



A. metis



E. arinia



L. dispar



M. arion



P. alexanor

Assessing the conservation status of butterflies in Greece, under Habitats Directive

Vassiliki Kati, University of Patras, Greece

BCC meeting, Laufen, 2/12/2014

P. apollo



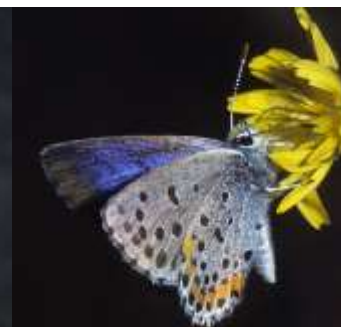
P. mnemosyne



P. eroides



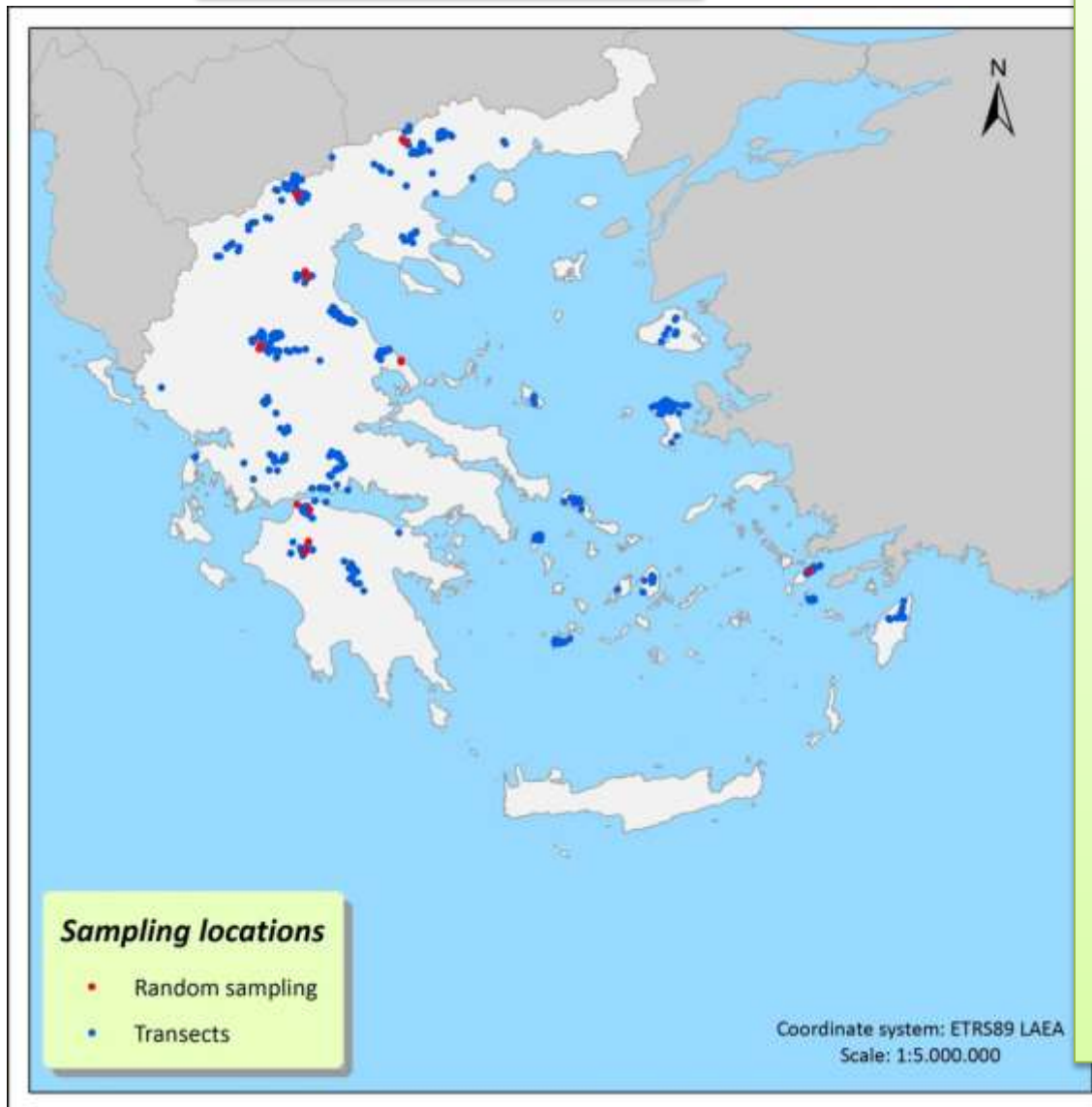
P. bavius



Z. polyxena



Methodology



Target area

Greece – excluding SCI with MA

Sampling effort/method

- **372 (293) transects [500 m X 5 m]**
- 18 random records
- 80% in Natura sites (SCI)

Period/ Replicates

- March-August 2014
- One visit only
- 87% at medium-good phenology

Species presence

17.7% (52 transects)

Habitat cons degree in presences

92%- excellent (A)

6% - good (B)

2% - bad (C)

SDF: Evaluation of Natura 2000 sites (SCI)

Field protocol for transect

- Date/ Time/ Weather conditions
- Environmental parameters: Flowerheads abundance, water, elevation, vegetation...
- Pressures/ Threats in the habitat

Habitat evaluation
[A, B, C : Transect]



Habitat area

**Habitat conservation
degree- A, B, C
SCI level**

Field protocol for the species

Species: N. individuals (N1, N2)
Adequate phenology (scale 1-3)



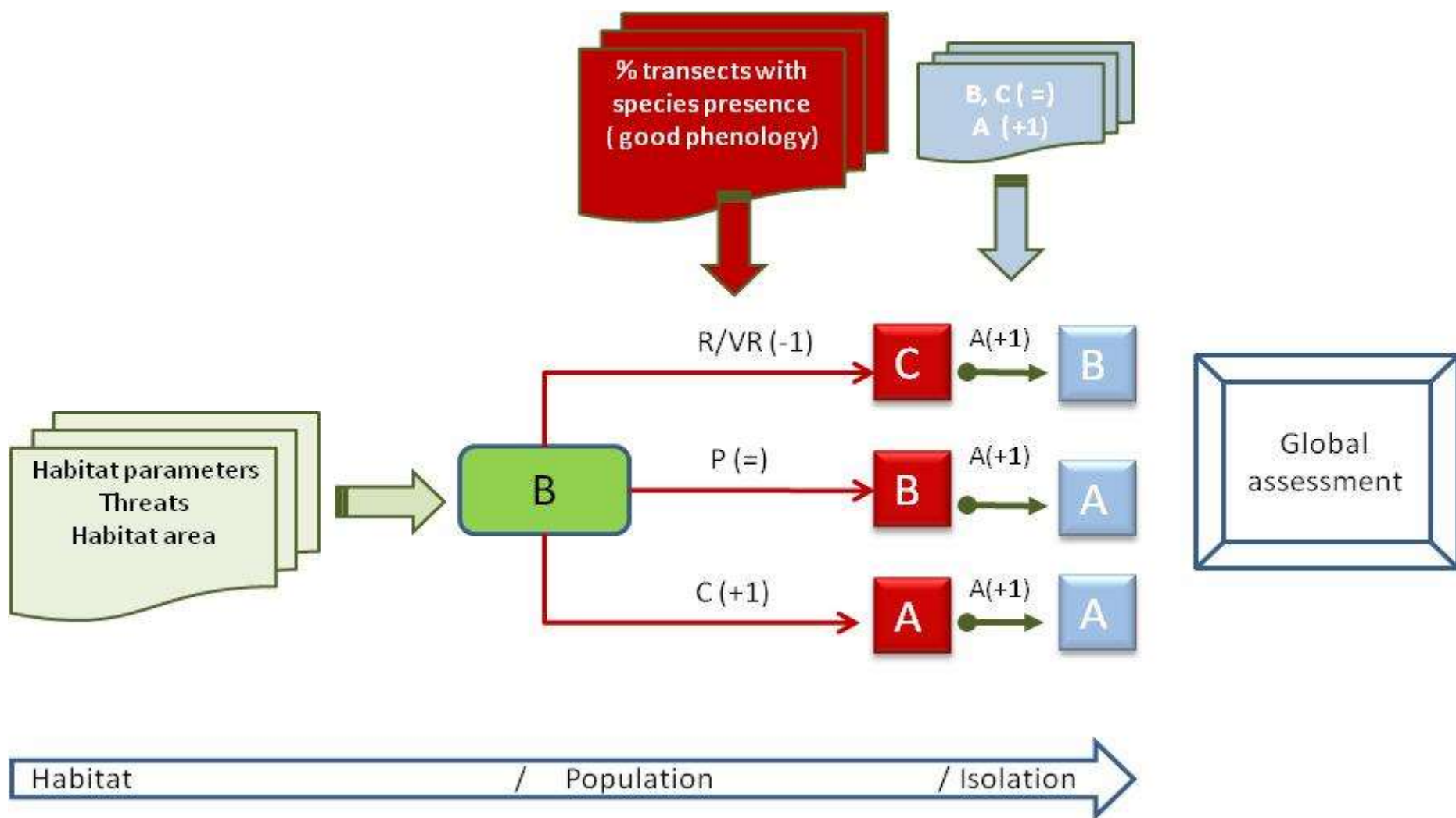
Local population
% presence

Population evaluation -SCI

- VR: Very Rare :5% presence
- R : Rare:<10% presence
- P: Present: 10.1-50% presence
- C: Common: >50% presence



**Global assessment
SDF Evaluation [16 SCI]**
Habitat cons. Degree
Population cons. Degree
Isolation



National evaluation

Distribution:

Known localities from 2014 sampling + localities from Pamperis (2009)

Range: Distribution map + Range tool $\Rightarrow$ Corine land uses and elevation $\Rightarrow$ Range area

Assessment: Stable (not known extinctions referred at 10km grid scale)

Population:

Expert opinion $\Rightarrow$ independent estimation pop. size and trend [questionnaire]

Cross check with

(a) Known localities (2007-2014)

(b) Historic localities from Pamperis' atlas (2009)

(c) % presence in sampling (good phenology only)

FVRP: $\sim$ Historic population (Greek atlas).

Assessment: comparing minimum population size with historic one

Future prospects:

Field protocols assessing pressures/ threats with L, M, H intensity

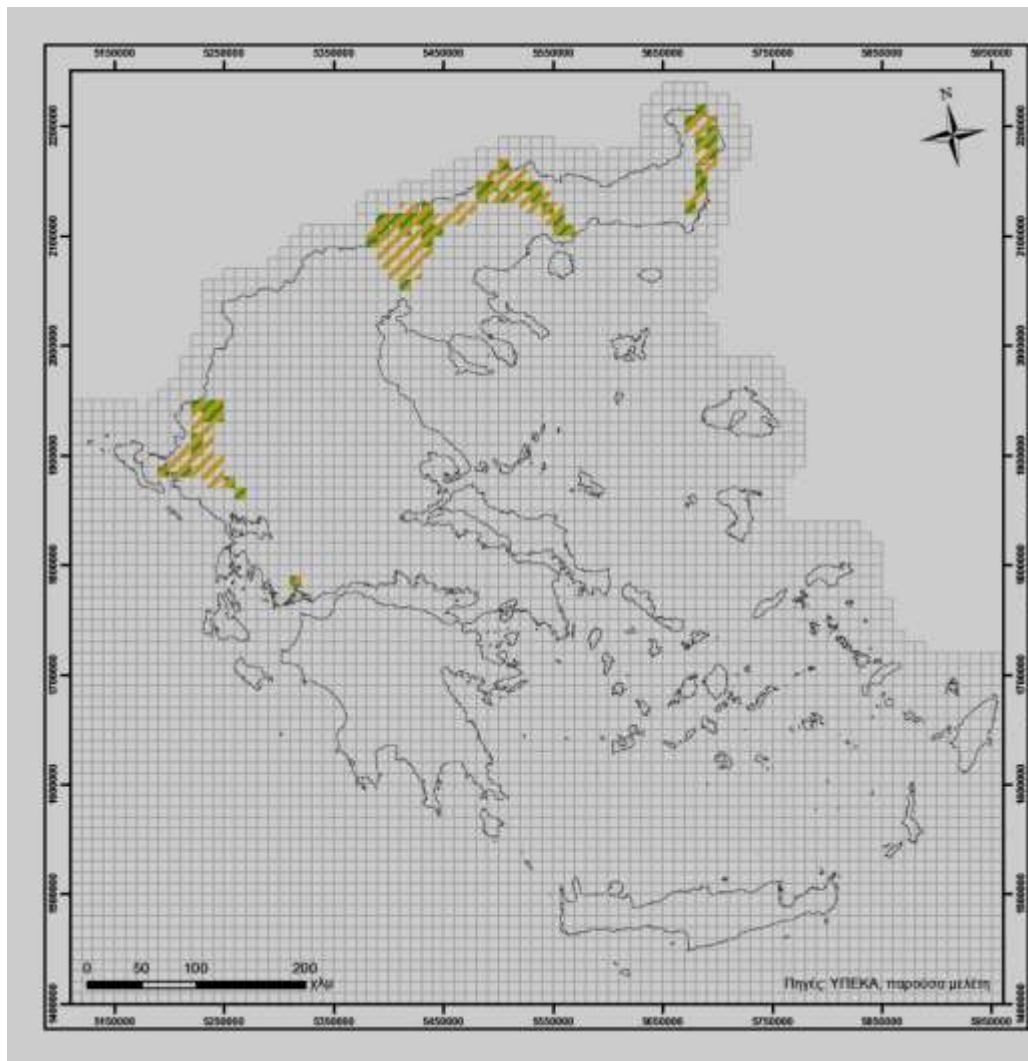
Frequency analysis

Expert judgment to filter information

Assessment according to the number and severity of threats



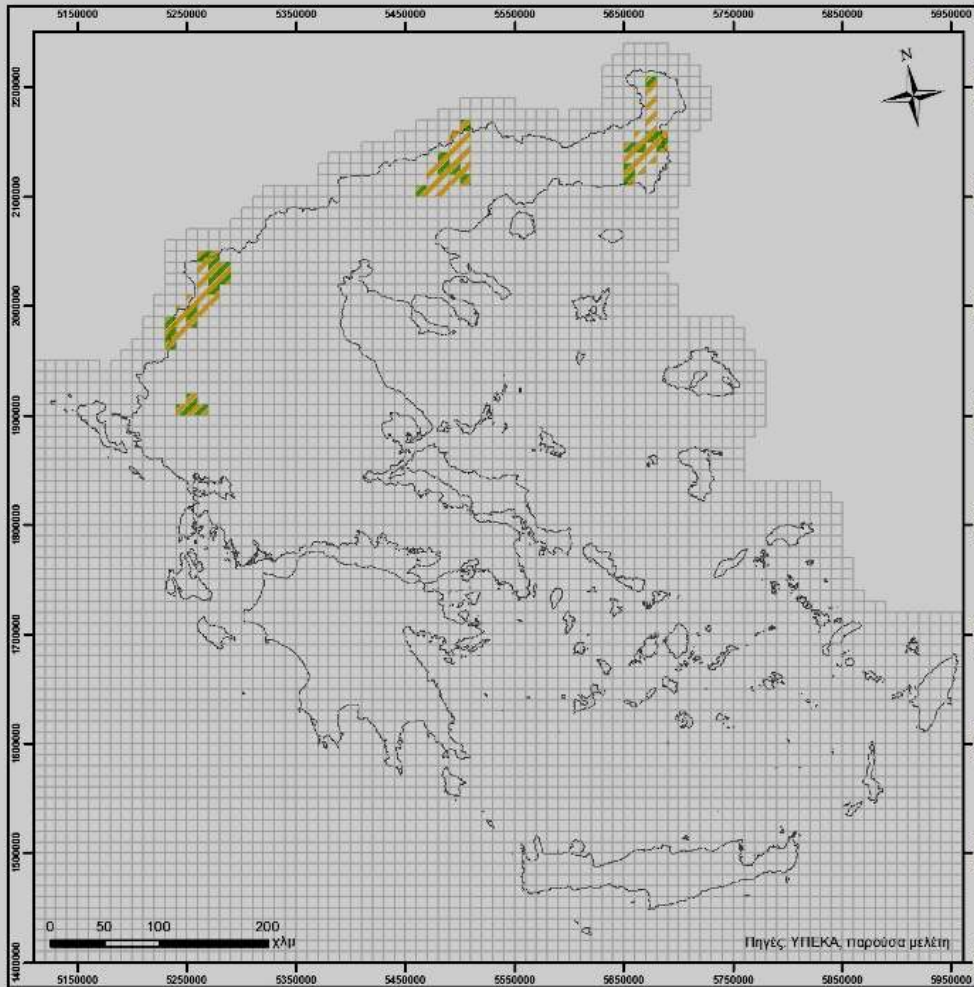
Apatura metis



<i>Apatura metis</i>	
N transects	4
Presences	1
Presence %	33%
N individuals	15
Max ind./transect	15
Range trend	"="
FR range	"="
Pop.size	50- 500
Pop. Trend	decrease
Localities (atlas)	43-52
FVRP	>

Range	FV: Favourable
Population	U1:Inadequate
Habitat	XX:Unknown
Future prospects	U1:Inadequate
OVERALL	U1: Inadequate

Euphydryas aurinia

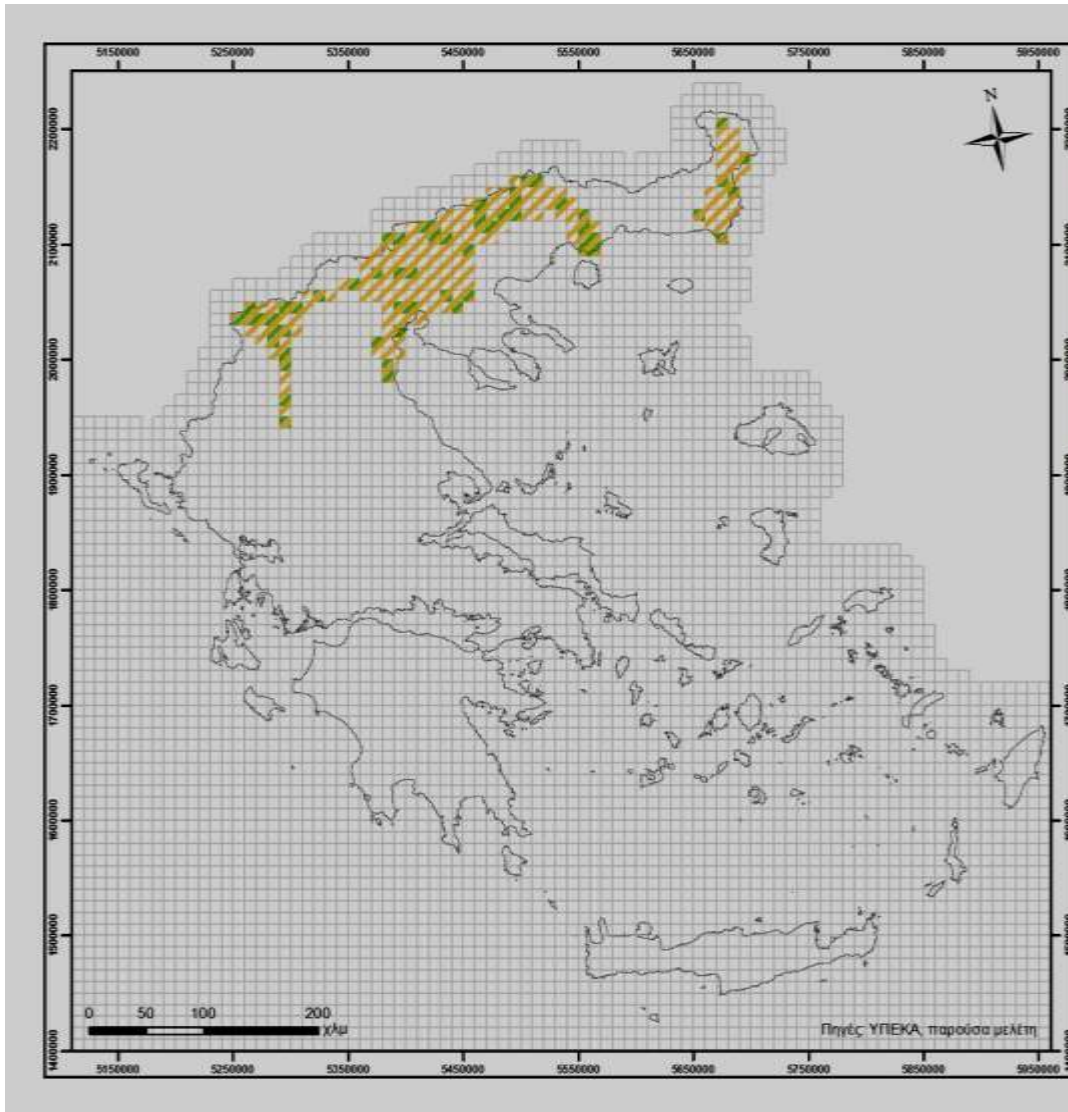


Euphydryas aurinia

N transects	13
Presences	0
% Presences	0%
N individuals	0
Max ind/transect	0
Range trend	"="
FR range	"="
Pop. size	0-1000
Pop. trend	stable
Localities (atlas)	26-30
FVRP	>

Range	FV: Favourable
Population	U1: Inadequate
Habitat	XX: Unknown
Future prospects	FV: Favourable
OVERALL	U1: Inadequate

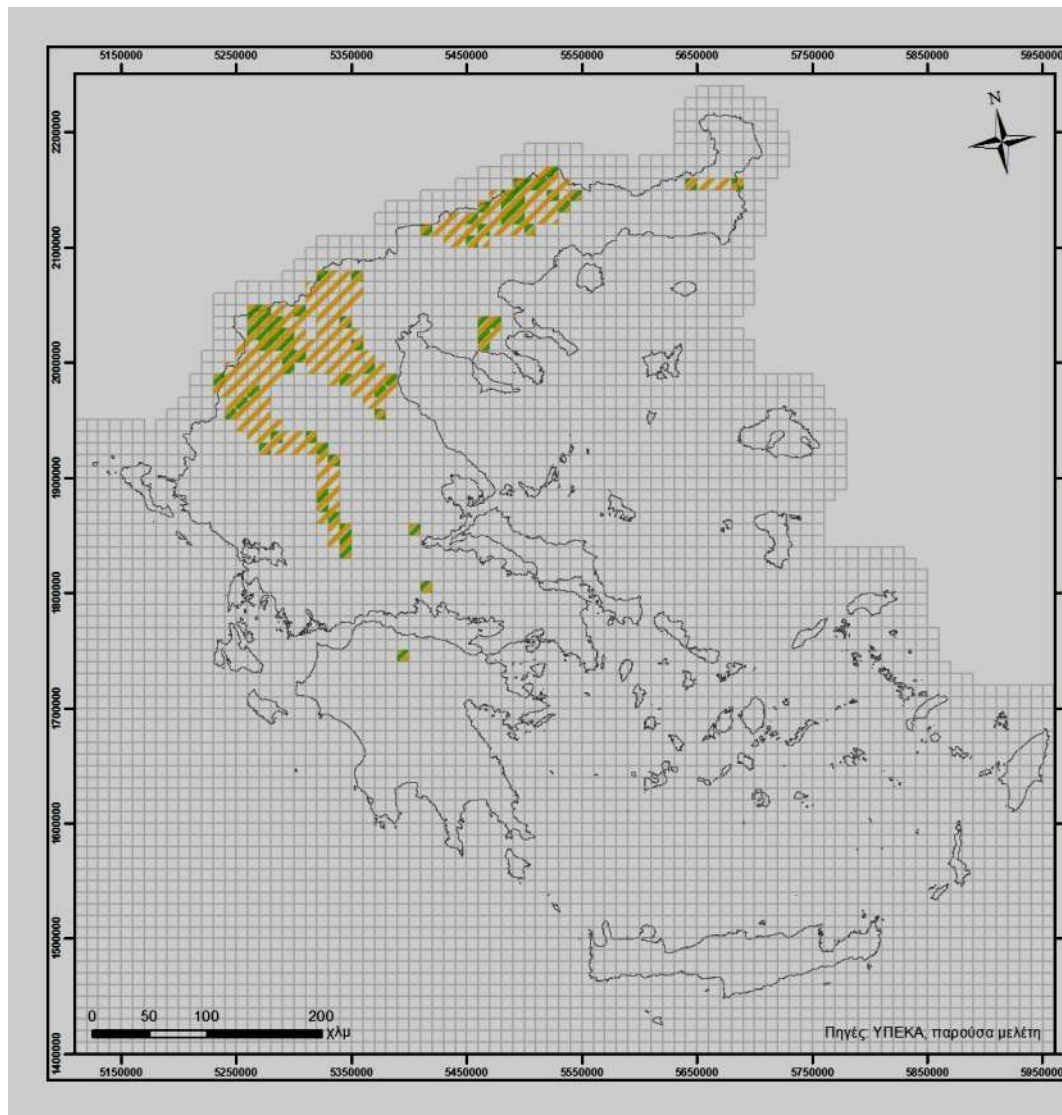
Lycaena dispar



<i>Lycaena dispar</i>	
N transects	56
Presences	0
% Presences	0%
N individuals	0
Max ind/transect	0
Range trend	"="
FR range	"="
Pop. size	0-100
Pop. trend	decrease
Localities (atlas)	53-64
FVRP	>

Range	FV: Favourable
Population	U2:Bad
Habitat	XX:Unknown
Future prospects	U2:Bad
OVERALL	U2:Bad

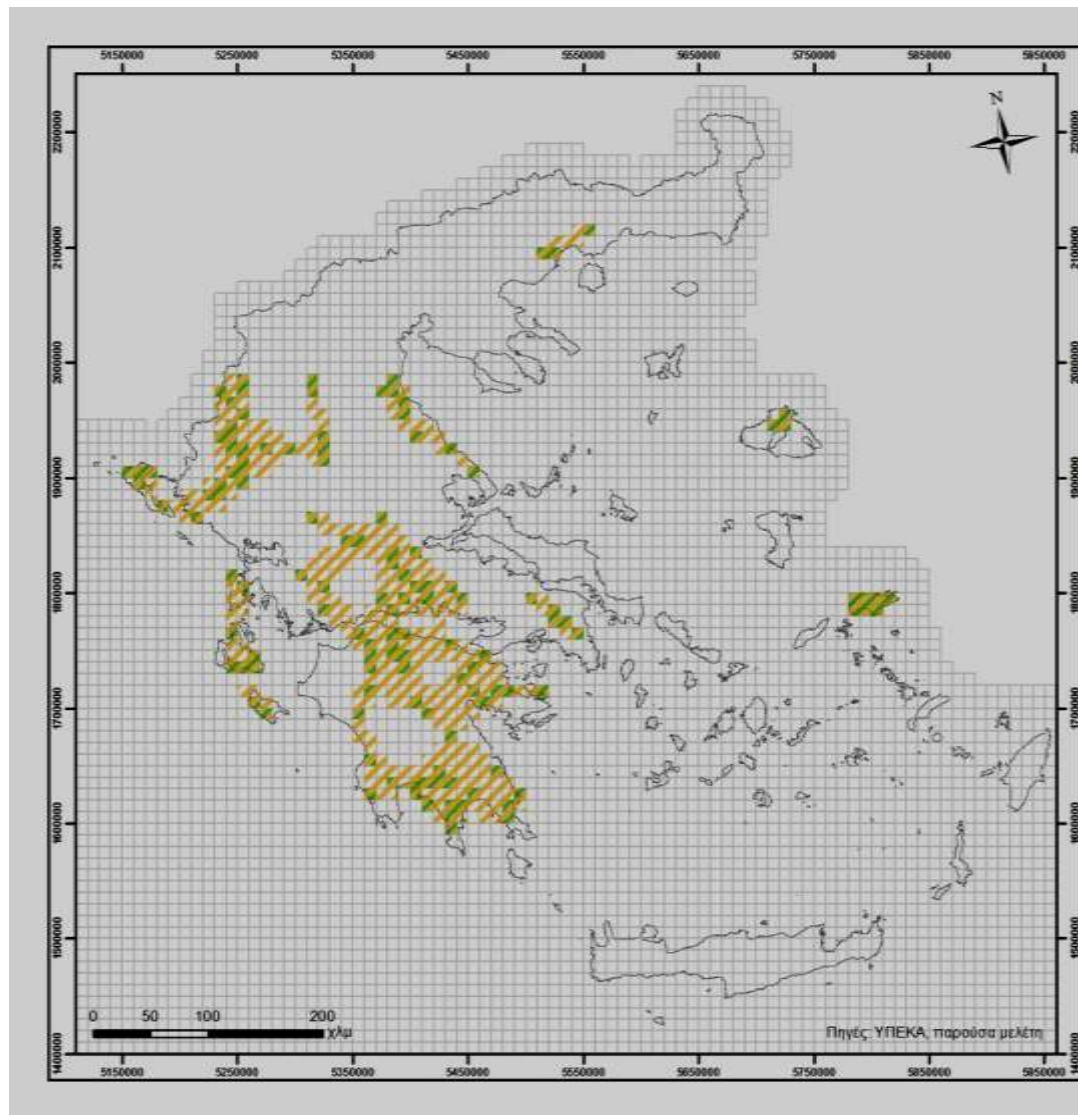
Maculinea arion



<i>Maculinea arion</i>	
N transects	43
Presences	2
% Presences	7%
N individuals	2
Max ind/transect	1
Range trend	"="
FR range	"="
Pop. size	0-500
Pop. trend	stable
Localities (atlas)	58-69
FVRP	>

Range	FV: Favourable
Population	U1:Inadequate
Habitat	XX:Unknown
Future prospects	U1:Inadequate
OVERALL	U1:Inadequate

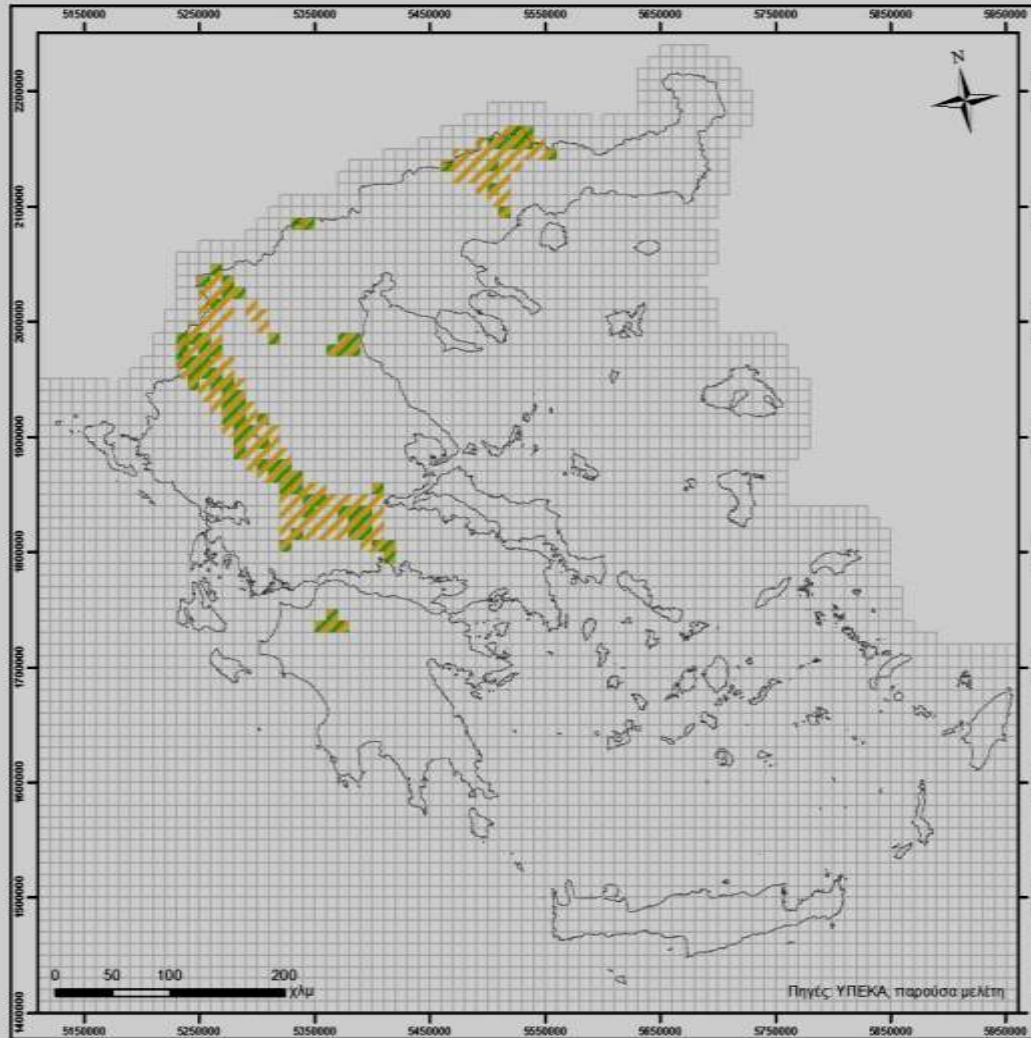
Papilio alexanor



<i>Papilio alexanor</i>	
N transects	56
Presences	3
% Presences	4%
N individuals	4
Max ind/transect	2
Range trend	"="
FR range	"="
Pop. size	50-500
Pop. trend	decrease
Localities (atlas)	115-136
FVRP	>

Range	FV: Favourable
Population	U2:Bad
Habitat	XX:Unknown
Future prospects	FV: Favourable
OVERALL	U2:Bad

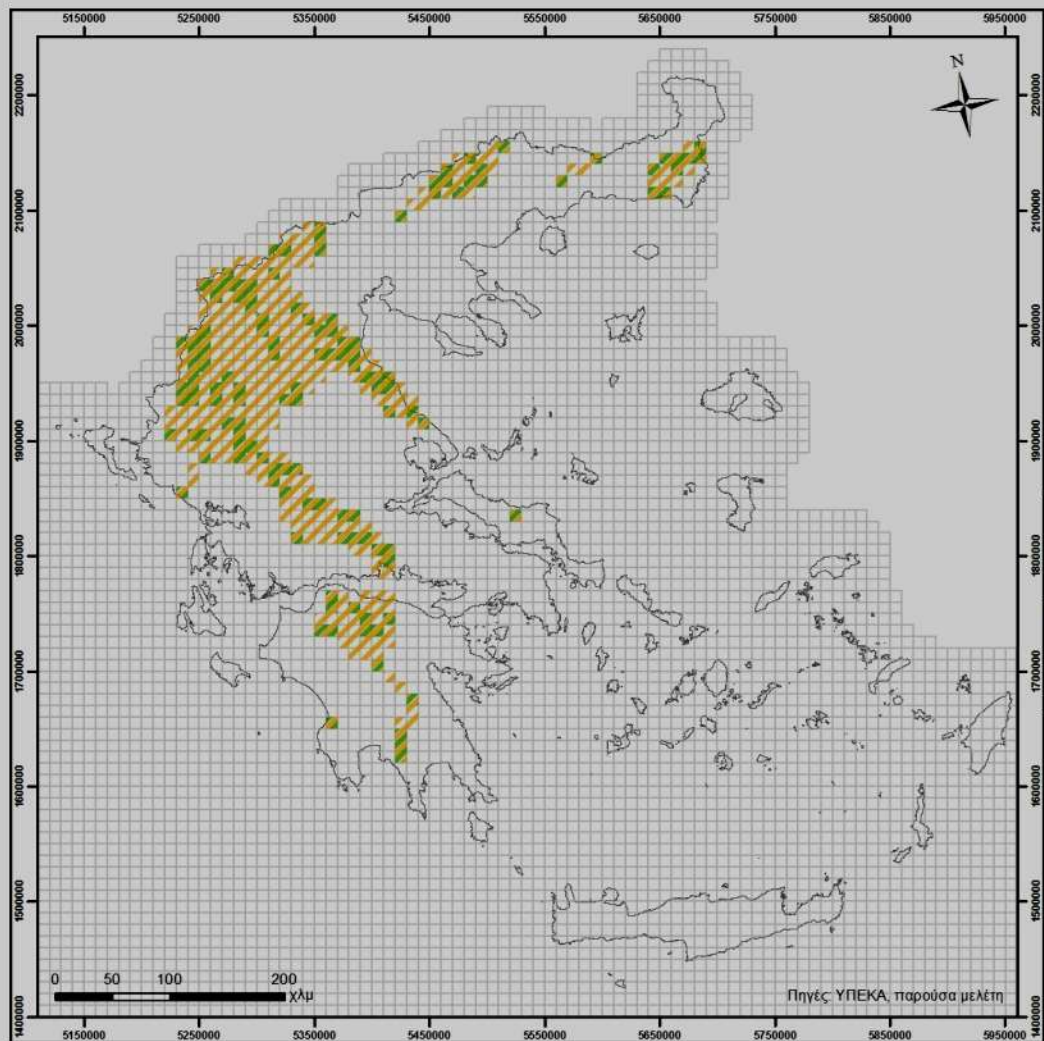
Parnassius apollo



<i>Parnassius apollo</i>	
N transects	58
Presences	2
% Presences	8%
N individuals	20
Max ind/transect	14
Range trend	"="
FR range	"="
Pop. size	100-1000
Pop. trend	Decreasing
Localities (atlas)	82-84
FVRP	>

Range	FV: Favourable
Population	U1: Inadequate
Habitat	XX: Unknown
Future prospects	U1: Inadequate
OVERALL	U1: Inadequate

Parnassius mnemosyne



<i>Parnassius mnemosyne</i>	
N transects	46
Presences	23
% Presences	45%
N individuals	82
Max ind/transect	32
Range trend	"="
FR range	"="
Pop. size	500-5000
Pop. trend	stable
Localities (atlas)	119-133
FVRP	≈

Range	FV: Favourable
Population	FV: Favourable
Habitat	XX:Unknown
Future prospects	FV: Favourable
OVERALL	FV: Favourable

Polyommatus eroides

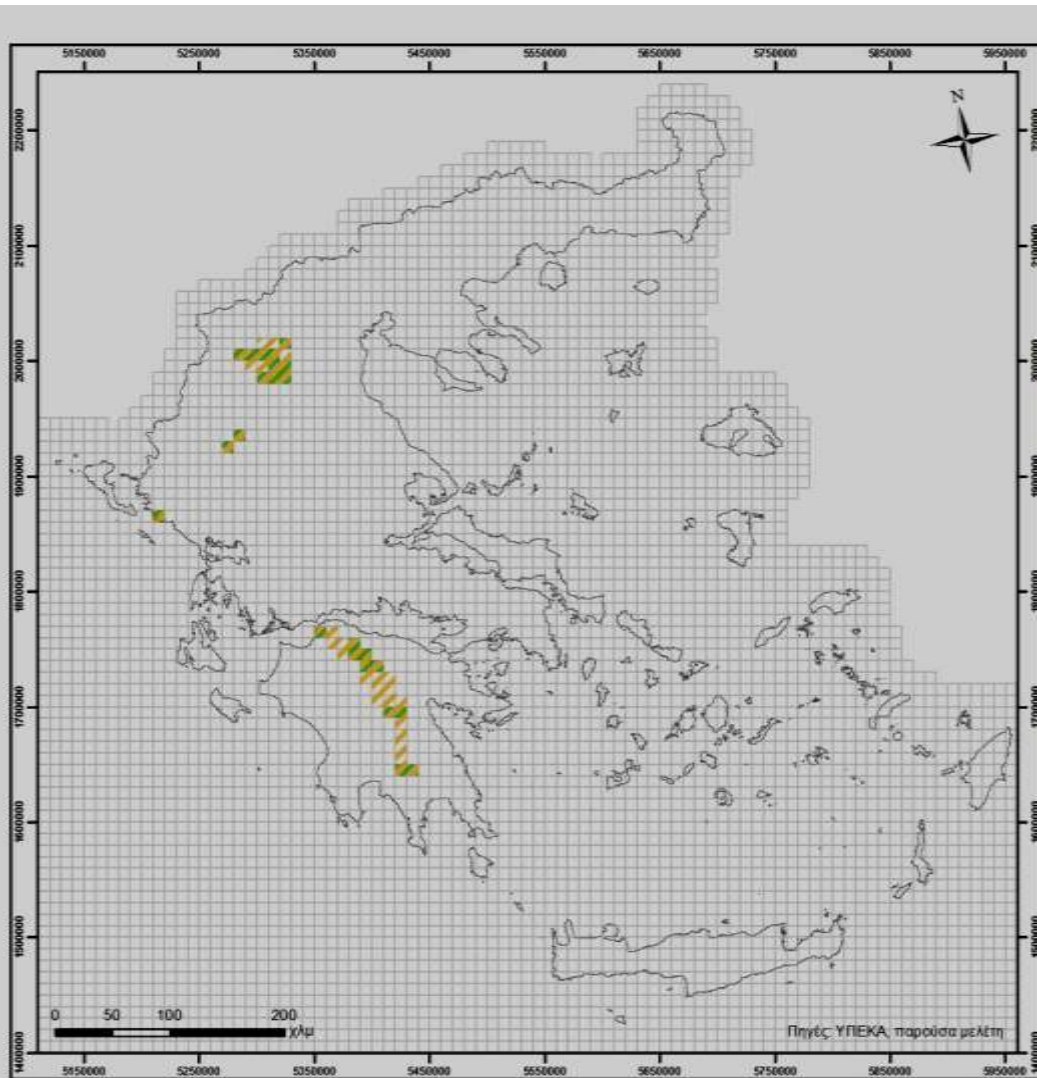


Polyommatus eroides

N transects	2
Presences	0
% Presences	no assessment
N individuals	0
Max ind/transect	0
Range trend	"="
FR range	"="
Pop. size	0-500
Pop. trend	stable
Localities (atlas)	58-62
FVRP	>

Range	FV: Favourable
Population	U1: Inadequate
Habitat	XX: Unknown
Future prospects	FV: Favourable
OVERALL	U1: Inadequate

Pseudophilotes bavius

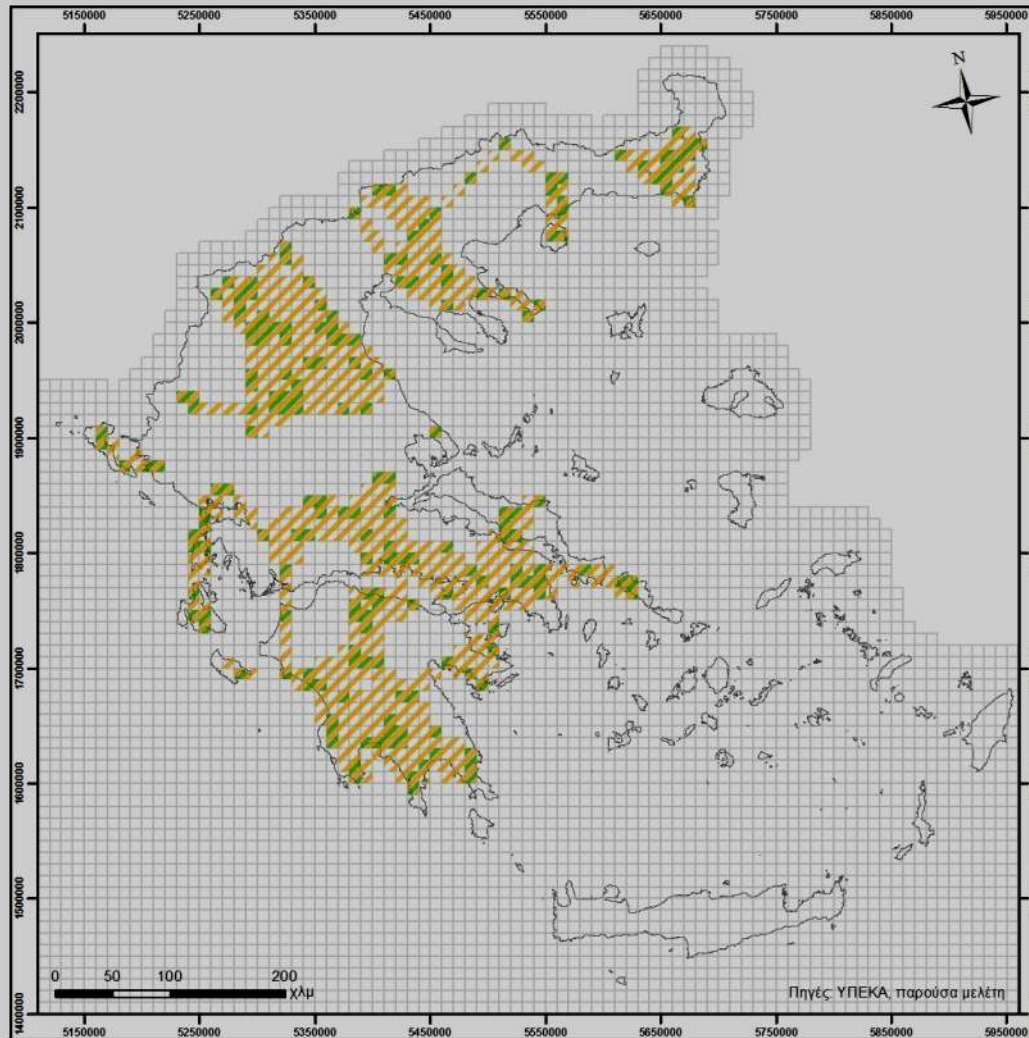


Pseudophilotes bavius

N transects	11
Presences	0
% Presences	0%
N individuals	0
Max ind/transect	0
Range trend	"="
FR range	"="
Pop. size	0-500
Pop. trend	stable
Localities (atlas)	19-23
FVRP	>

Range	FV: Favourable
Population	U1:Inadequate
Habitat	XX:Unknown
Future prospects	FV: Favourable
OVERALL	U1:Inadequate

Zerynthia polyxena



Zerynthia polyxena

N transects	55
Presences	19
% Presences	49%
N individuals	152
Max ind/transect	45
Range trend	"="
FR range	"="
Pop. size	1000-5000
Pop. trend	stable
Localities (atlas)	162-197
FVRP	≈

Range	FV: Favourable
Population	FV: Favourable
Habitat	XX:Unknown
Future prospects	FV: Favourable
OVERALL	FV: Favourable

Species	Range	Habitat	Population	Future prospects	Overall
<i>Apatura metis</i>					
<i>Euphydryas aurinia</i>					
<i>Lycaena dispar</i>					
<i>Maculinea arion</i>					
<i>Papilio alexanor</i>					
<i>Parnassius apollo</i>					
<i>Parnassius mnemosyne</i>					
<i>Polyommatus eroides</i>					
<i>Pseudophilotes bavius</i>					
<i>Zerynthia polyxena</i>					

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Thank you for
your attention

