Report on the main results of the surveillance under article 17 for annex I habitat types (Annex D)

CODE: 8310

NAME: Caves not open to the public

1. National Level

1.1 Maps

1.1.1 Distribution Map	Yes
1.1.2 Distribution Method	Estimate based on expert opinion with no or minimal sampling (1)
1.1.3 Year or period	2005-2012
1.1.4 Additional map	No
1.1.5 Range Map	Yes

2. Biogeographical Or Marine Level

2.1 Biogeographical Region

Mediterranean (MED)

2.2 Published

The present Habitat assessment (fields 0.1-3.1) has been compiled by Pierangela Angelini (ISPRA). Published and unpublished data, information and experts' judgments have been provided by Edoardo Biondi, Liliana Zivkovic and Giovanni Spampinato(SBI), Pietro Massimiliano Bianco and Pierangela Angelini (ISPRA, field 2.7.1).

"Bianco P.M., Laureti L., Papallo O. , Perfetti D. 2012 Carta degli habitat della Regione Umbria per il sistema informativo di Carta della Natura alla scala 1:50.000. ISPRA Biondi E, Blasi C, Burrascano S, Casavecchia S, Copiz R, Del Vico E, Galdenzi D, Gigante D, Lasen C, Spampinato G, Venanzoni R, Zivkovic L (2009a) Italian interpretation Manual of the habitats (92/43/EEC Directive). Ministero dell'Ambiente e della Tutela del Territorio e del Mare. http://vnr.unipg.it/habitat/ Blasi et al., 2010. La Vegetazione d'Italia con Carta delle Serie di Vegetazione in scala 1:500000. Palombi ed., Camarda I., Carta L., Brunu A., Brundu G. , Laureti L. , Angelini P., Bagnaia R., 2011. Carta degli habitat della Regione Sardegna per il sistema informativo di Carta della Natura alla scala 1:50.000. Dipartimento di Scienze Botaniche Ecologiche e Geologiche dell'Università degli Studi di Sassari - ISPRA - Regione Sardegna Casella L., Agrillo E., Bianco P.M., Cardillo A., Carbone M., Cattena C., Laureti L., Lugari A., Spada F., 2008. Carta degli habitat della Regione Lazio per il sistema informativo di Carta della Natura alla scala 1:50.000. ISPRA - Università degli Studi di Roma "La Sapienza" - Regione Lazio ISPRA, 2011. Dati del sistema informativo di Carta della Natura alla scala 1:50.000. ISPRA, Corine land cover 2006 IV livello. Dati della Rete del sistema Informativo Nazionale Ambientale - SINAnet ISPRA, 2005. Dati del sistema informativo di Carta della Natura alla scala 1:50.000. Papini F., Gianguzzi L., Brullo S., Bianco P. M., Angelini P., 2006. Carta degli habitat della Regione Sicilia per il sistema informativo di Carta della Natura alla scala 1:50.000. Dipartimento di Scienze Botaniche dell'Università degli Studi di Palermo - Dipartimento di Botanica dell'Università degli Studi di Catania -Regione Sicilia – ISPRA "

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2.3 Range of the habitat type in the biogeographical region or marine region

2.3.1 Surface area - Range (km²)	94800	
2.3.2 Range method used	Complete survey/Complete survey or a statistically robust estimate (3)	
2.3.3 Short-term trend period	2001-2012	
2.3.4 Short-term trend direction	stable (0)	
2.3.5 Short-term trend magnitude	min	max
2.3.6 Long-term trend period		
2.3.7 Long-term trend direction	N/A	
2.3.8 Long-term trend magnitude	min	max
2.3.9 Favourable reference range	area (km²)	
	operator	approximately equal to (≈)
	unkown	No
	method	
2.3.10 Reason for change	genuine change	No
	improved knowledge	Yes
	different method	Yes

2.4 Area covered by Habitat

2.4.1 Surface area (km²)	103,34		
2.4.2 Year or period	2005-2012		
2.4.3 Method used	Estimate based on expert opinion with no or minimal sampling (1)		
2.4.4 Short-term trend period	2001-2012		
2.4.5 Short-term trend direction	stable (0)		
2.4.6 Short-term trend magnitude	min	max	confidence interval
2.4.7 Short term trend method used	Estimate based on expert opinion with no or minimal sampling (1)		
2.4.8 Long-term trend period			
2.4.9 Long-term trend direction	N/A		
2.4.10 Long-term trend magnitude	min	max	confidence interval
2.4.11 Long term trend method used	N/A		
2.4.12 Favourable reference area	area (km)		
	operator	approximately equal to (≈)	
	unknown	No	
	method		
2.4.13 Reason for change	Improved knowledge/more accurate dataUse of different method		

2.5 Main Pressures

Pressure	ranking	pollution qualifier(s)
Mining and quarrying (C01)	medium importance (M)	N/A
collapse of terrain, landslide (L05)	medium importance (M)	N/A
mountaineering, rock climbing, speleology (G01.04)	medium importance (M)	N/A
Improved access to site (D05)	medium importance (M)	N/A

2.5.1 Method used – pressures: Estimate based on partial data with some extrapolation and/or modelling(2)

2.6 Main Threats

Report on the main results of the surveillance under article 17 for annex I habitat types (Annex D)

Threat	ranking	pollution qualifier(s)
Mining and quarrying (C01)	medium importance (M)	N/A
collapse of terrain, landslide (L05)	medium importance (M)	N/A
mountaineering, rock climbing, speleology (G01.04)	medium importance (M)	N/A
Improved access to site (D05)	medium importance (M)	N/A

2.6.1 Method used – threats	Estimate based on expert opinion with no or minimal sampling(1)

2.7 Complementary Information

2.7.1 Species
Asplenium trichomanes
Phyllitis scolopendrium
Athyrium filix-foemina
Cystopteris fragilis
Polystichum aculeatum
Dryopteris filix-mas
Polypodium cambricum
Polypodium interjectum
Plagiochila asplenioides fo. Cavernarum
Schistostega pennata
Thamnium alopecurum
Thuidium tamariscinum
Aphanocapsa sp. pl.
Chrococcus sp. pl.
Gleocapsa sp. pl.
Oscillatoria sp. pl.
Scytonema sp. pl.
Chlorella sp. pl.
Hormidium sp. pl.
Pleurococcus sp. Pl

2.7.2 Species method used	Selected by ISPRA's expert from bibliographical and field research
2.7.3 Justification of % - thresholds for trends	
2.7.4 Structure and functions - methods used	Estimate based on expert opinion with no or minimal sampling(1)
2.7.5 Other relevant information	

2.8 Conclusions (assessment of conservation status at end of reporting period)

2.8.1 Range	assessment	Favourable(FV)
	qualifiers	N/A

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2.8.2 Area	assessment	Favourable(FV)
	qualifiers	N/A
2.8.3 Specific structures and functions (incl Species)	assessment	Inadequate(U1)
	qualifiers	N/A
2.8.4 Future prospects	assessment	Inadequate(U1)
	qualifiers	N/A
2.8.5 Overall assessment of Conservation Status	Inadequate(U1)	
2.8.5 Overall trend in Conservation Status	declining(-)	

3. Natura 2000 coverage conservation measures - Annex I habitat types on biogeographical level

3.1 Area covered by habitat

3.1.1 Surface area (km²)	min	96,48769	max	96,48769
3.1.2 Method used	Complete survey/Complete survey or a statistically robust estimate (3)			
3.1.3. Trend of surface area	N/A			

3.2 Conversation Measures

2.1 Biogeographical Region	**Continental (CON)**
2.2 Published	The present Habitat assessment (fields 0.1-3.1) has been compiled by Pierangela Angelini (ISPRA). Published and unpublished data, information and experts' judgments have been provided by Edoardo Biondi and Liliana Zivkovic(SBI), Pietro Massimiliano Bianco and Pierangela Angelini (ISPRA, field 2.7.1). "Bianco P.M., Laureti L., Papallo O. , Perfetti D. 2012 Carta degli habitat della Regione Umbria per il sistema informativo di Carta della Natura alla scala 1:50.000. ISPRA Biondi E, Blasi C, Burrascano S, Casavecchia S, Copiz R, Del Vico E, Galdenzi D, Gigante D, Lasen C, Spampinato G, Venanzoni R, Zivkovic L (2009a) Italian interpretation Manual of the habitats (92/43/EEC Directive). Ministero dell'Ambiente e della Tutela del Territorio e del Mare. http://vnr.unipg.it/habitat/ Blasi et al., 2010. La Vegetazione d'Italia con Carta delle Serie di Vegetazione in scala 1:500000. Palombi ed., Brentan D., Burbello A., Avanzi E., Gasparini S., Laureti L., Bianco P.M., 2008. Carta degli habitat della regione Veneto per il sistema informativo di Carta della Natura alla scala 1:50.000. ISPRA - Arpa Veneto. http://www.isprambiente.gov.it/site/it-IT/Servizi_per_l%27Ambiente/Sistema_Carta_della_Natura Casella L., Agrillo E., Bianco P.M., Cardillo A., Carbone M., Cattena C., Laureti L., Lugari A., Spada F., 2008. Carta degli habitat della Regione Lazio per il sistema informativo di Carta della Natura alla scala 1:50.000. ISPRA - Università degli Studi di Roma "La Sapienza" - Regione Lazio ISPRA, 2011. Dati del sistema informativo di Carta della Natura alla scala 1:50.000. ISPRA, Corine land cover 2006 IV livello. Dati

della Rete del sistema Informativo Nazionale Ambientale - SINANet Oriolo G., Dragan M., Fernetti M., Francescato C., Tomasella M., Giorgi R. 2007. Carta degli habitat della regione Friuli Venezia Giulia per il sistema informativo di Carta della Natura alla scala 1:50.000. ISPRA-Regione Friuli Venezia Giulia. http://www.isprambiente.gov.it/site/it-IT/Servizi_per_l%27Ambiente/Sistema_Carta_della_Natura Pesaresi S, Biondi E, Casavecchia S, Catorci A, Foglia M., 2007. Il Geodatabase del Sistema Informativo Vegetazionale delle Marche. Fitosociol 44 (2) suppl. 1: 95-101 http://www.ortobotanico.univpm.it/cartography. Dati del Catasto Speleologico Regionale, istituito con L.R. 12/2000 e gestito dalla Federazione Speleologica Marchigiana."

2.3 Range of the habitat type in the biogeographical region or marine region

2.3.1 Surface area - Range (km²)	30400	
2.3.2 Range method used	Complete survey/Complete survey or a statistically robust estimate (3)	
2.3.3 Short-term trend period	2001-2012	
2.3.4 Short-term trend direction	stable (0)	
2.3.5 Short-term trend magnitude	min	max
2.3.6 Long-term trend period		
2.3.7 Long-term trend direction	N/A	
2.3.8 Long-term trend magnitude	min	max
2.3.9 Favourable reference range	area (km²)	
	operator	approximately equal to (≈)
	unkown	No
	method	
2.3.10 Reason for change	genuine change	No
	improved knowledge	Yes
	different method	Yes

2.4 Area covered by Habitat

2.4.1 Surface area (km²)	22,87		
2.4.2 Year or period	2005-2012		
2.4.3 Method used	Estimate based on expert opinion with no or minimal sampling (1)		
2.4.4 Short-term trend period	2001-2012		
2.4.5 Short-term trend direction	stable (0)		
2.4.6 Short-term trend magnitude	min	max	confidence interval
2.4.7 Short term trend method used	Estimate based on expert opinion with no or minimal sampling (1)		
2.4.8 Long-term trend period			
2.4.9 Long-term trend direction	N/A		
2.4.10 Long-term trend magnitude	min	max	confidence interval
2.4.11 Long term trend method used	N/A		
2.4.12 Favourable reference area	area (km)		
	operator	more than (>)	
	unknown	No	
	method		
2.4.13 Reason for change	Improved knowledge/more accurate dataUse of different method		

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2.5 Main Pressures

Pressure	ranking	pollution qualifier(s)
Mining and quarrying (C01)	high importance (H)	N/A
mountaineering, rock climbing, speleology (G01.04)	high importance (H)	N/A
Trampling, overuse (G05.01)	medium importance (M)	N/A

2.5.1 Method used – pressures: Estimate based on partial data with some extrapolation and/or modelling(2)

2.6 Main Threats

Threat	ranking	pollution qualifier(s)
Mining and quarrying (C01)	high importance (H)	N/A
mountaineering, rock climbing, speleology (G01.04)	high importance (H)	N/A
Trampling, overuse (G05.01)	medium importance (M)	N/A

2.6.1 Method used – threats: Estimate based on expert opinion with no or minimal sampling(1)

2.7 Complementary Information

2.7.1 Species

Asplenium trichomanes
Phyllitis scolopendrium
Athyrium filix-foemina
Cystopteris fragilis
Polystichum aculeatum
Dryopteris filix-mas
Polypodium cambricum
Polypodium vulgare
Polypodium interjectum
Anomodon viticulosum
Neckera crispa
Plagiochila asplenioides fo. Cavernarum
Isopterygium depressum
Thamnium alopecurum
Thuidium tamariscinum
Chrococcus sp. pl.
Oscillatoria sp. pl.
Chlorella sp. pl.
Hormidium sp. pl.
Pleurococcus sp. pl.

2.7.2 Species method used	Selected by ISPRA's expert from bibliographical and field research
2.7.3 Justification of % - thresholds for trends	
2.7.4 Structure and functions - methods used	Estimate based on expert opinion with no or minimal sampling(1)
2.7.5 Other relevant information	

2.8 Conclusions (assessment of conservation status at end of reporting period)

2.8.1 Range	assessment	Favourable(FV)
	qualifiers	N/A
2.8.2 Area	assessment	Inadequate(U1)
	qualifiers	N/A
2.8.3 Specific structures and functions (incl Species)	assessment	Inadequate(U1)
	qualifiers	N/A
2.8.4 Future prospects	assessment	Inadequate(U1)
	qualifiers	N/A
2.8.5 Overall assessment of Conservation Status	Inadequate(U1)	
2.8.5 Overall trend in Conservation Status	declining(-)	

3. Natura 2000 coverage conservation measures - Annex I habitat types on biogeographical level

3.1 Area covered by habitat

3.1.1 Surface area (km²)	min	22,8659	max	22,8659
3.1.2 Method used	Complete survey/Complete survey or a statistically robust estimate (3)			
3.1.3. Trend of surface area	N/A			

3.2 Conversation Measures

2.1 Biogeographical Region	**Alpine (ALP)**
2.2 Published	The present Habitat assessment (fields 0.1-3.1) has been compiled by Pierangela Angelini (ISPRA). Published and unpublished data, information and experts' judgments have been provided by Edoardo Biondi, Liliana Zivkovic and Cesare Lasen(SBI). "Brentan D., Burbello A., Avanzi E., Gasparini S., Laureti L., Bianco P.M., 2008. Carta degli habitat della regione Veneto per il sistema informativo di Carta della Natura alla scala 1:50.000. ISPRA - Arpa Veneto. http://www.isprambiente.gov.it/site/it-IT/Servizi_per_l%27Ambiente/Sistema_Carta_della_Natura Biondi E, Blasi C,

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Burrascano S, Casavecchia S, Copiz R, Del Vico E, Galdenzi D, Gigante D, Lasen C, Spampinato G, Venanzoni R, Zivkovic L (2009a) Italian interpretation Manual of the habitats (92/43/EEC Directive). Ministero dell'Ambiente e della Tutela del Territorio e del Mare. http://vnr.unipg.it/habitat/Blasi et al., 2010. La Vegetazione d'Italia con Carta delle Serie di Vegetazione in scala 1:500000. Palombi ed., Casella L., Agrillo E., Bianco P.M., Cardillo A., Carbone M., Cattena C., Laureti L., Lugari A., Spada F., 2008. Carta degli habitat della Regione Lazio per il sistema informativo di Carta della Natura alla scala 1:50.000. ISPRA - Università degli Studi di Roma "La Sapienza" - Regione LazioISPRA, 2011. Dati del sistema informativo di Carta della Natura alla scala 1:50.000.ISPRA, Corine land cover 2006 IV livello. Dati della Rete del sistema Informativo Nazionale Ambientale - SINAnetMorra di Cella U., Cremonese E., Pari E., Siniscalco C., Amadei M., Angelini P., Cardillo A., 2008. Carta degli habitat della Regione Valle d'Aosta per il sistema informativo di Carta della Natura alla scala 1:50.000. ISPRA - ARPA Valle d'Aosta - Dipartimento Biologia Vegetale Università degli studi di Torino. http://www.isprambiente.gov.it/site/it-IT/Servizi_per_l%27Ambiente/Sistema_Carta_della_NaturaOriolo G., Dragan M., Fernetti M., Francescato C., Tomasella M., Giorgi R. 2007. Carta degli habitat della regione Friuli Venezia Giulia per il sistema informativo di Carta della Natura alla scala 1:50.000. ISPRA-Regione Friuli Venezia Giulia. http://www.isprambiente.gov.it/site/it-IT/Servizi_per_l%27Ambiente/Sistema_Carta_della_Natura"

2.3 Range of the habitat type in the biogeographical region or marine region

2.3.1 Surface area - Range (km²)	31100	
2.3.2 Range method used	Complete survey/Complete survey or a statistically robust estimate (3)	
2.3.3 Short-term trend period	2001-2012	
2.3.4 Short-term trend direction	stable (0)	
2.3.5 Short-term trend magnitude	min	max
2.3.6 Long-term trend period		
2.3.7 Long-term trend direction	N/A	
2.3.8 Long-term trend magnitude	min	max
2.3.9 Favourable reference range	area (km²)	
	operator	approximately equal to (≈)
	unkown	No
	method	
2.3.10 Reason for change	genuine change	No
	improved knowledge	Yes
	different method	Yes

2.4 Area covered by Habitat

2.4.1 Surface area (km²)	19,95		
2.4.2 Year or period	2005-2012		
2.4.3 Method used	Estimate based on expert opinion with no or minimal sampling (1)		
2.4.4 Short-term trend period	2001-2012		
2.4.5 Short-term trend direction	stable (0)		
2.4.6 Short-term trend magnitude	min	max	confidence interval
2.4.7 Short term trend method used	Estimate based on expert opinion with no or minimal sampling (1)		

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2.4.8 Long-term trend period			
2.4.9 Long-term trend direction	N/A		
2.4.10 Long-term trend magnitude	min	max	confidence interval
2.4.11 Long term trend method used	N/A		
2.4.12 Favourable reference area	area (km)		
	operator	approximately equal to (≈)	
	unknown	No	
	method		
2.4.13 Reason for change	Improved knowledge/more accurate dataUse of different method		

2.5 Main Pressures

Pressure	ranking	pollution qualifier(s)
Trampling, overuse (G05.01)	medium importance (M)	N/A
mountaineering, rock climbing, speleology (G01.04)	medium importance (M)	N/A
Improved access to site (D05)	medium importance (M)	N/A
Vandalism (G05.04)	medium importance (M)	N/A
collapse of terrain, landslide (L05)	medium importance (M)	N/A
Sand and gravel extraction (C01.01)	medium importance (M)	N/A

2.5.1 Method used – pressures: Estimate based on partial data with some extrapolation and/or modelling(2)

2.6 Main Threats

Threat	ranking	pollution qualifier(s)
Trampling, overuse (G05.01)	medium importance (M)	N/A
mountaineering, rock climbing, speleology (G01.04)	medium importance (M)	N/A
Improved access to site (D05)	medium importance (M)	N/A
Vandalism (G05.04)	medium importance (M)	N/A
collapse of terrain, landslide (L05)	medium importance (M)	N/A
Sand and gravel extraction (C01.01)	medium importance (M)	N/A

2.6.1 Method used – threats: Estimate based on expert opinion with no or minimal sampling(1)

2.7 Complementary Information

2.7.1 Species

Asplenium trichomanes
Phyllitis scolopendrium
Athyrium filix-foemina
Cystopteris fragilis
Polystichum aculeatum
Dryopteris filix-mas
Polypodium cambricum
Polypodium vulgare
Polypodium interjectum

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Centranthus amazonum

Sedum fragrans

Sedum alsinefolium

Isopterygium depressum

Neckera crispa

Plagiochila asplenioides fo. Cavernarum

Anomodon viticulosus

Thamnium alopecurum

Thuidium tamariscinum

2.7.2 Species method used	List from field "combinazione fisionomica di riferimento" of habitat's form in: Manuale Italiano di Interpretazione degli Habitat (Biondi et al., 2009; http://vnr.unipg.it/habitat/)
2.7.3 Justification of % - thresholds for trends	
2.7.4 Structure and functions - methods used	Estimate based on expert opinion with no or minimal sampling(1)
2.7.5 Other relevant information	

2.8 Conclusions (assessment of conservation status at end of reporting period)

2.8.1 Range	assessment	Favourable(FV)
	qualifiers	N/A
2.8.2 Area	assessment	Favourable(FV)
	qualifiers	N/A
2.8.3 Specific structures and functions (incl Species)	assessment	Inadequate(U1)
	qualifiers	N/A
2.8.4 Future prospects	assessment	Inadequate(U1)
	qualifiers	N/A
2.8.5 Overall assessment of Conservation Status	Inadequate(U1)	
2.8.5 Overall trend in Conservation Status	declining(-)	

3. Natura 2000 coverage conservation measures - Annex I habitat types on biogeographical level

3.1 Area covered by habitat

3.1.1 Surface area (km²)	min	19,94682	max	19,94682
3.1.2 Method used	Complete survey/Complete survey or a statistically robust estimate (3)			
3.1.3. Trend of surface area	N/A			

3.2 Conversation Measures

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Notes

Habitat code: 8310

Field label	Note	User
1.1.1 Distribution Map	Per Puglia, Trentino e Friuli Venezia Giulia la notevole densità di dati riferiti a questo codice deriva presumibilmente dal catasto. In altri casi i dati di presenza si riferiscono ai SIC in cui l'habitat è segnalato. La cartografia di distribuzione dell'habitat risente quindi molto dell'eterogeneità dei dati pervenuti dalla Regioni.	ISPRA_habitat