Butterfly projects in Sweden

LARS PETTERSSON (LUND) & NILS RYRHOLM (GÄVLE)

@dagfjarilar http://dagfjarilar.lu.se

Overview

- Swedish Buttterfly Monitoring Scheme
- Distribution changes
- The EU Habitats Directive in Sweden
  - » Reporting 2013
  - » Targeted monitoring 2014-2019
- The Swedish Red List

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Swedish Butterfly Monitoring Scheme

- Funded by the Swedish EPA as part of their permanent monitoring
- Started 2010
- Volunteer-based
- Free choice of sites
- In 2014:
  - » ca 280 volunteers
  - » ca 390 sites (45 % transects, 55% point sites)
  - » Beddingestrand to Vuollerim (covering 1700 km)

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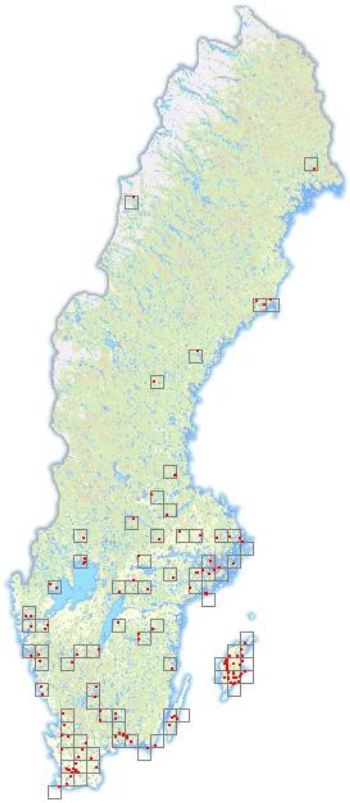
Improved coverage



2010

- 29900 butterflies
- 117 volunteers
- 83 species

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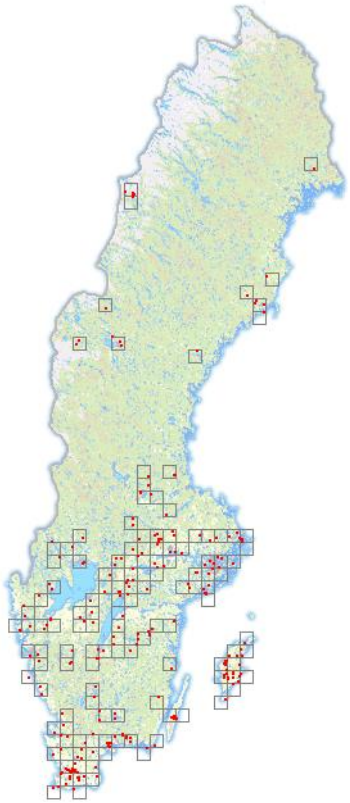
Improved coverage



2011

- 54700 butterflies
- 203 volunteers
- 92 species

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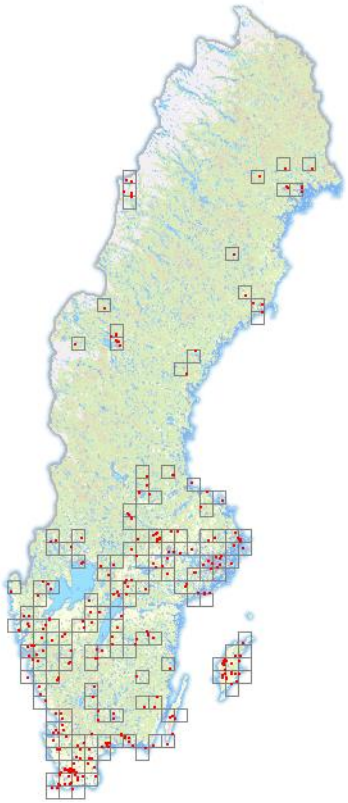
Improved coverage



2012

- 51600 butterflies
- 254 volunteers
- 97 species

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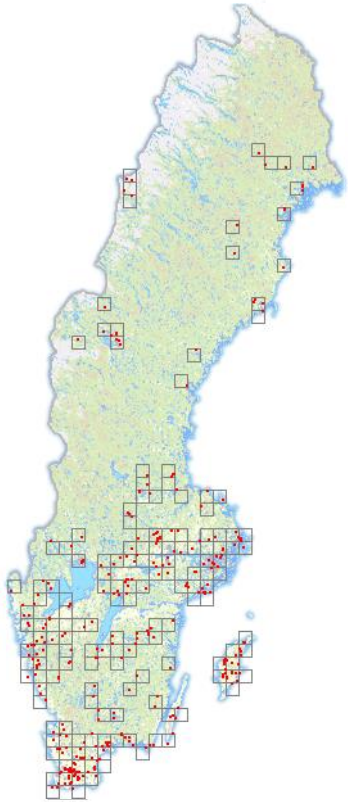
Improved coverage



2013

- 66000 butterflies
- 269 volunteers
- 91 species

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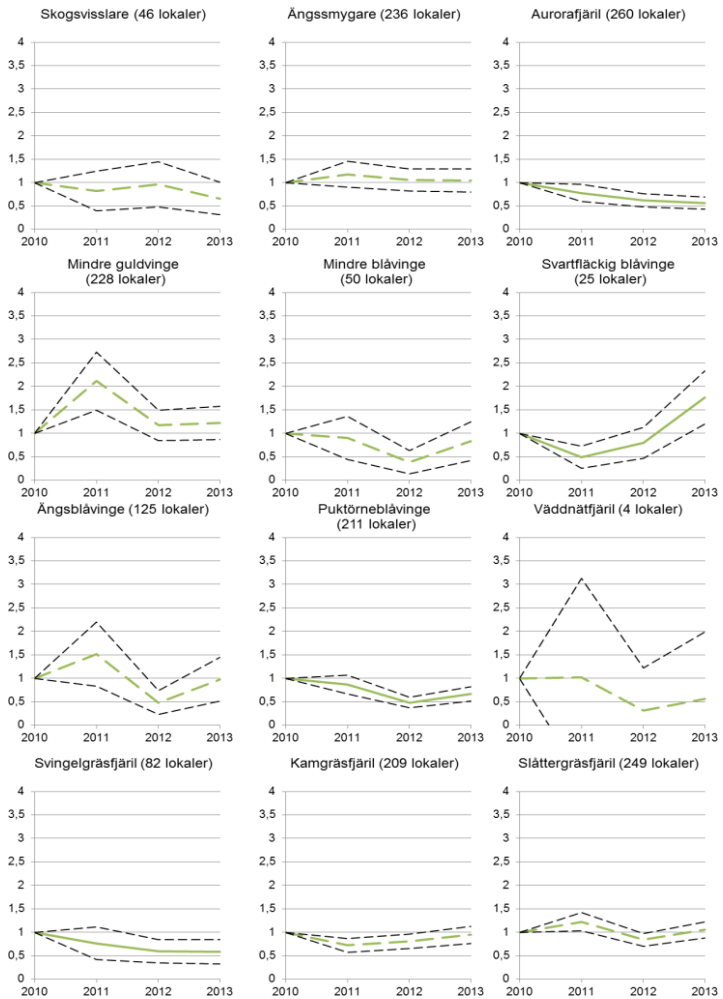
Grassland Butterfly Indicator



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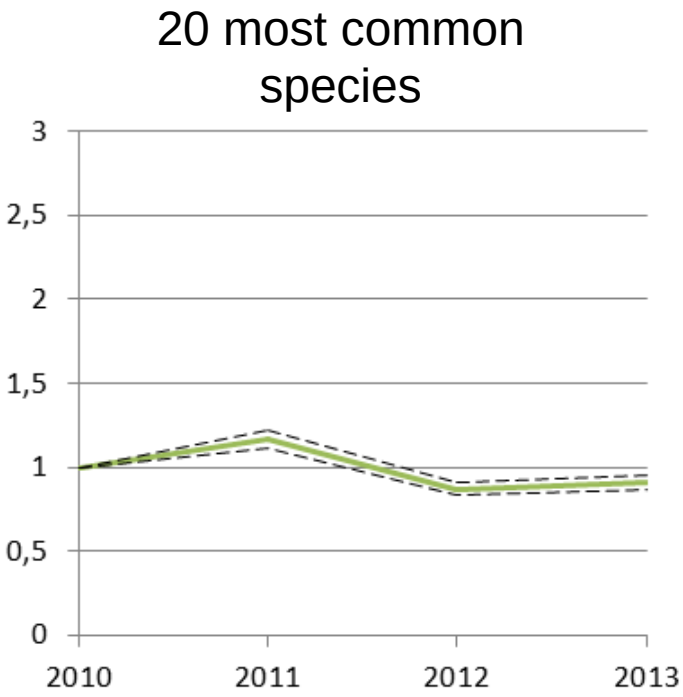
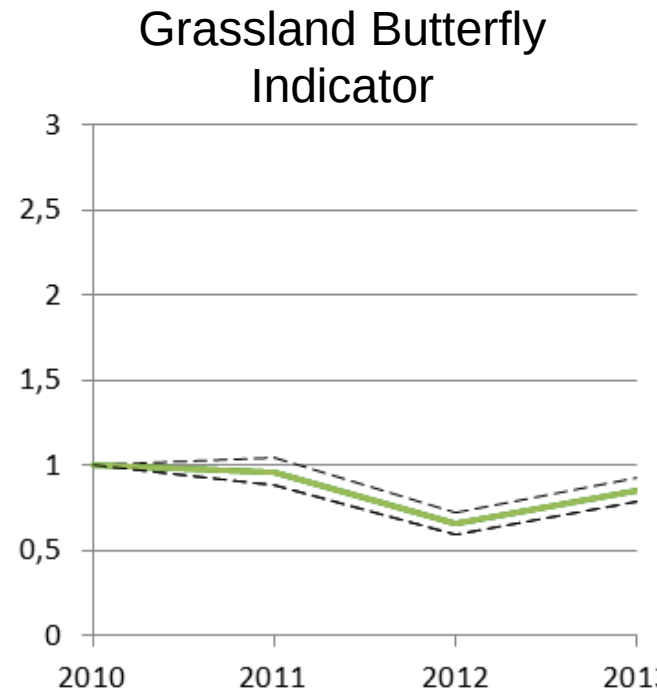
Nation-level indicators





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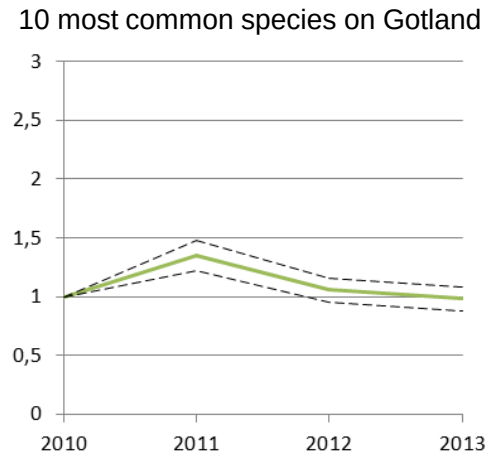
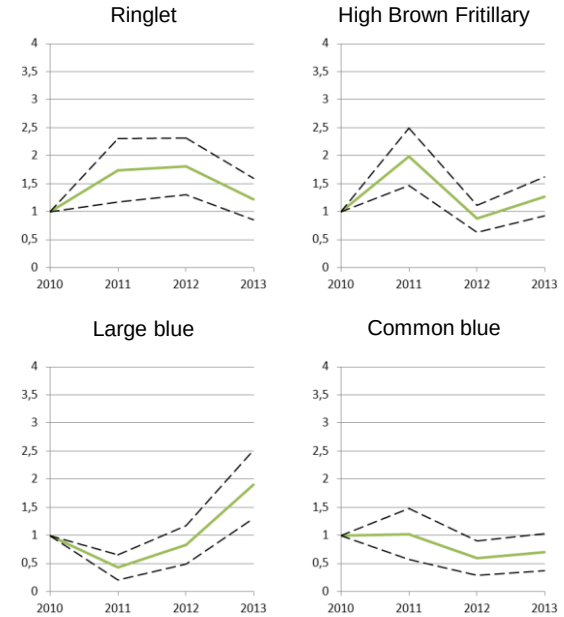
…and regional-level indicators!





Reports so far

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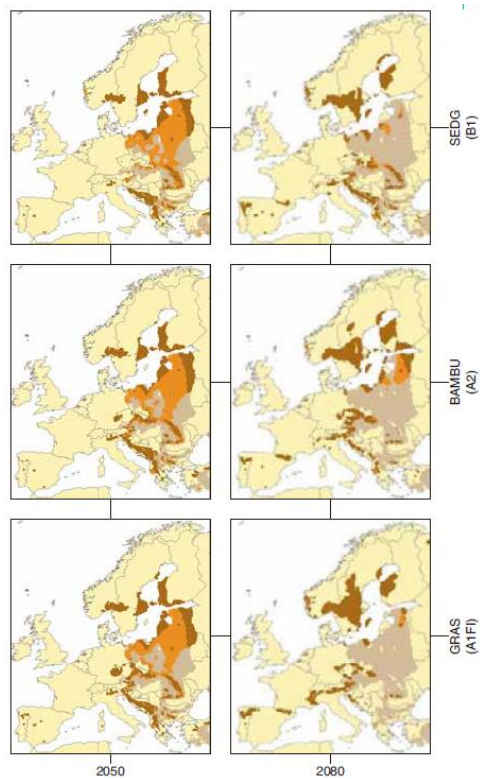
Distribution changes



1900-2011

Yellowlegged tortoiseshell *Nymphalis xanthomelas*

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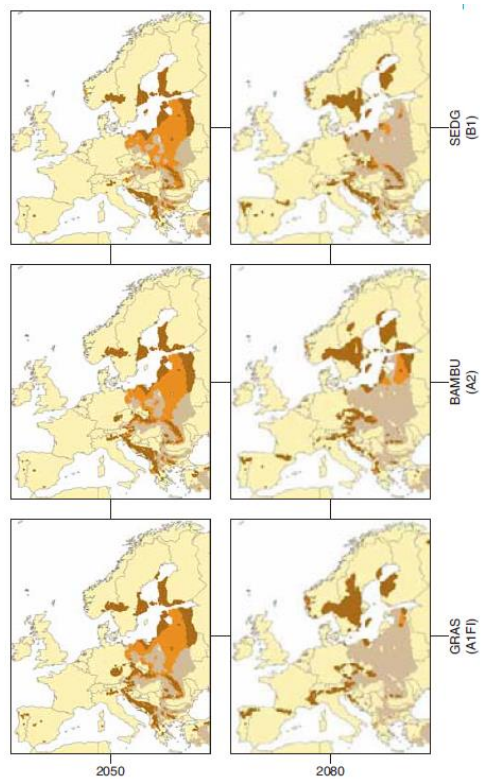
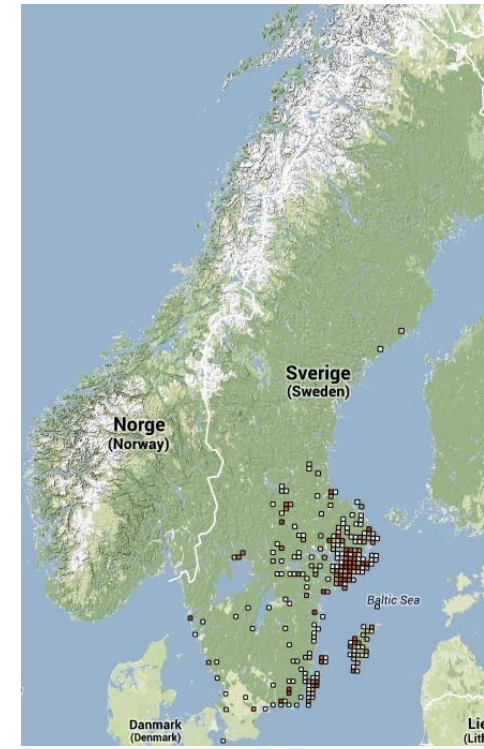
Distribution changes





2012-2014

Yellowlegged tortoiseshell *Nymphalis xanthomelas*

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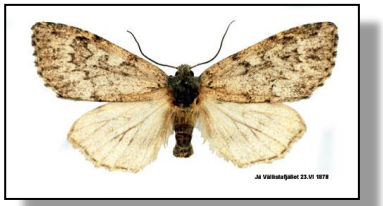
Habitats directive reporting



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[a] samlad bedömning för boreal rapporterades med negativ trend
[c] samlad bedömning för kontinental rapporterades med negativ trend
[i] samlad bedömning för kontinental rapporterades med stabil trend
[b] kvadratsammar
[f] rutsammar
[h] fångor
[e] mossar

ARTER – Tabell C, forts.			Bilaga	AKTUELLA VÄRDEN									REFERENSVÄRDEN 2013						BEDÖMNING													
KOD	Vetenskapligt namn	Svenskt namn	II IV V	Utbredning (km²)			Population (individ)			Utnyttjad livsmiljö (km²)			Utbredning (km²)			Population (individ)			ALPIN				BOREAL				KONTINENTAL				
	FJÄRILAR			ALP	BOR	CON	ALP	BOR	CON	ALP	BOR	CON	ALP	BOR	CON	ALP	BOR	CON	Utbredning	Population	Livsmiljö	Framtidsutsikter	Samlad bedömning	Utbredning	Population	Livsmiljö	Framtidsutsikter	Samlad bedömning	Utbredning	Population	Livsmiljö	Framtidsutsikter	Samlad bedömning	År
1930	*Agriades glandon aquilo*	högnordisk blåvinge	II	3100			1000–3000			0,8			14100			7000			●	●	●	+	●											2007
																			●	●	●	●	●											2013
1931	*Clossiana improba*	dvärgpärlemorfjäril	II	1500			1000–2500			2			6900			4000			●	●	●	●	●											2007
																			●	●	●	●	●											2013
1070	*Coenonympha hero*	brun gräsfjäril	IV		23500	0		20000–40000	0		5	0		24800	2400		60000	6000						●	●	●	●	●	●	●	●	●	●	2007
																								●	●	●	●	●	●	●	●	●	●	2013[i]
1065	*Euphydryas aurinia*	väddnätfjäril	II		19000	100		2500–7500	300–750		2,5	0,3		23700	100		25000	500						●	●	●	●	●	●	●	●	●	●	2007
																								●	●	●	●	●	●	●	●	●	●	2013
1933	*Hesperia comma catena*	tjällsilversmygare	II	600			100–1000			0,5			10400			7000			●	●	●	●	●											2007
																			●	●	●	●	●											2013
1052	*Hypodryas maturna*	asknätfjäril	II IV		600			800–2000			1			5500			12000								●	●	●	●	●					2007
																								●	●	●	●	●	●					2013
1067	*Lopinga achine*	dvärgrätfjäril	IV		2100			12000–18000			8			3700			40000								●	●	●	●	●					2007
																								●	●	●	●	●	●					2013
4038	*Lycaena helle*	violett guldvingo	II	4500	14500		750–1500	2000–5000		0,3	1		6600	68700		4000	40000		⊗	⊗	⊗	⊗	⊗	●	●	●	●	●						2007
																			●	●	●	●	●	●	●	●	●	●						2013
1058	*Maculinea arion*	svartfläckig blåvinge	IV		10500	3700		5000–7500	2000–3500		9	4		16300	4700		16000	10000						●	●	●	●	●	●	●	●	●	●	2007
																								●	●	●	●	●	●	●	●	●	●	2013
1057	*Parnassius apollo*	apollofjäril	IV		12700			3000–8000			50			23100			20000								●	●	●	●	●					2007
																								●	●	●	●	●	●					2013
1056	*Parnassius mnemosyne*	mnemosynefjäril	IV		1800	300		1600–2700	100–150		1,5	0,45		2800	2300		8000	4000						●	●	●	●	●	●	●	●	●	●	2007
																			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	2013
1934	*Xestia borealis*	nordiskt isoll[illegible]	II	800	400		1000–3000	400–1500		3	2		11000	4600		8000	2000		●	●	●	●	●	●	●	●	●	●						2007
																			●	●	●	●	●	●	●	●	●	●						2013
																																		2007
																																		2013
			II		900			10–60[h]			0,2			6300			750[h]							●	●	●	●	●						
					20100	2300		400–800[f]	50–150[f]		4	0,4		20100	4700		1250[f]	400[f]						●	●	●	●	●	●	●	●	●	●	2007
																								●	●	●	●	●	●	●	●	●	●	2013[a]
					5500			150–400[f]			2			25300			1000[f]							●	●	+	+	●						2007
																								●	●	●	●	●						2013
					200			150–250[f]			29			3300			2500[f]							●	●	●	●	●						2007
																								●	●	●	●	●						2013
			V		100			6–10[f]			0,04			4400			400[f]							●	●	●	●	●						2007
																								●	●	●	●	●						2013
					5100			100–200[f]			1,25			12700			2000[f]							●	●	●	●	●						2007
																								●	●	●	●	●						2013
					26300	5700		2000–4000[f]	700–1300[f]		20	7		26300	5700		4000[f]	1300[f]						●	●	●	●	●	●	●	●	●	●	2007
																								●	●	●	●	●	●	●	●	●	●	2013
					43000	7000		600–1200[f]	140–250[f]		10	2		43000	7000		2000[f]	500[f]						●	●	●	●	●	●	●	●	●	●	2007
																								●	●	●	●	●	●	●	●	●	●	2013

[i] endast i kontinental region

69

Reports 2007 & 2013, based on expert judgement

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ARTER – Tabell C, forts.			Bilaga			AKTUELLA VÄRDEN								
KOD	Vetenskapligt namn	Svenskt namn	II	IV	V	Utbredning (km²)			Population (individ)			Utnyttjad livsmiljö (km²)		
						ALP	BOR	CON	ALP	BOR	CON	ALP	BOR	CON
	FJÄRILAR													
1930	*Agriades glandon aquilo*	högnordisk blåvinge	II			3100			1000–3000				0,8	
1931	*Clossiana improba*	dvärgpärlemorfjäril	II			1500			1000–2500				2	
1070	*Coenonympha hero*	brun gräsfjäril		IV			23500	0		20000–40000	0		5	0
1065	*Euphydryas aurinia*	väddnätfjäril	II				19000	100		2500–7500	300–750		2,5	0,3
1933	*Hesperia comma catena*	fjällsilversmygare	II			600			100–1000				0,5	
1052	*Hypodryas maturna*	asknätfjäril	II	IV			600			800–2000			1	
1067	*Lopinga achine*	dårgräsfjäril		IV			2100			12000–18000			8	
4038	*Lycaena helle*	violett guldvinge	II			4500	14500		750–1500	2000–5000		0,3	1	
1058	*Maculinea arion*	svartfläckig blåvinge		IV			10500	3700		5000–7500	2000–3500		9	4
1057	*Parnassius apollo*	apollofjäril		IV			12700			3000–8000			50	
1056	*Parnassius mnemosyne*	mnemosynefjäril		IV			1800	300		1600–2700	100–150		1,5	0,45
1934	*Xestia borealis*	nordiskt isoll[illegible]	II			800	400		1000–3000	400–1500		3	2	
			II				900			10–60[h]			0,2	
				IV			20100	2300		400–800[f]	50–150[f]		4	0,4
							5500			150–400[f]			2	
							200			150–250[f]			29	
					V		100			6–10[f]			0,04	
							5100			100–200[f]			1,25	
							26300	5700		2000–4000[f]	700–1300[f]		20	7
							43000	7000		600–1200[f]	140–250[f]		10	2

[a] samlad bedömning för boreal rapporterades med negativ trend
[c] samlad bedömning för kontinental rapporterades med negativ trend
[f] samlad bedömning för kontinental rapporterades med stabil trend
[h] kvadratsammar
[i] radsammar
[j] fågor
[k] mossar

REFERENSVÄRDEN 2013						BEDÖMNING																		
Utbredning (km²)			Population (individ)			ALPIN					BOREAL					KONTINENTAL					
ALP	BOR	CON	ALP	BOR	CON	Utbredning	Population	Livsmiljö	Framtidsutsikter	Samlad bedömning	Utbredning	Population	Livsmiljö	Framtidsutsikter	Samlad bedömning	Utbredning	Population	Livsmiljö	Framtidsutsikter	Samlad bedömning	År
14100			[illegible]00			● ●	● ●	● ●	◐ ●	● ●											2007 2013
6900			4000			● ●	● ●	● ●	◐ ●	● ●											2007 2013
	24800	2400		60000	6000						◐ ●	◐ ●	◐ ●	◐ ●	● ●	● ●	● ●	● ●	● ●	● ●	2007 2013[i]
	23700	100		25000	500						● ●	● ●	◐ ●	◐ ●	● ●	● ●	● ●	● ●	● ●	● ●	2007 2013
10400			7000			● ●	● ●	● ●	● ●	● ●											2007 2013
	[illegible]00			12000							● ●	● ●	● ●	◐ ●	● ●						2007 2013
	[illegible]00			40000							● ●	● ●	◐ ●	◐ ●	● ●						2007 2013
6600	687[illegible]		4000	40000		⊗ ●	⊗ ●	⊗ ◐	⊗ ◐	⊗ ●	● ●	● ●	◐ ●	● ●	● ●						2007 2013
	16300	4700		16000	10000						● ●	● ●	◐ ●	● ●	● ●	● ●	◐ ●	◐ ●	● ●	● ●	2007 2013
	23100			20000							● ●	● ●	◐ ●	◐ ●	● ●						2007 2013
	2800	230[illegible]		8000	4000						● ●	● ●	● ●	◐ ●	● ●	● ●	● ●	● ●	● ●	● ●	2007 2013
11000	4600		[illegible]	2000		● ●	● ●	◐ ●	● ●	● ●	● ●	● ●	◐ ●	● ●	● ●						2007 2013
																					2007 2013
	6300			750[h]							● ●	● ●	● ●	● ●	● ●						
	20100	4700		1250[f]	400[f]						● ●	● ●	◐ ●	◐ ●	● ●	● ●	● ●	● ●	● ●	● ●	2007 2013[a]
	25300			1000[f]							● ●	● ●	◐ ●	◐ ●	● ●						2007 2013
	3300			2500[f]							● ●	● ●	● ●	◐ ●	● ●						2007 2013
	4400			400[f]							● ●	● ●	● ●	● ●	● ●						2007 2013
	12700			2000[f]							● ●	● ●	● ●	● ●	● ●						2007 2013
	26300	5700		4000[f]	1300[f]						● ●	● ●	◐ ●	◐ ●	● ●	● ●	◐ ●	◐ ●	◐ ●	◐ ●	2007 2013
	43000	7000		2000[f]	500[f]						● ●	● ●	● ●	◐ ●	● ●	● ●	● ●	● ●	◐ ●	● ●	2007 2013

[f] endast i kontinental region

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Reports 2007 & 2013, based on expert judgement

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Habitats directive monitoring

- Initiated by the Swedish EPA
- Targeted & species-adaped
- Yearly counts
- Coordinated with other activities
  - The Swedish BMS
  - Species Action Plans
  - Local initiatives

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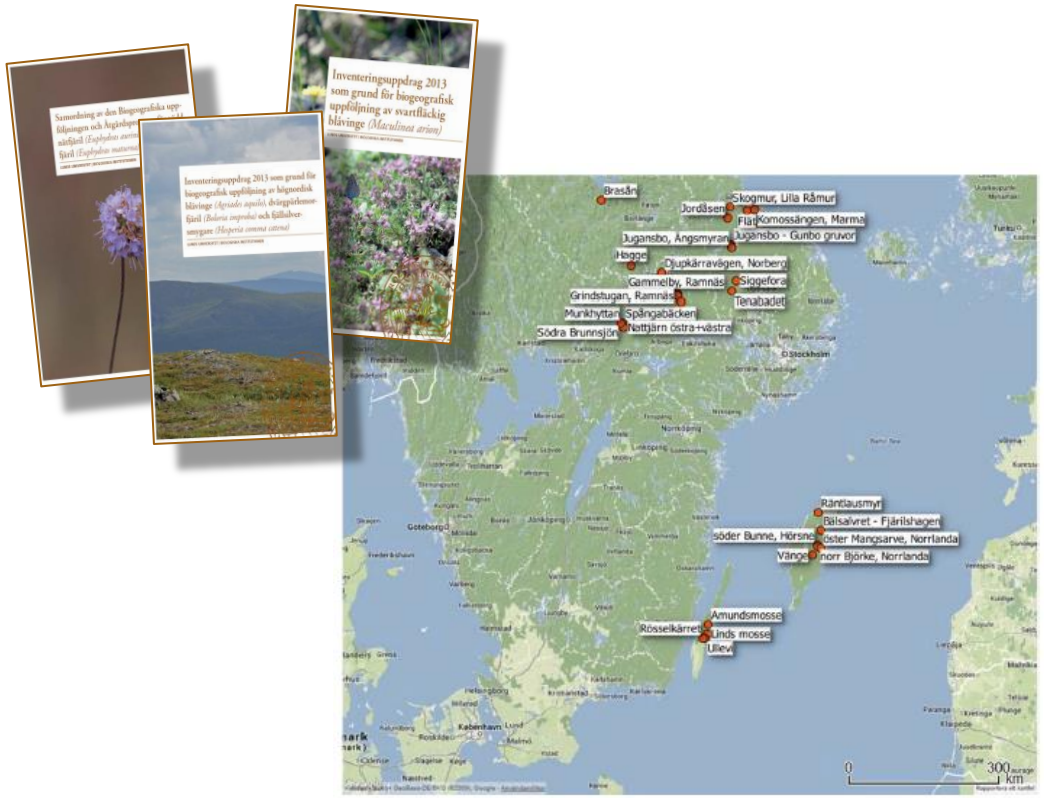
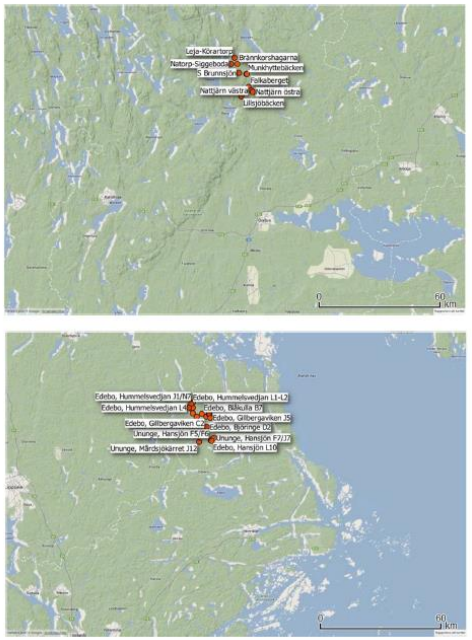
Habitats directive monitoring, starting now



E. aurinia sites



E. maturna sites

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The Swedish Red list

- New (2015) edition
- Some changes for butterflies and moths
- Most threat levels remain the same
- Web-based

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One more thing – Västmanland 2014

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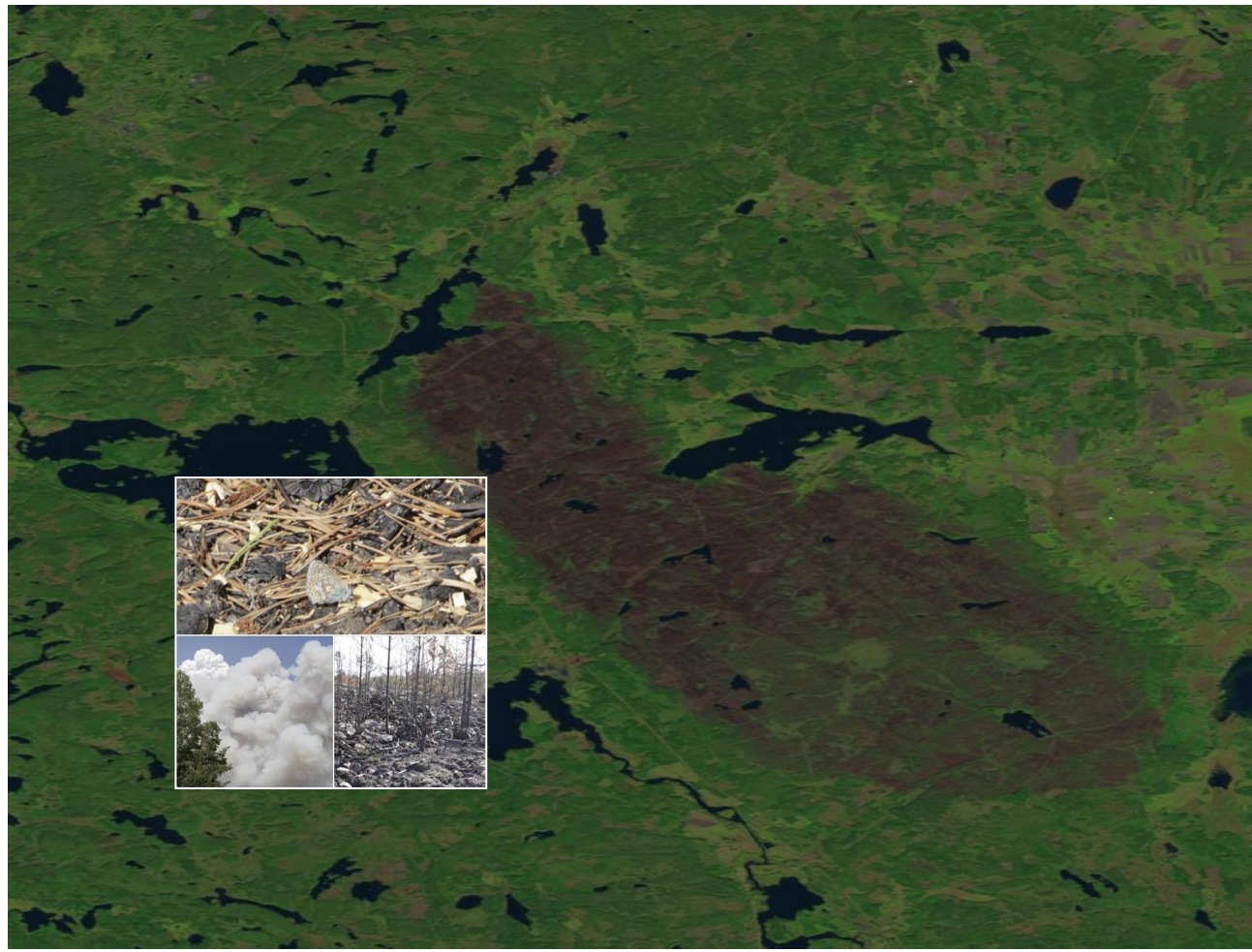
One more thing – Västmanland 2014



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Thank you!

SWEDISH BUTTERFLY MONITORING SCHEME

NATUR VÅRDS VERKET

LUNDS UNIVERSITET

HÖGSKOLAN I GÄVLE

SWEDISH UNIVERSITY OF AGRICULTURAL SCIENCES SLU

Sveriges Entomologiska Förening

Länsstyrelserna

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