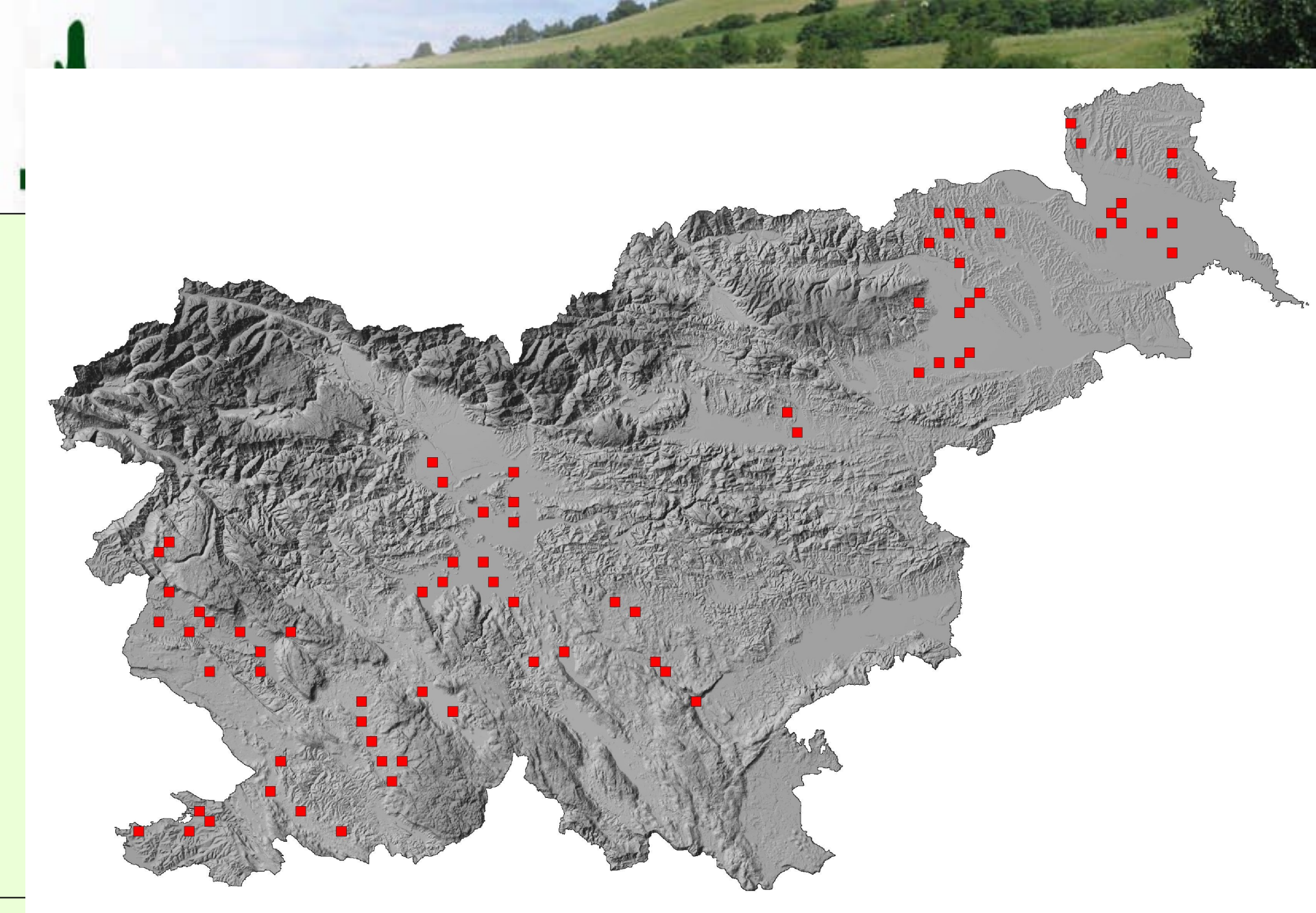
POPISNE PLOSKVE

Skupno obdelanih ploskev v letu 2009: 77 (dobrih 20%)

Skupna dolžina transektov: 156,9 km

Mediana prvega dela popisa: 23.4.

Mediana drugega dela popisa: 24.5.



Predstavitev FBI, maj 2010

POPISNE PLOSKVE

Panonski svet: **28**
Dinarski svet: **24**
Sredozemski svet: **17**
Alpski svet: **8**

OMD: **49**, neOMD: **28**
GERK40+: **46**, ostalo **31**
IBA: **26**, izven **51**

Intenzivna kmetijska krajina: **18**
Mozaična kmetijska krajina: **26**
Sredozemski mozaik: **12**
Vlažni travniki: **11**
Suha travišča: **10**

REZULTATI - PREGLED

- 126 vrst gnezdilk (60% vseh vrst v Sloveniji)
- pri petih vrstah več kot 500 registracij
- 50 vrst smo registrirali manj kot 10-krat
- najredkeje zabeležene vrste kmetijske krajine: kozica, veliki škurh, bela štorklja, kosec in kobiličar

VRSTA		SKUPAJ		D	G
Slovensko ime	Latinsko ime	N	not		
škorec	*Sturnus vulgaris*	591	239	4,7	17,20
poljski vrabec	*Passer montanus*	438	266	5,3	20,85
kmečka lastovka	*Hirundo rustica*	342	86	1,7	5,88
poljski škrjanec	*Alauda arvensis*	240	85	1,7	6,01
rumeni strnad	*Emberiza citrinella*	238	101	2,0	7,32
grilček	*Serinus serinus*	215	123	2,4	9,48
rjavi srakoper	*Lanius collurio*	209	121	2,4	9,35
slavec	*Luscinia megahrynchos*	175	91	1,8	6,85
rjava penica	*Sylvia communis*	159	116	2,3	9,73
prosnik	*Saxicola torquata*	137	96	1,9	7,91
lišček	*Carduelis carduelis*	133	80	1,6	6,25
grivar	*Columba palumbus*	115	20	0,4	1,34
vijeglavka	*Jynx torquilla*	93	37	0,7	2,66
veliki strnad	*Miliaria calandra*	87	33	0,7	2,35
plotni strnad	*Emberiza cirlus*	85	50	1,0	3,88
hribski škrjanec	*Lullula arborea*	77	25	0,5	1,75
repaljščica	*Saxicola rubetra*	70	48	1,0	3,92
zelena žolna	*Picus viridis*	62	17	0,3	1,17
postovka	*Falco tinnunculus*	57	20	0,4	1,41
repnik	*Carduelis cannabina*	48	21	0,4	1,53
divja grlica	*Streptopelia turtur*	40	15	0,3	1,07
rumena pastirica	*Motacilla flava*	38	16	0,3	
pogorelček	*Phoenicurus phoenicurus*	36	19	0,4	
čopasti škrjanec	*Galerida cristata*	31	15	0,3	
smrdokavra	*Upupa epops*	23	5	0,1	
jerebica	*Perdix perdix*	19	15	0,3	
bela štorklja	*Ciconia ciconia*	4	0	0,0	
kosec	*Crex crex*	4	1	0,0	

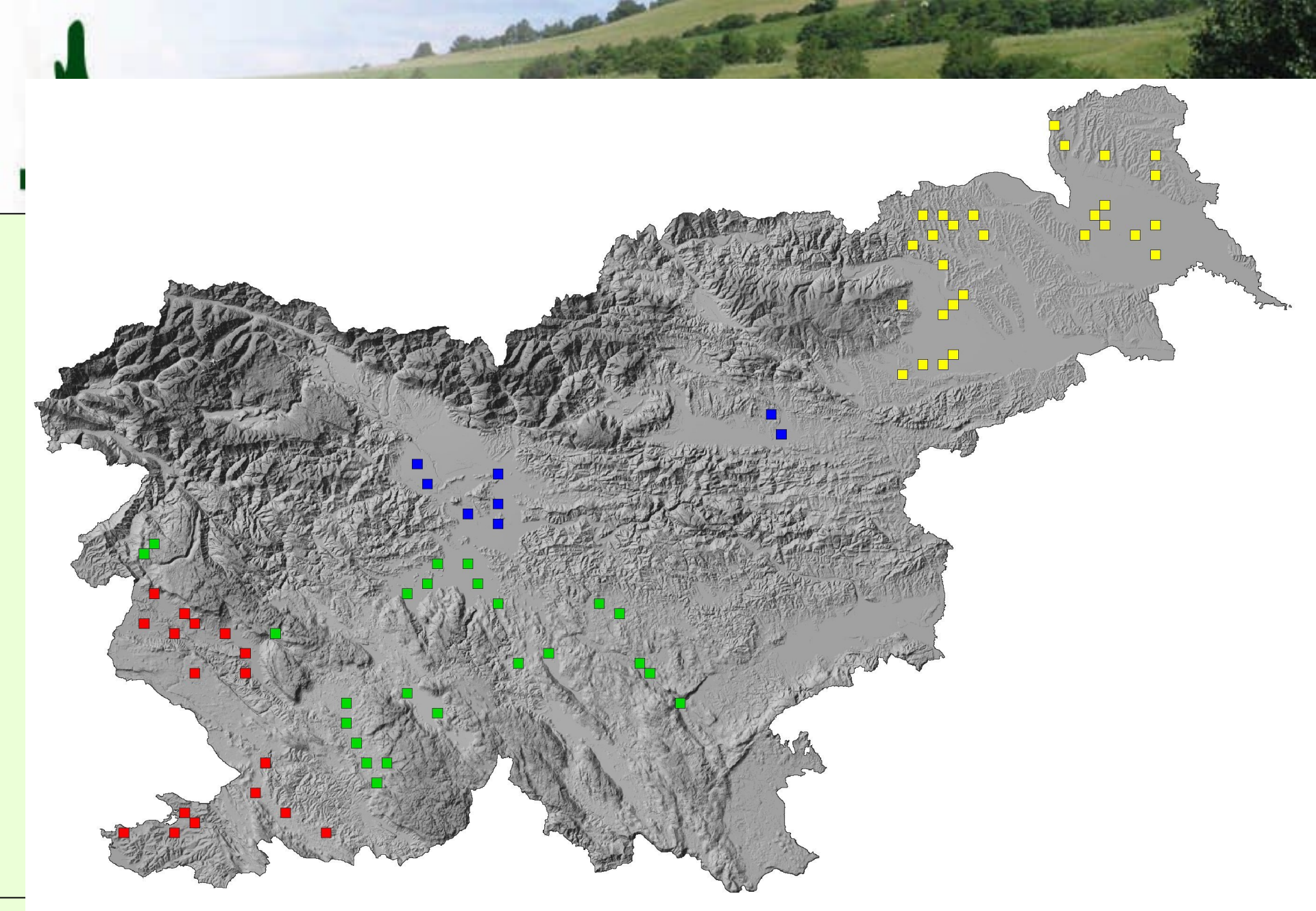
IZRAČUN INDEKSOV

- indeks je seštevek opazovanj števila parov po ploskvah za posamezno leto in za posamezno vrsto, deljen s seštevkom za osnovno leto in zaradi enostavnejše uporabe pomnožen s 100
- pri izračunu uporabimo program TRIM
- kategorije na podlagi kriterijev
- **zmeren upad:** statistično značilen, vendar ne večji od 5% na leto; zgornji limit intervala zaupanja je med 0,95 in 1,00

IZRAČUN INDEKSOV

- posamezni indeksi ciljnih vrst iz metodologije
- izločili smo nekatere malošteviľne vrste (manj kot 30 popisanih parov v letu 2008)
- izračunali smo tudi indekse za Natura vrste (kjer so bili podatki na voljo)
- nacionalni indeks: geometrijsko povprečje vrstnih indeksov za posamezno leto

$$I_{PKK} = \sqrt[n]{\prod_{i=1}^{n} N_i}$$



Predstavitev FBI, maj 2010

REZULTATI - INDEKSI

Leto	Indeks	SE	N	SE
1999	100,00	0,00	498	51
2000	91,17	4,89	454	36
2001	83,12	8,92	414	37
2002	75,79	12,20	377	47
2003	71,45	14,89	356	64
2004	68,47	11,08	341	43
2005	66,97	11,19	333	44
2006	67,44	11,31	336	44
2007	67,47	10,97	336	42
2008	59,61	10,17	297	40
2009	**45,40**	8,99	226	38

Multiplikativni naklon in kategorija trenda:

Naklon	SE
0,942	0,0134

Zmerni upad / Moderate decline (p<0.01) **

kosec *Crex crex*

Viri populacijskih podatkov:

Božič, L. (2005): Gnezditvena razširjenost in velikost populacije kosca *Crex crex* v Sloveniji leta 2004. Acrocephalus 26 (127): 171-179; nacionalna poročila o monitoringu SPA, avtor poglavij o koscu L. Božič

REZULTATI - INDEKSI

Vrsta	Indeks	SE	Naklon	SE	Razred trenda
vijeglavka	**154,17**	39,27	1,5417	0,3927	**Negotov / Uncertain**
čopasti škrjanec	**86,67**	35,71	0,8667	0,3571	**Negotov / Uncertain**
hribski škrjanec	**77,78**	14,82	0,7778	0,1482	**Negotov / Uncertain**
poljski škrjanec	**86,00**	12,04	0,86	0,1204	**Negotov / Uncertain**
kmečka lastovka	**127,69**	26,95	1,2769	0,2695	**Negotov / Uncertain**
slavec	**97,83**	17,69	0,9783	0,1769	**Negotov / Uncertain**
repaljščica	**81,14**	19,53	0,8114	0,1953	**Negotov / Uncertain**
prosnik	**110,29**	16,84	1,1029	0,1684	**Negotov / Uncertain**
rjava penica	**110,33**	19,56	1,1033	0,1956	**Negotov / Uncertain**
rjavi srakoper	**95,34**	13,83	0,9534	0,1383	**Negotov / Uncertain**
škorec	**124,18**	15,68	1,2418	0,1568	**Negotov / Uncertain**
poljski vrabec	**82,56**	8,38	0,8256	0,0838	**Zmeren upad / Moderate decline (p<0.05) ***
grilček	**109,47**	10,58	1,0947	0,1058	**Negotov / Uncertain**
lišček	**109,73**	22,93	1,0973	0,2293	**Negotov / Uncertain**
repnik	**89,29**	31,81	0,8929	0,3181	**Negotov / Uncertain**
rumeni strnad	**80,85**	10,69	0,8085	0,1069	**Negotov / Uncertain**
plotni strnad	**100,00**	17,33	1	0,1733	**Negotov / Uncertain**
veliki strnad	**66,61**	16,27	0,6661	0,1627	**Zmeren upad / Moderate decline (p<0.05) ***

REZULTATI - INDEKSI

- kompozitni indeks ptic kmetijske krajine za celo Slovenijo za leto 2009 je 95,5
- ne-OMD: 96,2 OMD: 104,6
- GERK<40: 102,1 GERK>40: 99,1

NAČRTI ZA PRIHODNOST

- **v analizo TRIM vključiti kovariate**
- **pri izračunu indeksov upoštevati vse podatke (prvi izračun je samo s podatki notranjega pasu)**
- **vključiti Natura vrste, ki jih zaradi predolge periode popisov do sedaj nismo mogli (npr. pisana penica in podhujka)**
- **obdržati shemo v najmanj približno enakem obsegu tudi v naslednjih letih**

Hvala za pozornost!