

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

CODE: 2220

NAME: Dunes with *Euphorbia terracina*

1. National Level

1.1 Maps

1.1.1 Distribution Map	Yes
1.1.2 Distribution Method	Estimate based on partial data with some extrapolation and/or modelling (2)
1.1.3 Year or period	2006-2012
1.1.4 Additional map	No
1.1.5 Range Map	Yes

2. Biogeographical Or Marine Level

2.1 Biogeographical Region

2.2 Published

Mediterranean (MED)

- Dimopoulos P., Xystrakis F. and Tsiripidis I. 2014. Deliverable A1. Final Catalogue of Habitat Types – 1st edition. Ministry of Environment, Energy and Climate Change, OIKOM Ltd - E. Alexandropoulou - A. Glavas, Athens, pages 54.
- Dimopoulos P., Fotiadis G., Tsiripidis I., Panitsa M. and Karadimou E. 2014. Deliverable A2. Report and Literature Database on Habitat Types of Greece – 1st edition. Ministry of Environment, Energy and Climate Change, OIKOM Ltd - E. Alexandropoulou - A. Glavas, Athens, pages 210.
- Tsiripidis I., Xystrakis F., Kasampalis D., Mastrogianni A., Strid A. and Dimopoulos P., 2014. Deliverable A4. Potential Distribution Maps of Habitat Types – 1st edition. Ministry of Environment, Energy and Climate Change, OIKOM Ltd - E. Alexandropoulou - A. Glavas, Athens, Athens, pages 176.
- Dimopoulos P., Tsiripidis I., Xystrakis F., Panitsa M., Fotiadis G., Kallimanis A.S. and Kazoglou I. 2014. Deliverable A6. Explanatory Implementation Manual for the Conservation Degree Assessment of Habitat Types – 1st edition. Ministry of Environment, Energy and Climate Change, OIKOM Ltd - E. Alexandropoulou - A. Glavas, Athens, pages 35. (with Annexes: I. Habitat types protocols, pages 600; II. Explanatory notes on the habitat types protocols selection, pages 4; III. Correspondence of Habitat types protocols with the clusters of vegetation relevés (excel file).
- Dimopoulos P., Tsiripidis I., Xystrakis F., Kallimanis A.S and Panitsa M. 2014. Deliverable A7. Preliminary Analysis of the Field Data for the Habitat Types – 1st edition. Ministry of Environment, Energy and Climate Change, OIKOM Ltd - E. Alexandropoulou - A. Glavas, Athens, pages 16.
- Babalonas D., Sýkora K.V. & Papastergiadou E. 1995. Review of plant communities from Greek dunes and salt marshes. A preliminary summarizing list. *Ann. Bot. (Roma)* 53: 107-117.
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- Δρόσος Ε., Αθανασιάδης Ν., Θεοδωρόπουλος Κ. & Ελευθεριάδου Ε. 1996. Αμμόφιλες, Αλόφιλες και υδρόφιλες φυτοκοινωνίες του Δέλτα του Θεσσαλικού Πηνειού ποταμού. *Επιστ. Επετ. Τμημ. Δασολογίας & Φυσικού Περιβάλλοντος* 39(1): 327-365.
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- Θεοδωρόπουλος Κ. 2001. Ζώνες βλάστησης και τύποι οικοτόπων του νομού Θεσσαλονίκης. *Επιστ. Επετ. Τμημ. Δασολογίας & Φυσικού Περιβάλλοντος ΜΔ* (44): 353-381.
- Korakis G. & Gerasimidis A. 2006. Coastal and halophytic habitats and their flora

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- in Evrotas Delta (SE Peloponnisos, Greece). *J. Biol. Res.* 6: 155-166.
- Lavrentiades G.J. 1963. On the vegetation of the Keramoti coasts. *Boll. Ist. Bot. Univ. Catania* 3(4): 81-103.
- Lavrentiades G.J. 1964. The ammophilous vegetation of the western Peloponnesos coasts. *Vegetatio* 12(3-4): 223-287.
- Lavrentiades G. 1975. On the vegetation of the Porto-Lagos coasts. In Jordanov, D. & al. (eds): *Problems of Balkan flora and vegetation*. Sofia: Publishing House of the Bulgarian Academy of Sciences, pg. 365-379.
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- Sarika-Hatzinikolaou M., Yannitsaros A. & Babalonas D. 2003. The macrophytic vegetation of seven aquatic ecosystems of Epirus (NW Greece). *Phytocoenologia* 33(1): 93-151.
- Σαρίκα-Χατζηνικολάου Μ. 1999. Χλωριδική και φυτοκοινωνιολογική έρευνα υδάτινων οικοσυστημάτων της Ηπείρου. Διδακτορική Διατριβή. Εθνικό και Καποδιστριακό Πανεπιστήμιο Αθηνών, σελ. 495 + 1 Πίνακας.
- Σαρίκα-Χατζηνικολάου Μ., Μπαμπαλώνας Δ. & Γιαννίτσαρος Α. 1998. Φυτοκοινωνιολογική μελέτη της ελοφυτικής βλάστησης υδάτινων οικοσυστημάτων της Ηπείρου. Πρακτικά 7ου Πανελληνίου Επιστημονικού Συνεδρίου της Ελληνικής Βοτανικής Εταιρίας, Αλεξανδρούπολη, 1-4 Οκτωβρίου 1998: 134-141.
- Sýkora K.V., Babalonas D. & Papastergiadou E. 1998. An overview of the coastal vegetation of Greece based on multivariate analysis: Dunes. *Proceedings of the 1st Balkan Botanical Congress (Progress in Botanical Research)*, Thessaloniki 1998. Kluwer Academic Publishers, 149-152.
- Sýkora K.V., Babalonas D., Papastergiadou E. 2003. Strandline and sand-dune vegetation of coasts of Greece and some other Aegean countries. *Phytocoenologia* 33(2-3): 409-446.

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

2.3.1 Surface area - Range (km ²)	105,71
2.3.2 Range method used	Estimate based on partial data with some extrapolation and/or modelling (2)
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 (km ²) operator approximately equal to (≈) unkown No method
2.3.10 Reason for change	Improved knowledge/more accurate data Use of different method

2.4 Area covered by Habitat

2.4.1 Surface area (km ²)	9,63
2.4.2 Year or period	2000-2012
2.4.3 Method used	Estimate based on partial data with some extrapolation and/or modelling (2)
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

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2.4.7 Short term trend method used	Estimate based on partial data with some extrapolation and/or modelling (2)	
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
2.4.11 Long term trend method used	N/A	
2.4.12 Favourable reference area	area (km)	
	operator	approximately equal to (\approx)
	unknown	No
	method	
2.4.13 Reason for change	Improved knowledge/more accurate data Use of different method	

2.5 Main Pressures

Pressure	ranking	pollution qualifier(s)
Cultivation (A01)	low importance (L)	N/A
modification of cultivation practices (A02)	low importance (L)	N/A
grazing (A04)	low importance (L)	N/A
Mining and quarrying (C01)	low importance (L)	N/A
Roads, paths and railroads (D01)	low importance (L)	N/A
Urbanised areas, human habitation (E01)	low importance (L)	N/A
Structures, buildings in the landscape (E04)	low importance (L)	N/A
Hunting and collection of wild animals (terrestrial) (F03)	low importance (L)	N/A
Outdoor sports and leisure activities, recreational activities (G01)	low importance (L)	N/A
Sport and leisure structures (G02)	low importance (L)	N/A
Other human intrusions and disturbances (G05)	low importance (L)	N/A
invasive non-native species (I01)	low importance (L)	N/A
fire and fire suppression (J01)	low importance (L)	N/A
Other ecosystem modifications (J03)	low importance (L)	N/A

2.5.1 Method used – pressures mainly based on expert judgement and other data (2)

2.6 Main Threats

Threat	ranking	pollution qualifier(s)
Cultivation (A01)	low importance (L)	N/A
modification of cultivation practices (A02)	low importance (L)	N/A
grazing (A04)	low importance (L)	N/A
Mining and quarrying (C01)	low importance (L)	N/A
Roads, paths and railroads (D01)	low importance (L)	N/A
Urbanised areas, human habitation (E01)	low importance (L)	N/A
Marine and Freshwater Aquaculture (F01)	low importance (L)	N/A
Hunting and collection of wild animals (terrestrial) (F03)	low importance (L)	N/A
Outdoor sports and leisure activities, recreational activities (G01)	low importance (L)	N/A
Sport and leisure structures (G02)	low importance (L)	N/A

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Other human intrusions and disturbances (G05)	low importance (L)	N/A
invasive non-native species (I01)	low importance (L)	N/A
fire and fire suppression (J01)	low importance (L)	N/A
Other ecosystem modifications (J03)	low importance (L)	N/A
Biocenotic evolution, succession (K02)	low importance (L)	N/A

2.6.1 Method used – threats expert opinion (1)

2.7 Complementary Information

2.7.1 Species

Alkanna tinctoria

Alyssum turkestanicum (syn: Alyssum desertorum)

Alyssum strigosum

Anthemis tomentosa

Artemisia campestris

Artemisia santonicum L. subsp. santonicum (syn: Artemisia maritima agg.)

Berteroa orbiculata

Bromus rigidus

Bromus tectorum

Centaurea cuneifolia

Centaurea sphaerocephala

Chondrilla juncea

Thymbra capitata (syn: Coridothymus capitatus)

Corynephorus divaricatus

Cyperus capitatus

Daucus broteri

Ephedra distachya

Eryngium maritimum

Erysimum graecum

Euphorbia terracina

Hypericum olympicum

Hypochaeris cretensis

Hypochaeris sp.

Jasione heldreichii

Lagurus ovatus

Lomelosia argentea

Ononis variegata

Petrorhagia glumacea

Plantago arenaria

Pseudorlaya pumila

Rumex bucephalophorus

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Scirpoides holoschoenus

Secale sylvestre

Seseli tortuosum

Silene conica

Silene nicaeensis

Silene subconica

Verbascum pinnatifidum

Vulpia fasciculata

2.7.2 Species method used

Typical species were determined on the basis of a vegetation database, comprised of about 22000 sampling plots. First, a list of possible typical species was determined per habitat type, selecting the ones presenting a high fidelity value to the habitat types according the algorithm of Tsiripidis et al. (2009) and the phi coefficient value (Chytrý et al. 2002). Then typical species per habitat type were selected from the above-mentioned lists by expert judgment and using as criteria species niche breadth, their ability to comprise indicators of habitat types' conservation status and their function as keystone species. The nomenclature of the typical species follows Dimopoulos et al. (2013).
References Chytrý, M., Tichý, L., Holt, J. & Botta-Dukát, J. 2002. Determination of diagnostic species with statistical fidelity measures. *Journal of Vegetation Science* 13: 79–90. Dimopoulos, P., Raus, Th., Bergmeier, E., Constantinidis, Th., Iatrou, G., Kokkini, S., Strid, A. & Tzanoudakis, D. 2013: *Vascular plants of Greece: an annotated checklist*. – Berlin: Botanischer Garten und Botanisches Museum Berlin-Dahlem, Freie Universität Berlin; Athens: Hellenic Botanical Society. *Englera* 31: 1-367. Tsiripidis, I., Bergmeier, E., Fotiadis, G. & Dimopoulos, P. 2009. A new algorithm for the determination of differential taxa. *Journal of Vegetation Science* 20: 233-240.

2.7.3 Justification of % - thresholds for trends

2.7.4 Structure and functions - methods used

Complete survey/Complete survey or a statistically robust estimate (3)

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 stable (=)

2.8.4 Future prospects

assessment Inadequate (U1)
qualifiers stable (=)

2.8.5 Overall assessment of Conservation Status

Inadequate (U1)

2.8.5 Overall trend in Conservation Status

stable (=)

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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 6,1 max 6,1

3.1.2 Method used

Complete survey/Complete survey or a statistically robust estimate (3)

3.1.3. Trend of surface area

stable (0)

3.2 Conversation Measures

3.2.1 Measure

3.2.2 Type

3.2.3 Ranking

3.2.4 Location

3.2.5 Broad Evaluation

Establish protected areas/sites (6.1)

Legal
Administrative
One-off

low importance
(L)

Inside

Enhance
Long term