LIFE+ 2007-2013
NATURE AND BIODIVERSITY

LIFE07NAT/GR/000296

Actions for the conservation of coastal dunes with *Juniperus* spp. in Crete and the South Aegean (Greece)

Junicoast

LIFE+ (2007 - 2013)

EU's funding instrument for the environment
contribute to the implementation, updating and development
of EU environmental policy and legislation

NATURE & BIODIVERSITY

- Flora and Fauna species
- **Habitats**
- Areas of Natura 2000 network

ENVIRONMENT POLICY & GOVERNANCE

- Air
- Water
- Recycling
- Energy
- Climate

INFORMATION & COMMUNICATION

Communication and awareness raising campaigns

- Environment
- Nature conservation
- Biodiversity
- Forest fires

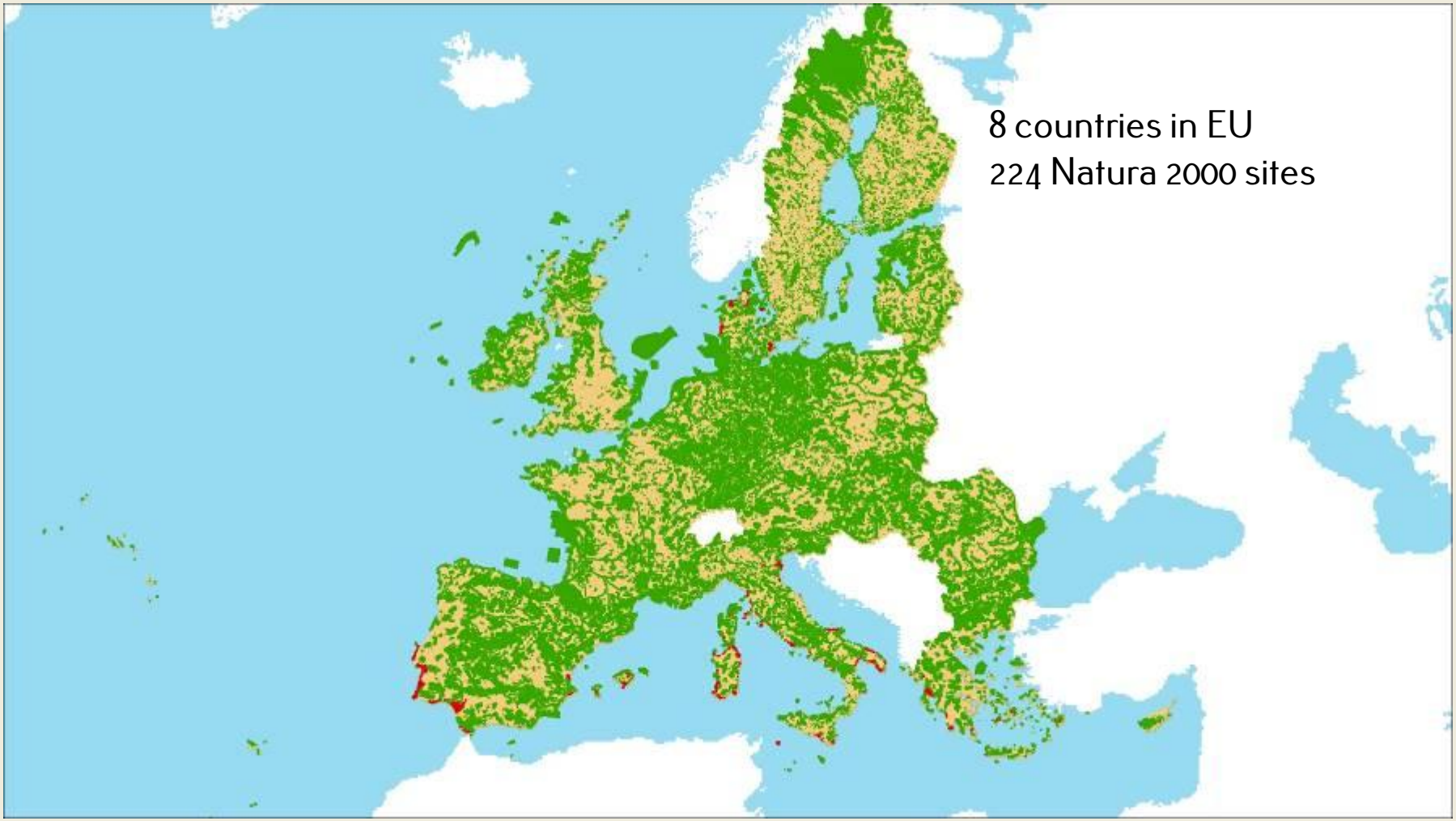
LIFE I (1992 - 1995)
LIFE II (1996 - 1999)
LIFE III (2000 - 2006)
LIFE+ (2007 - 2013)

http://ec.europa.eu/environment/life/index.htm

The Habitat: Coastal dunes with *Juniperus spp. (code: 2250*)*

Coastal dunes with *Juniperus* spp. have been classified as a "**priority habitat**" (code **2250***) by the 92/43 EU Habitat Directive which means **types of habitats in danger of disappearance of which the Community has a particular responsibility for their conservation**.

The Habitat 2250* in Europe



The Habitat 2250* in Greece

17 Natura 2000 sites

Nr.	Code	SITE NAME
1	GR2230002	LIMNOTHALASSA KORISSION (KERKYRA)
2	GR2140001	EKVOLES ACHERONTA (APO GLOSSA EOS ALONAKI) KAI STENA ACHERONTA
3	GR2220003	ESOTERIKO ARCHIPELAGOS IONIOU (MEGANISI, ARKOUDI, ATOKOS, VROMONAS)
4	GR2310001	DELTA ACHELOOU, LIMNOTHALASSA MESOLONGIOU - AITOLIKOU, EKVOLES EVINOU, NISOI ECHINADES, NISOS PETALAS
5	GR2320011	YGROTOPOI KALOGRIAS-LAMIAS KAI DASOS STROFYLIAS
6	GR2550005	THINES KYPARISSIAS (NEOCHORI - KYPARISSIA)
7	GR2550003	NISOI SAPIENTZA KAI SCHIZA, AKROTIRIO AKRITAS
8	GR2540002	PERIOCHI NEAPOLIS KAI NISOS ELAFONISOS
9	GR3000003	ETHNIKO PARKO SCHINIA - MARATHONA
10	GR4340001	IMERI KAI AGRIA GRAMVOUSSA - TIGANI KAI FALASARNA - PONTIKONISI, ORMOS LIVADI - VIGLIA
11	GR4340015	PARALIA APO CHRYSOSKALITISSA MECHRI AKROTIRIO KRIOS
12	GR4340013	NISOI GAVDOS KAI GAVDOPOULA
13	GR4320003	NISOS CHRYSI
14	GR4220020	NISOS MILOS: PROFITIS ILIAS - EVRYTERI PERIOCHI
15	GR4220006	NISOS POLYAIGOS - KIMOLOS
16	GR4220014	KENTRIKI KAI NOTIA NAXOS: ZAS KAI VIGLA EOS MAVROVOUNI KAI THALASSIA ZONI (ORMOS KARADES - ORMOS MOUTSOUNAS)
17	GR4210005	RODOS: AKRAMYTIS, ARMENISTIS, ATTAVYROS, REMATA KAI THALASSIA ZONI (KARAVOLA-ORMOS GLYFADA)

Threats

- Restricted natural regeneration
- Tourism
- Lack of public awareness
- Solid waste disposal
- Fire
- Grazing
- Wood cutting
- **Climate change**

The *Juniperus* species

Juniperus macrocarpa Sm.

The *Juniperus* species

Juniperus phoenicea L.

The "Junicoast" Project

Title: "Actions for the conservation of coastal dunes with *Juniperus* spp. in Crete and the South Aegean" (Greece)

Start date: 1-1-2009

End date: 31-12-2012

Extension: 31-8-2013

Total budget:	1.501.210 €
EC contribution :	1.125.908 € (75%)
Co-financing:	375.303 € (25%)

Beneficiaries

Coordinating Beneficiary:

Mediterranean Agronomic Institute of Chania (MAICh)

Associated Beneficiaries:

National and Kapodistrian University of Athens (NKUA),
Faculty of Biology, Department of Botany

Decentralized Administration of Crete
- Forest Directorate of Chania
- Forest Directorate of Lasithi

Region of Crete
- Regional Development Fund of Crete

Committees

Scientific committee:

Prof. Panagiotis Dimopoulos
Prof. Of Botany and Plant Ecology
University of Patras

Dr. Louis F Cassar
Director of the Institute of Earth Systems
University of Malta

Prof. Kerry B. Godfrey
School of Hospitality and Tourism Management
Ontario, Canada

Mr. Antonio Vizcaino and **Mr. Javier Jimenez Romo**
Municipality of Valencia, Spain

Stakeholders committee:

- Municipality of Ierapetra
- Municipality of Kissamos
- Municipality of Kantanou-Selinou
- Municipality of Gavdos
- Decentralized Administration of Crete
- Decentralized Administration of Aegean
- Ministry of Environment Energy and Climate Change

External monitoring team:

Dr. Georgia Valaora
Astrale Regional Coordinator

Aim and Objectives

The **aim** of the project was to promote and enable the long term conservation of the priority habitat 2250* "Coastal dunes with *Juniperus spp.*" in Greece.

The **specific objectives** of the project were:

- To contribute to the consolidation and dissemination of a knowledge base for the protection, restoration, monitoring and evaluating of coastal dune with Juniperus spp. habitats in Greece.
- To understand, quantify and halt natural and anthropogenic threats that contribute to the long term degradation of the habitat.
- To design and implement actions for the protection and long term restoration of coastal dune with Juniperus spp. habitats.
- To provide support for better environmental governance in Natura 2000 sites through stakeholder involvement and training.

Actions

9 Preparatory actions

8 Concrete conservation actions

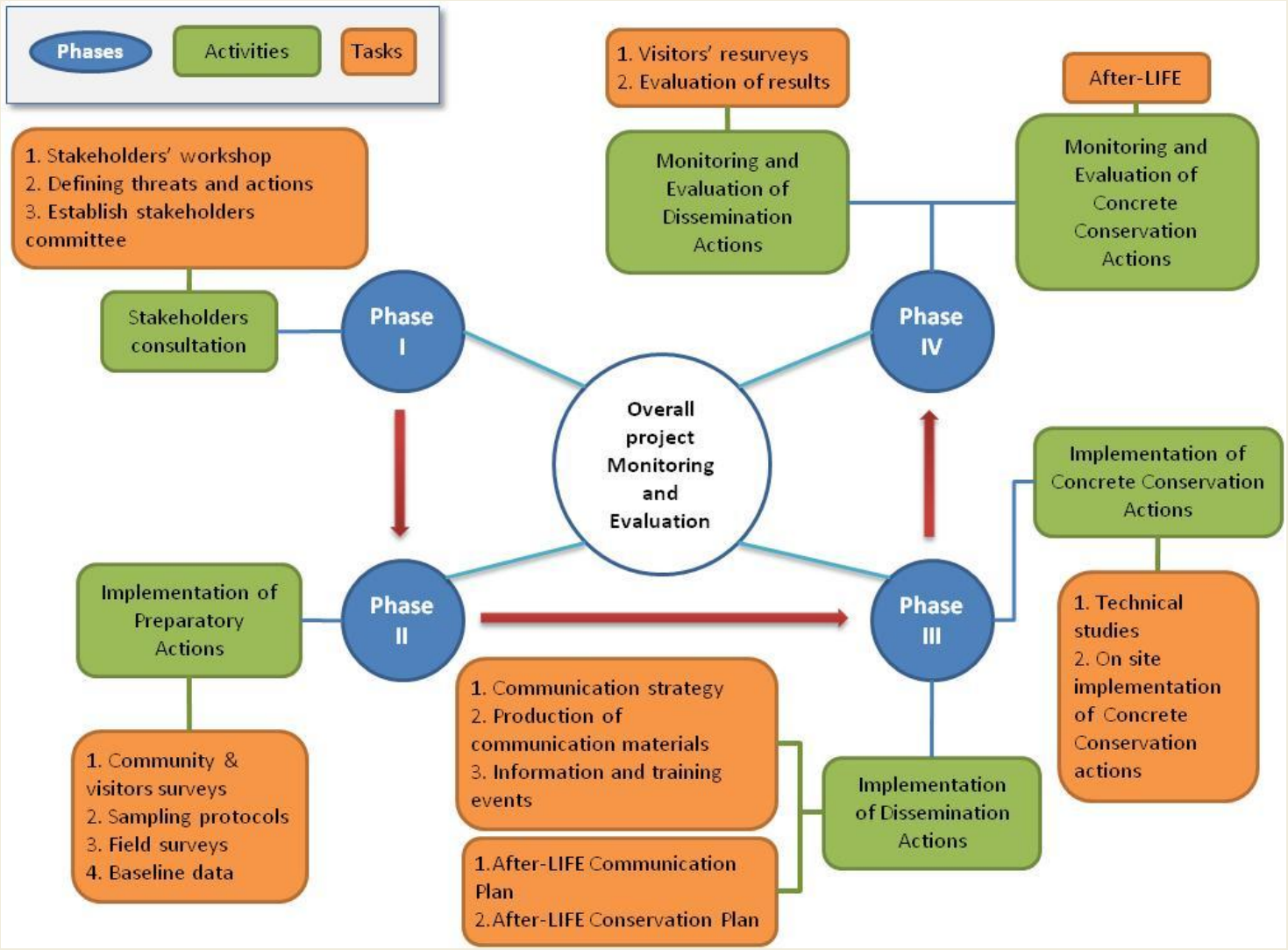
7 Public awareness and dissemination actions

6 Project operation and monitoring actions

32 Deliverables

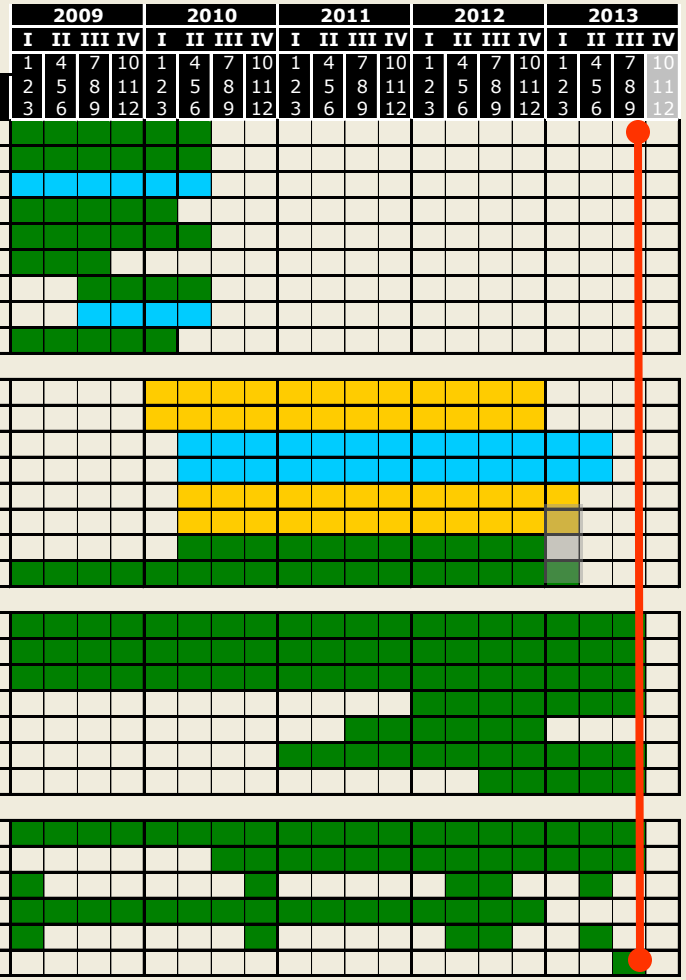
14 Milestones

Shematic presentation of working method

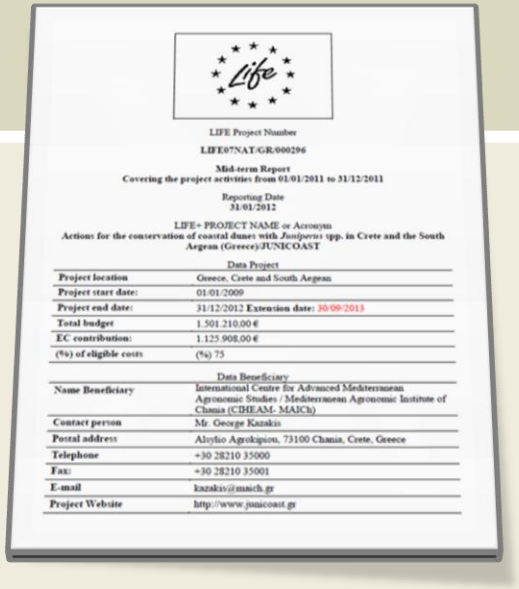


Time table

ACTIONS		RESPONSIBLE BENEFICIARY	TITLE
A. Preparatory actions, elaboration of management plans and/or action plans	A1	MAICH	Landform and land degradation processes in dune systems
	A2	MAICH	Determining the dune system plant communities' composition and structure
	A3	NKUA	Composition and structure of *Juniperus* populations
	A4	MAICH	Habitat mapping
	A5	MAICH	Visitor impact assessment
	A6	MAICH	Stakeholder consultation
	A7	MAICH	Elaboration of long term monitoring protocols and selection of indicators
	A8	NKUA	Elaboration of target habitat protection and restoration specifications
	A9	MAICH	Determination of the Governance structure and legal status
C. Concrete conservation actions	C1	FDC/FDL	On site habitat demarcation
	C2	FDC/FDL	Waste removal
	C3	NKUA	Enhancement of juniper regeneration
	C4	NKUA	Restoration of the floristic composition and structure of the target habitat 2250*
	C5	FDC/FDL	Fore dune stabilization through vegetation restoration
	C6	FDC/FDL	Visitor management intervention and infrastructures
	C7	MAICH	Design and installation of Signs
	C8	MAICH	Ex situ conservation and propagation of keystone species
D. Public awareness and dissemination of results	D1	MAICH	Development and implementation of a communication strategy
	D2	MAICH	Website development
	D3	MAICH	Environmental education campaign
	D4	MAICH	Training for habitat protection and restoration
	D5	MAICH	Production and dissemination of habitat protection and restoration guidelines
	D6	MAICH	Dissemination of findings to the scientific community and Layman's report
	D7	MAICH	After-LIFE communication and conservation plans
E. Overall project operation and monitoring	E1	MAICH	Project coordination and management
	E2	MAICH	Monitoring and evaluation of the effectiveness of the project
	E3	MAICH	Scientific Committee
	E4	MAICH	Networking with other similar LIFE projects
	E5	MAICH	Stakeholder Committee
	E6	MAICH	External auditing



Project Progress and Activity Reports



LIFE Project Number

LIFE07NAT/GR/000296

Mid-term Report
Covering the project activities from 01/01/2011 to 31/12/2011

Reporting Date
31/01/2012

LIFE+ PROJECT NAME or Acronym
Actions for the conservation of coastal dunes with *Juniperus* spp. in Crete and the South Aegean (Greece):JUNICOAST

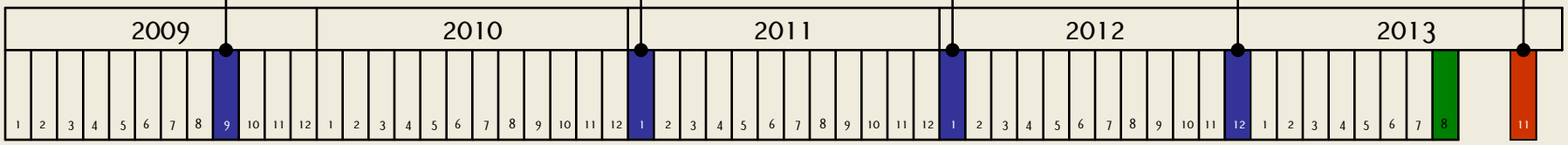
Data Project

Project location	Greece, Crete and South Aegean
Project start date:	01/01/2009
Project end date:	31/12/2012 Extension date: 30/09/2013
Total budget	1.501.210,00 €
EC contribution:	1.125.908,00 €
(%) of eligible costs	(%) 75

Data Beneficiary

Name Beneficiary	International Centre for Advanced Mediterranean Agronomic Studies / Mediterranean Agronomic Institute of Chania (CIHEAM- MAICh)
Contact person	Mr. George Kazakis
Postal address	Alsylio Agrokipsiou, 73100 Chania, Crete, Greece
Telephone	+30 28210 35000
Fax:	+30 28210 35001
E-mail	kazakis@maich.gr
Project Website	http://www.junicoast.gr

- Inception Report - September 2009
- 1st Progress Report - January 2011
- Midterm Report - January 2012
- 2nd Progress Report - December 2012
- FINAL REPORT November 2013



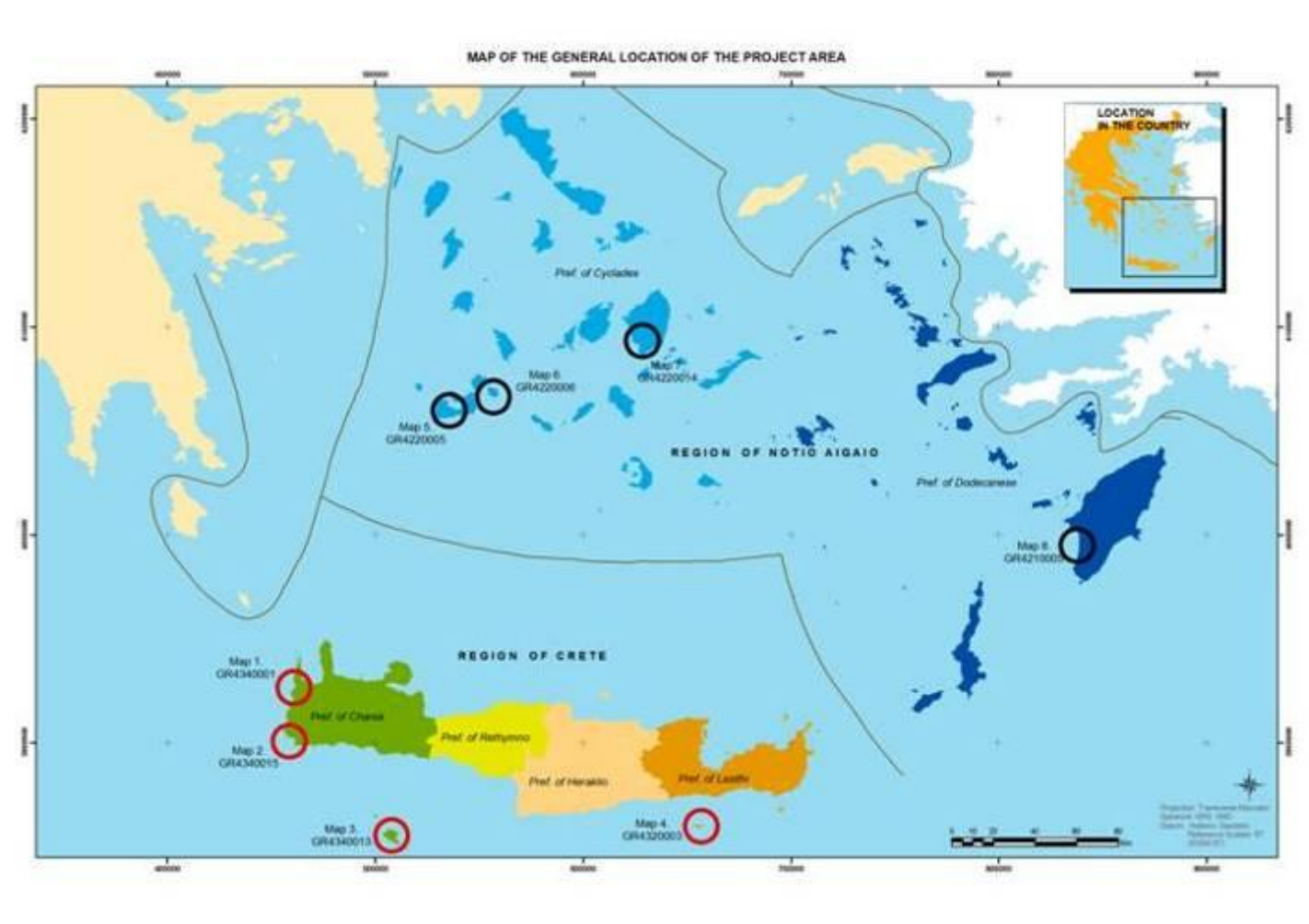
Project Areas

Crete:

- Gavdos island
- Kedrodasos
- Falasarna
- Chrysi island

South Aegean:

- Rodos
- Naxos
- Milos
- Polyaigos



KEDRODASOS

KEDRODASOS

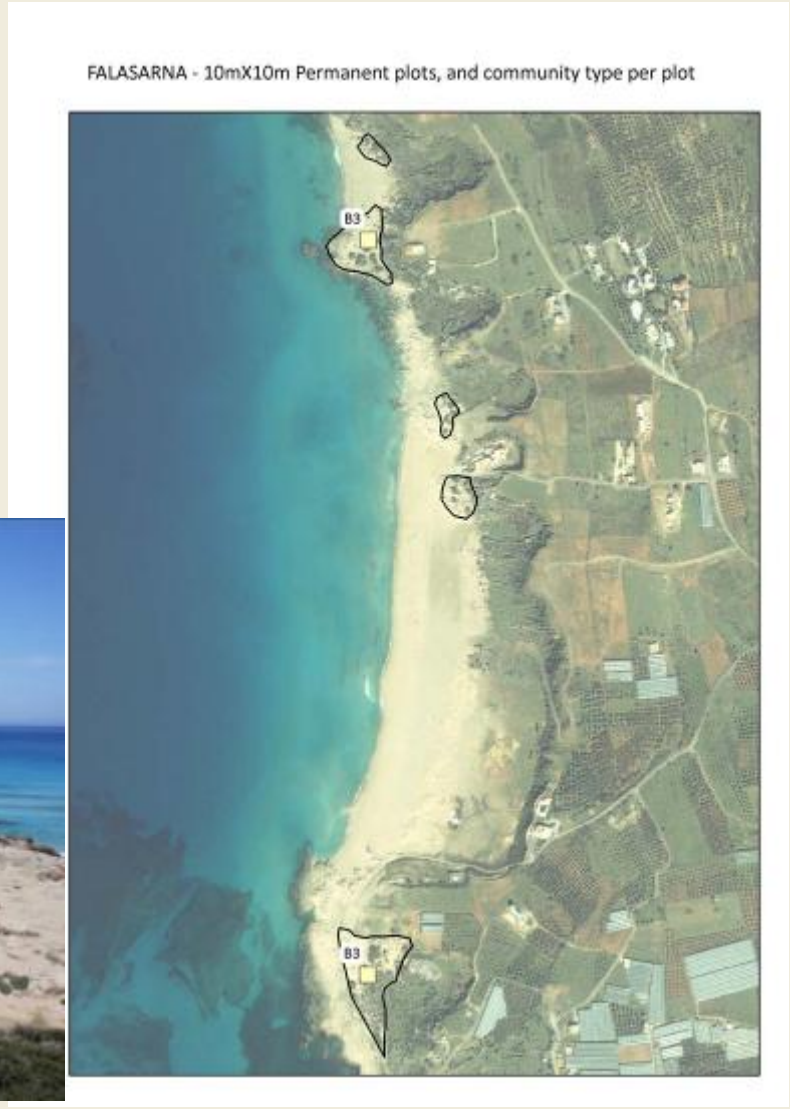
GAVDOS

GAVDOS - SARAKINIKO

GAVDOS – AGIOS IOANNIS

GAVDOS - LAVRAKAS

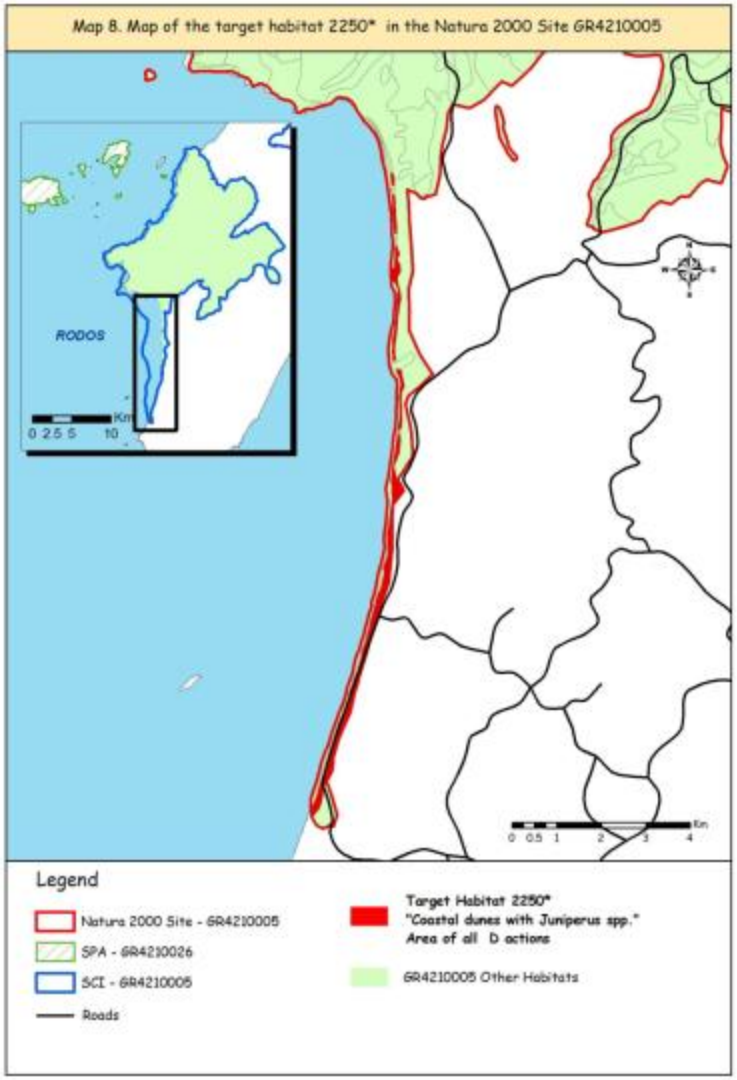
FALASARNA


FALASARNA - 10mX10m Permanent plots, and community type per plot
B3
B3

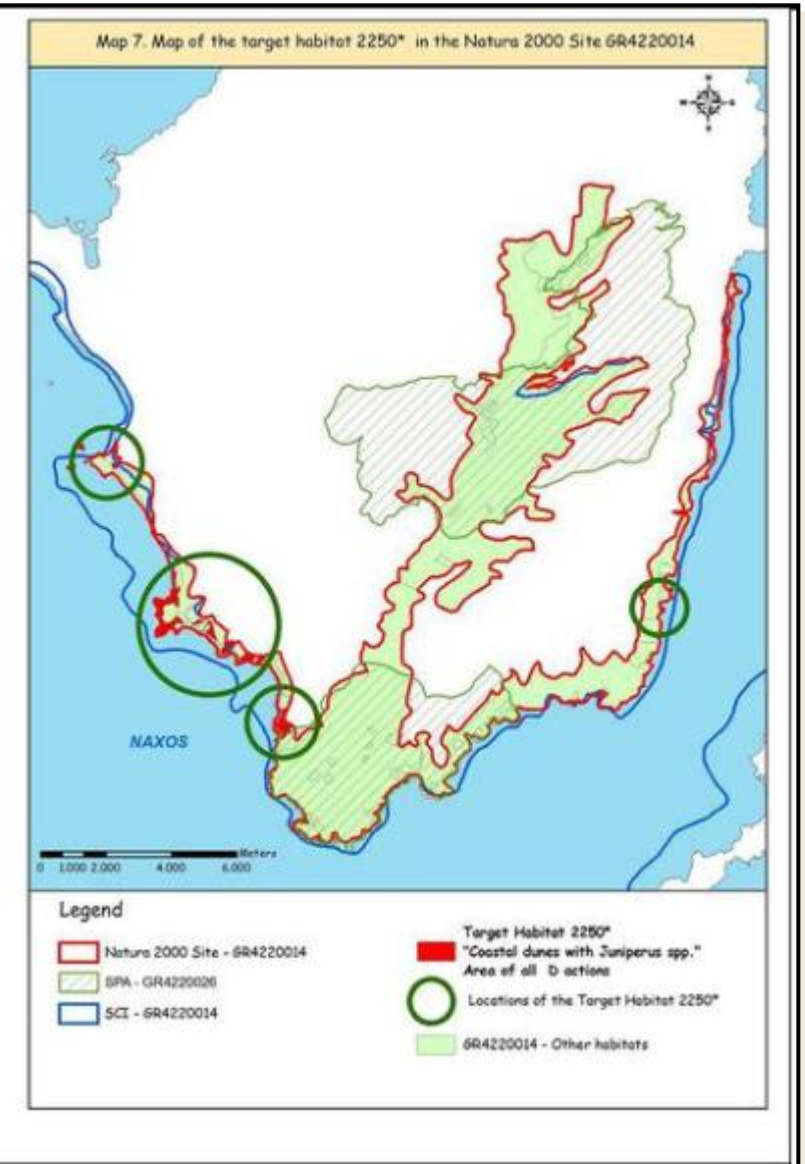
CHRYSI

CHRYSI

RHODES ISLAND

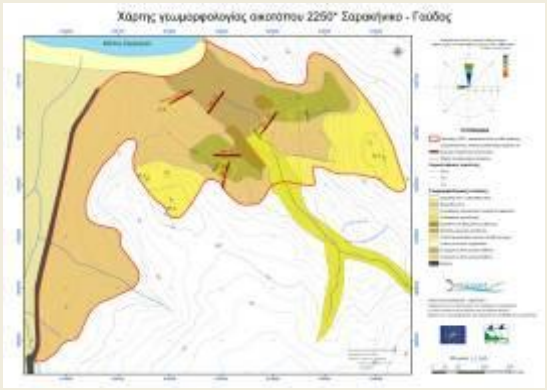


NAXOS ISLAND

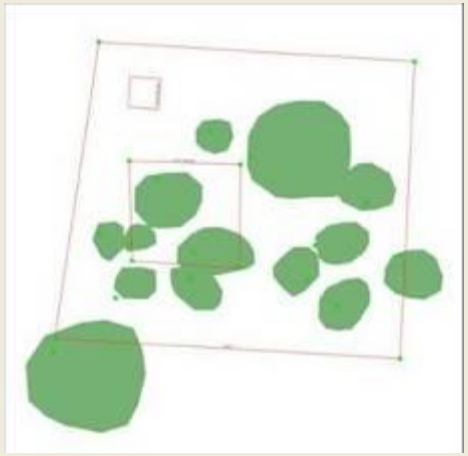


PREPARATORY ACTIONS

A1. Landform and land degradation processes in dune systems



A2. Determining the dune system plant communities' composition and structure



30x30m plots 10x10 m relevé 3x3 m relevé

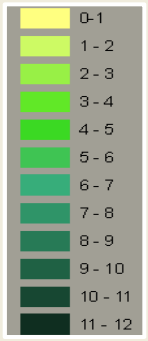
Number of species : 142
Families: 33, Poaceae (14%), Compositae (13.4%) and Fabaceae (11.3%)
Life forms: 6, Therophytes (56%), Chamaephytes (16%)
Endemic species: 4.9% (7 /142)

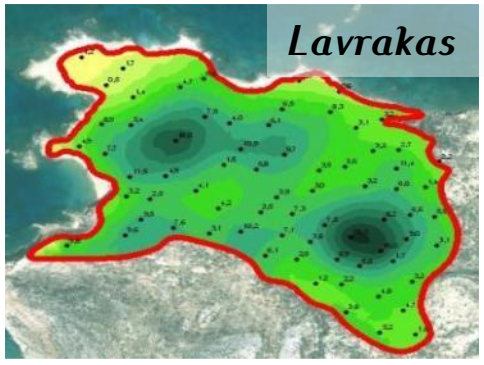
A3. Composition and structure of *Juniperus* subpopulations

Maps of population density (Method: Ordinary Kriging)

Sampling points

Individuals/100 m²





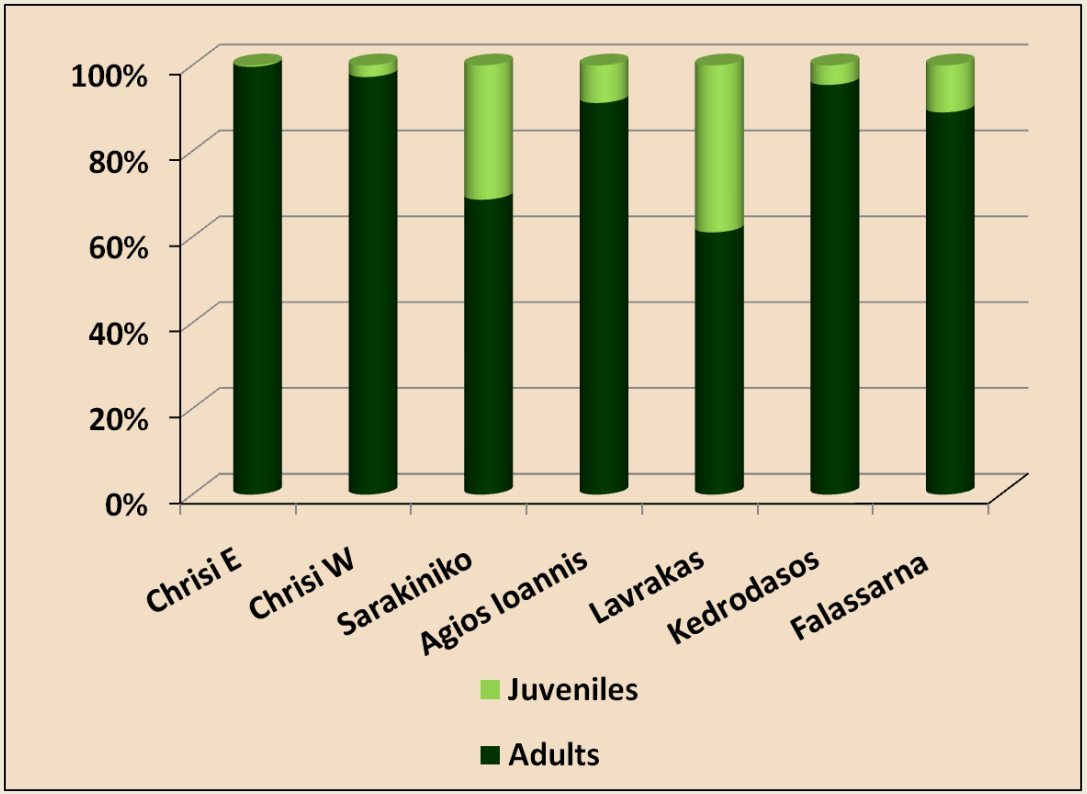
A3. Composition and structure of *Juniperus* subpopulations

Sex Ratio of *Juniperus macrocarpa*

Chrisi E		M/F = 1.68
Chrisi W		M/F = 1.24
Sarakiniko		M/F = 1.12
Agios Ioannis		M/F = 1.03
Lavrakas		M/F = 0.97
Kedrodasos		M/F = 1.04
Falassarna		M/F = 1.04

A3. Composition and structure of *Juniperus* subpopulations

Regeneration of *Juniperus macrocarpa*

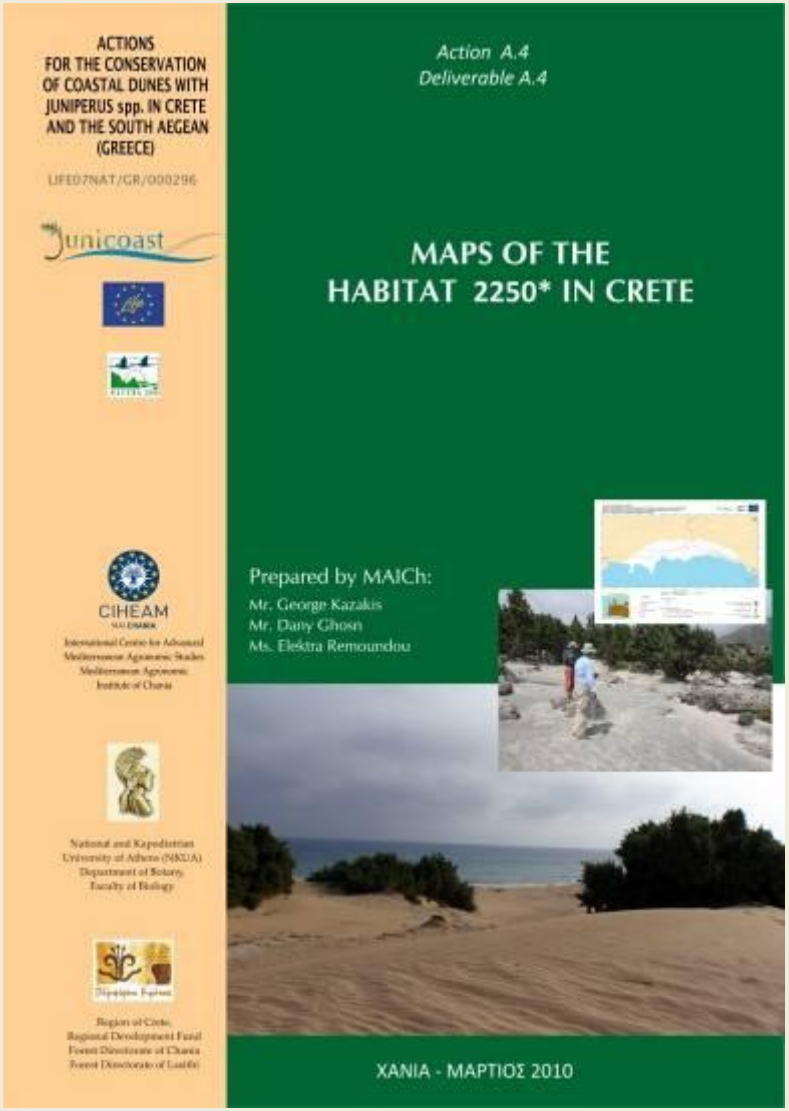


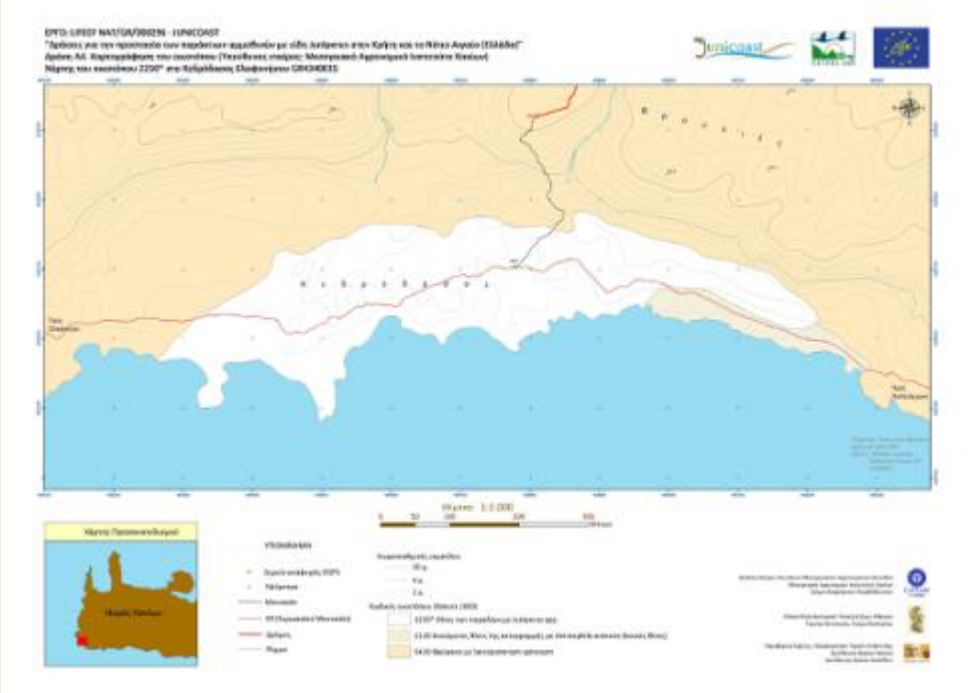
A3. Composition and structure of *Juniperus* subpopulations

Age of subpopulations (measured by tree rings)

	Population mean age(years)	Maximum age (years)
Chrysi East	180 - 200	344
Sarakiniko	150-180	212
Ag. Ioannis	190-210	296
Lavrakas	100-120	159
Kedrodasos	70 - 100	150

A4. Habitat mapping

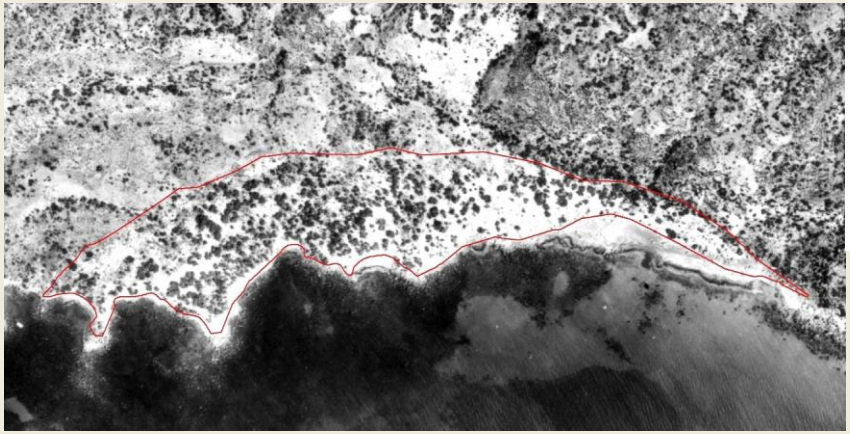




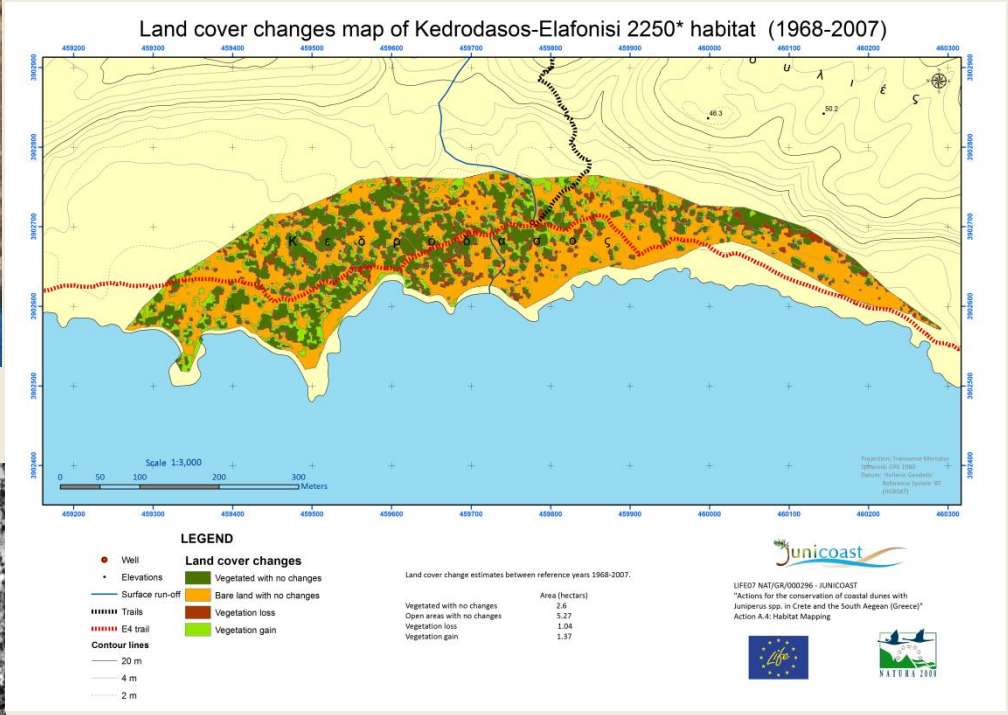
A4. **Habitat mapping**

Mapping of Land Cover Changes

Kedrodasos (2007)



Kedrodasos (1968)



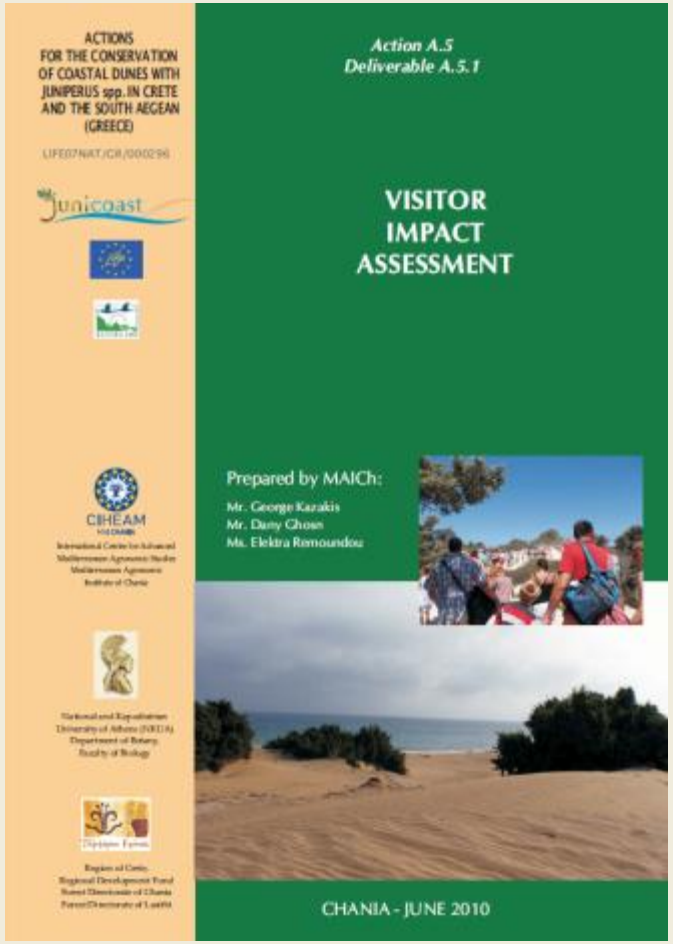
A4. Habitat mapping

Mapping of Land Cover Changes

Vegetation cover change	Area(ha)					
	Lavrakas Gavdos	Agios Ioannis Gavdos	Falasarna	Kedrodasos	Chrysi East	Chrysi West
	1945-2007	1945-2007	1968-2007	1968-2007	1968-2007	1968-2007
Maintained open areas	30.11 (31%)	14.57 (63%)	2.122 (77%)	5.267 (51%)	18.8 (49%)	26.97 (49%)
Vegetation decline	4.05 (4%)	1.15 (5%)	0.145 (5%)	1.044 (10%)	2.74 (7%)	2.5 (4%)
Vegetation increase	19.10 (20%)	2.97 (13%)	0.333 (12%)	1.365 (13%)	4.87 (13%)	4.936 (9%)
Maintained vegetation cover	43.99 (45%)	4.48 (19%)	0.158 (6%)	2.606 (26%)	12.14 (31%)	20.7 (38%)
Total	97.25	23.17	2.758	10.282	38.55	55.106

A5. Visitor impact assessment

- **Social survey**
- **Spatial distribution of the visitors use**
- **Patterns of use (trails, camping locations and hotspots)**
- **Assessment of sites condition** (damage on Juniper trees, cover of root exposure, ground cover vegetation and a litter survey)



A5. Visitor impact assessment

KEDRODASOS: half of visitors (54%) camp for two or more days

GAVDOS: majority of visitors (65%) are staying for 5 or more days. Visitors going to Gavdos on a daily trip accounted only for 2%.

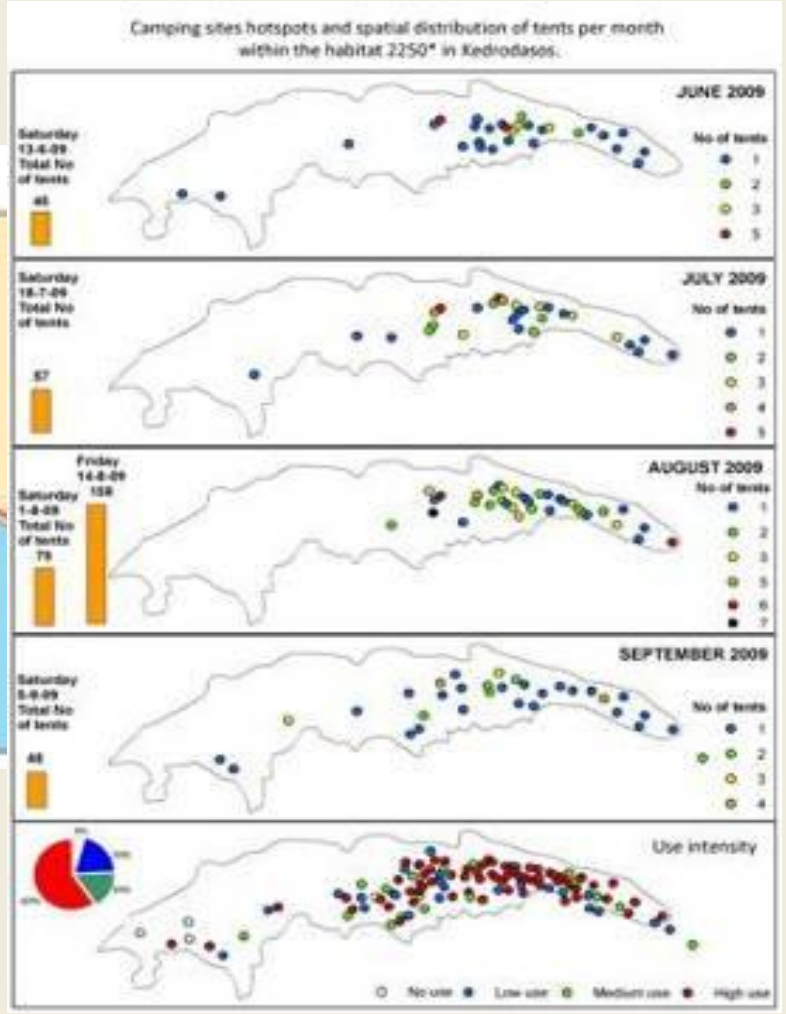
CHRYSI: majority of visitors (67%) are mainly visiting the island on a daily trip and returning to Ierapetra in the afternoon. Only 13% of the visitors to Chrysi are staying for more than 2 days.

Level of environmental awareness: moderate (only 35% of the visitors knew that the habitat is included in the Natura 2000 network)

A5. **Visitor impact assessment**

Trail mapping

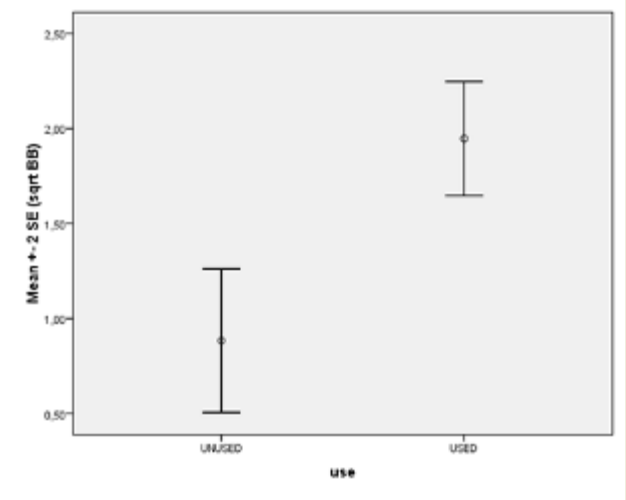
Mapping of camping sites



A5. Visitor impact assessment

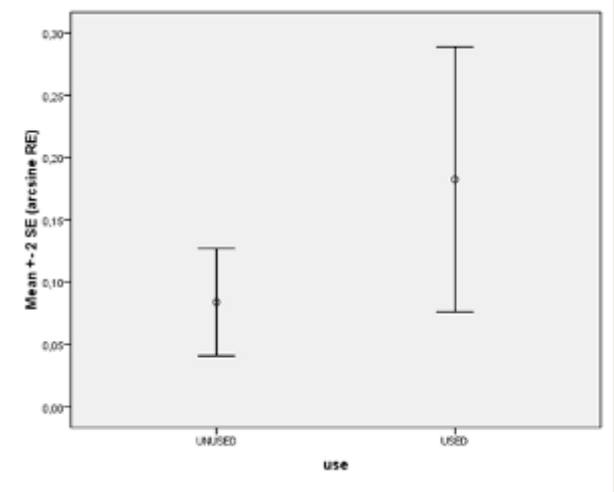
Damage on Juniper trees

(significant difference between used and unused plots)



Cover of root exposure

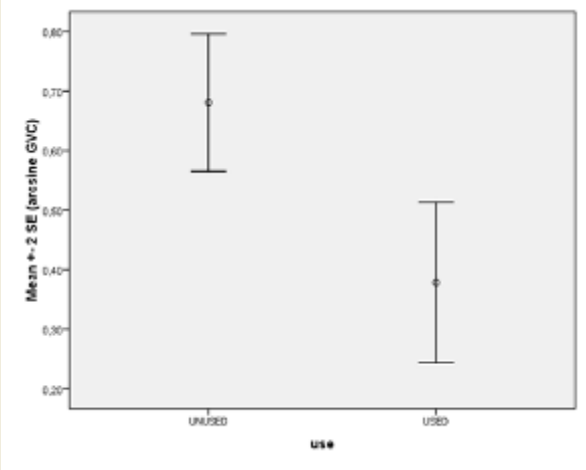
(significant difference between used and unused plots)



A5. Visitor impact assessment

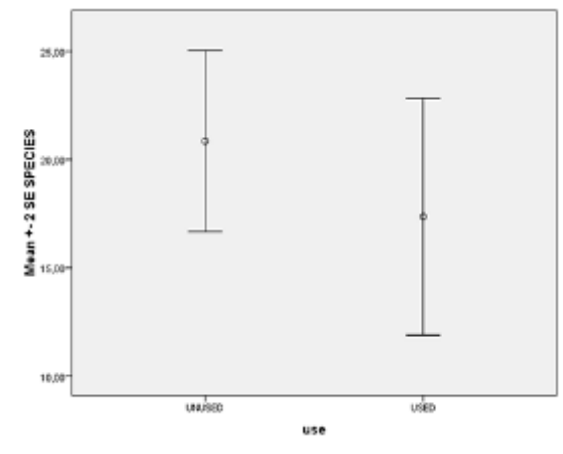
Ground vegetation cover (%)

(No significant difference between used and unused plots since most species are therophytes)



Number of plant species

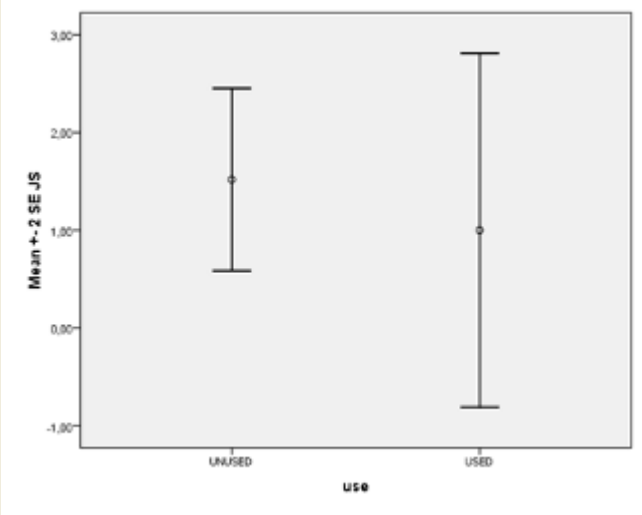
(No significant difference between used and unused plots since most species are annuals)



A5. Visitor impact assessment

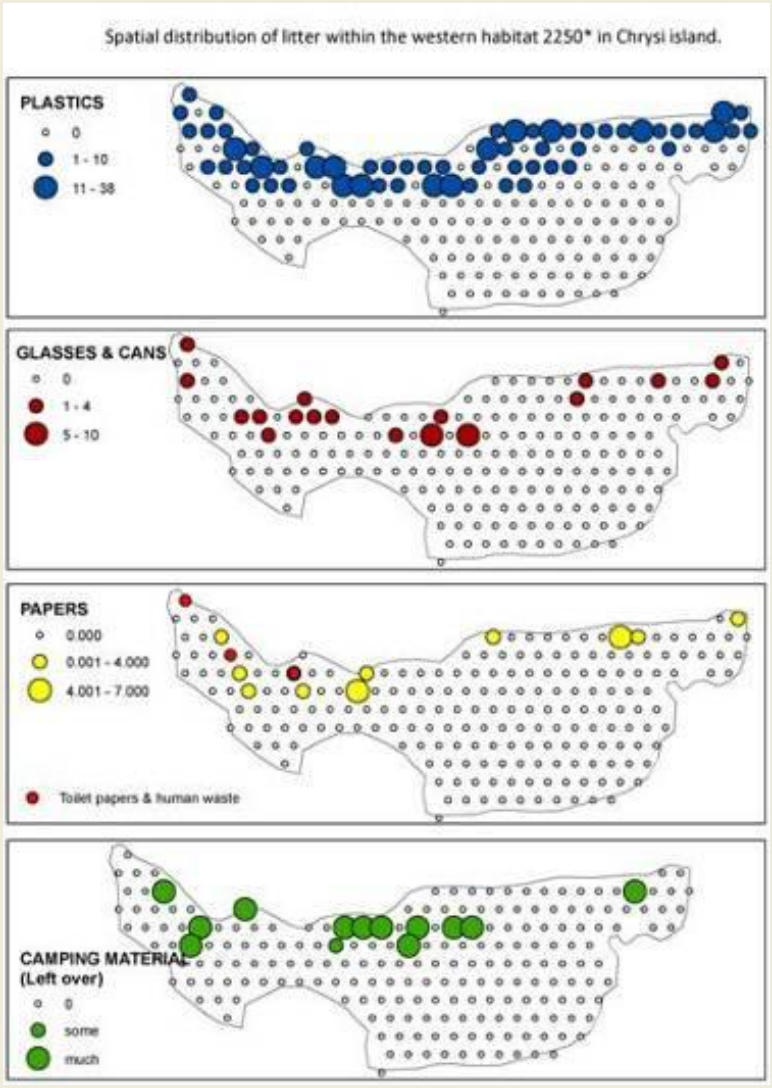
Number of *Juniperus* seedlings

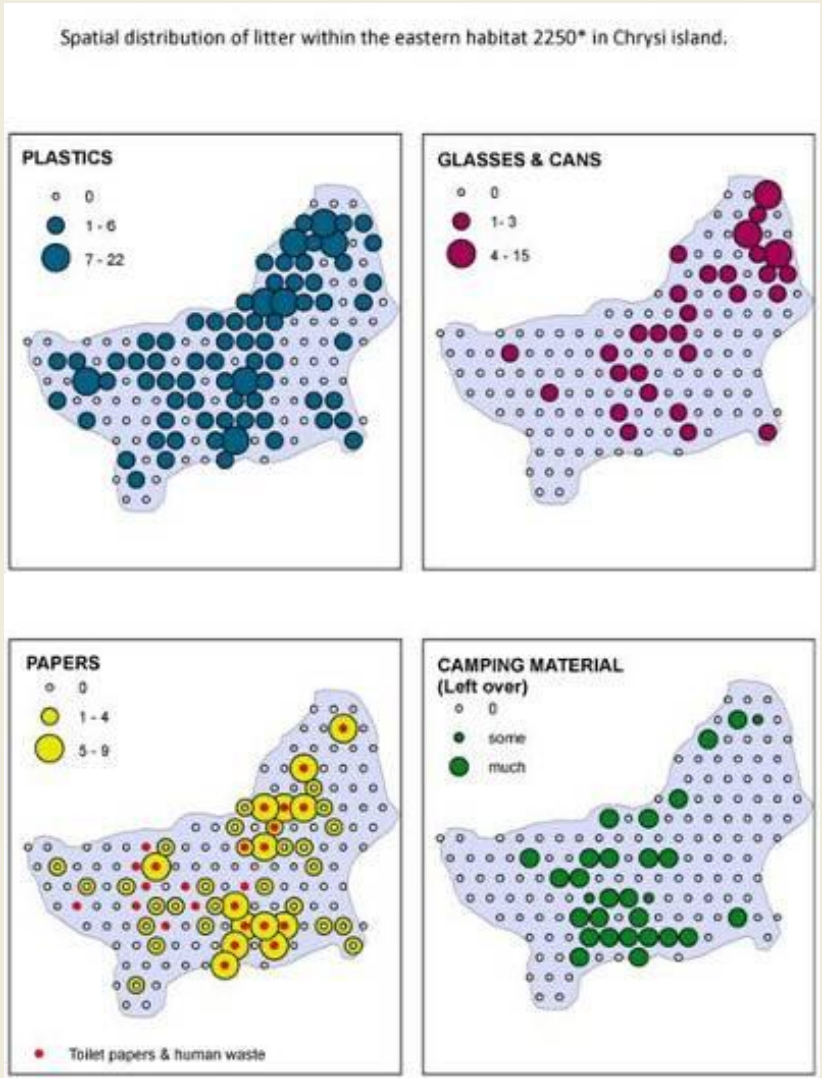
(No significant difference between used and unused plots. The germination of the seeds and the survival of the seedlings depend on various environmental factors)



A5. Visitor impact assessment

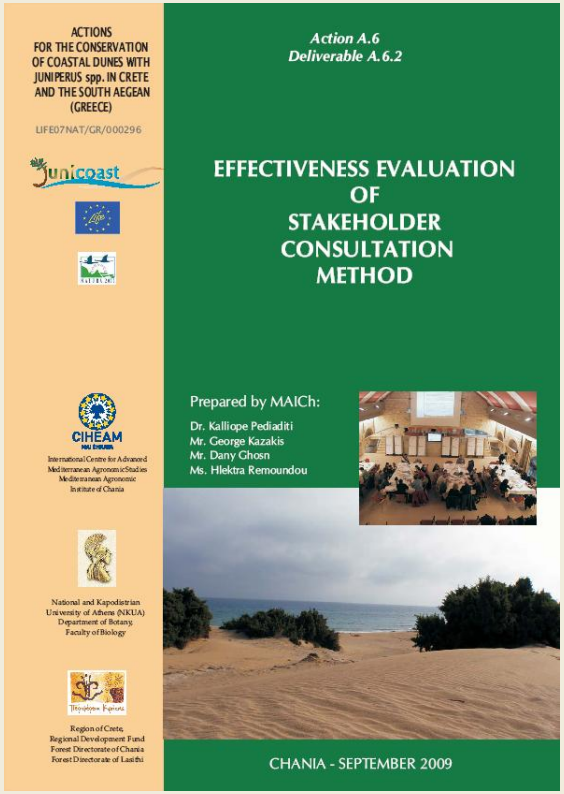
Litter Survey





A6. Stakeholder consultation

- Establish the stakeholders level of awareness, perceived values, threats and recommendations for conservation.
- Interviews (face to face or telephone) were carried out with Local Authority officials, tourism operators and businesses as well as community representatives.
- Local community surveys



A6. Stakeholder consultation

A6. Stakeholder consultation

Conclusions

- Threats related mainly to tourism, overgrazing, fire risk, Pine encroachment and cutting of branches are perceived to be compromising the status of the habitat at all sites,
- Existing management of all sites is considered as insufficient or ineffective presently,
- Governance issues are proving barrier to the effective management of the habitat,
- Systematic monitoring and information collection regarding the habitat-is currently limited or non existent.

Recommendations

- Need to raise awareness of stakeholders and local communities regarding the values and threats,
- Need to design and apply an appropriate code of conduct while on sites,
- Need to establish the impact of visitors on the habitat at all sites,
- Implement appropriate yet feasible visitor management and conservation actions,
- Greater engagement and collaboration between stakeholders and the involvement of the local communities,
- Engage children in awareness raising and conservation actions for the habitat,
- Visitor management actions need to be discussed collectively with stakeholders to ensure their feasibility, maintenance and long term feasibility given current absence of management authority and maintenance funds.

A7: Elaboration of long term monitoring protocols and selection of indicators

5 monitoring protocols and 10 monitoring indicators:

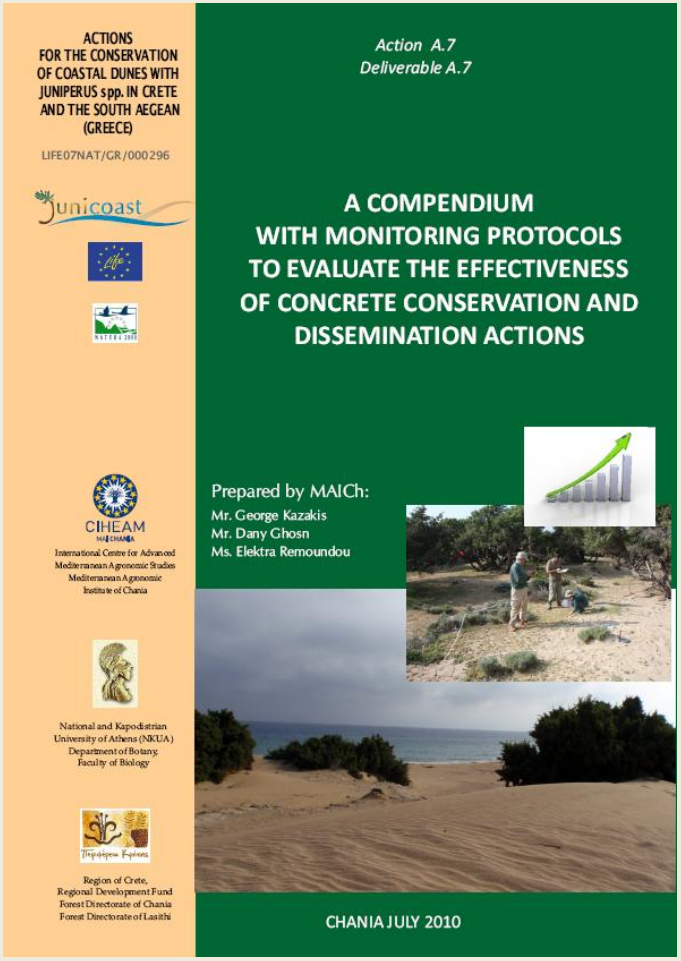
1: Amount, distribution and composition of litter

2: Number of broken branches, cover of root exposure (%), ground vegetation cover (%), and total number of plant species

3: *Juniperus regeneration*

4: vegetation cover of keystone species, sex ratio of *J. macrocarpa and* presence of invasive species

5: Level of public environmental awareness



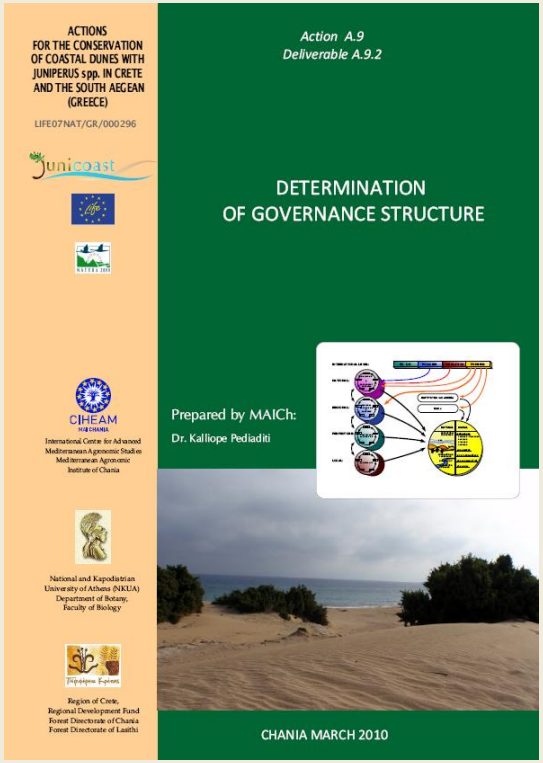
Indicators description includes:

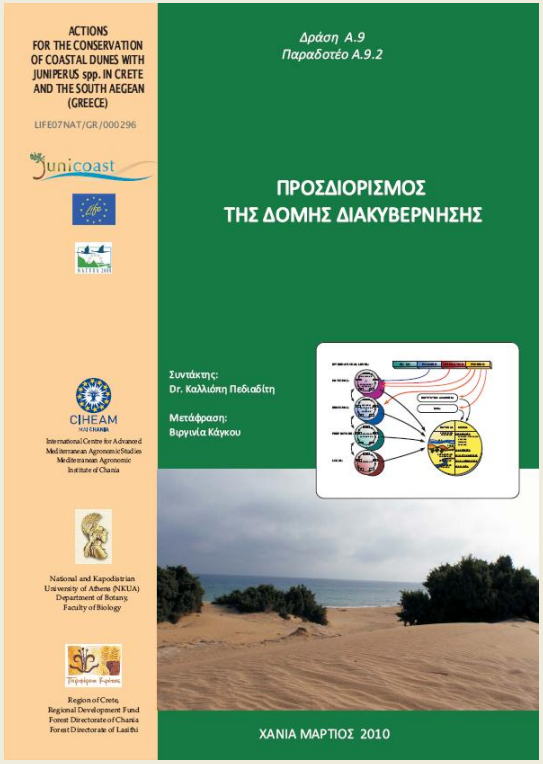
- Background and objectives
- Sampling design
- Field methods
- Data handling, analysis, and reporting
- Personnel requirements and training
- Operational requirements
- Standard Operating Procedures (SOPs)

A8. Elaboration of target habitat protection and restoration specifications

- Degradation factors for each site
- Deviation from desired state
- Habitat threats
- Recommended actions

A9. Determination of the Governance structure and legal status





A9. Determination of the Governance structure and legal status

Conclusions:

- The analysis of the governance structure showed **a fragmentation of responsibilities and a lack of clarity** regarding the form of governance and delegation of responsibilities resulting in confusion and inability to determine accountability.

- The analysis of the responsibilities of various agencies and services recognized the **lack of Management Bodies** who should have the authority to ensure the effective management and long-term protection of the areas. **The legislation is not considered to be a problem, but rather the lack of its enforcement**.

- Limiting factors for the relevant bodies included: **lack of adequate funding, difficult access to the areas, and incomplete information on the necessary measures to be implemented**.

- The Greek legislation does not provide specific provisions to protect the habitat 2250*. The protection of this habitat occurs under general provisions on the environment through legal and administrative acts related to protected goods, which are in direct relation to the habitat (coast, dunes, beach, etc.).

Concrete Conservation Actions

C1. On site habitat demarcation

Technical description: Chestnut poles diameter 8-10cm, height 2m. Distance between sticks depended on the topography, the vegetation and the area of each site.

Concrete Conservation Actions

C2. Waste removal

Concrete Conservation Actions

C3. Enhancement of juniper regeneration

Fencing young individuals of *Juniperus macrocarpa*

Planting female individuals of *Juniperus macrocarpa*

Rooted cuttings

C4. Restoration of the floristic composition and structure

Removal of invasive *Pinus brutia*
by uprooting young individuals

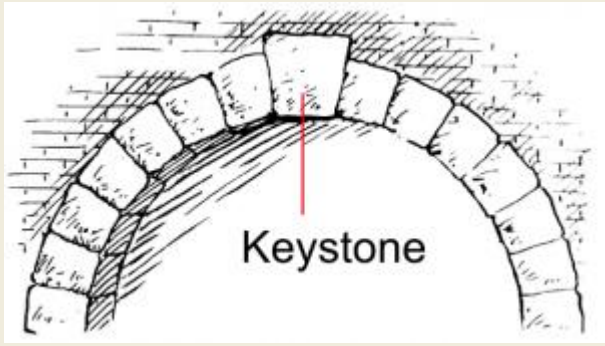
Concrete Conservation Actions

C4. Restoration of the floristic composition and structure

Planting keystone species of habitat 2250*

Pancratium maritimum

Centaurea pumilio



Concrete Conservation Actions

C4. Restoration of the floristic composition and structure

Eradication of alien species

Carpobrotus edulis

Concrete Conservation Actions

C5. Fore dune restoration

Concrete Conservation Actions

C6. Visitor management intervention and infrastructures

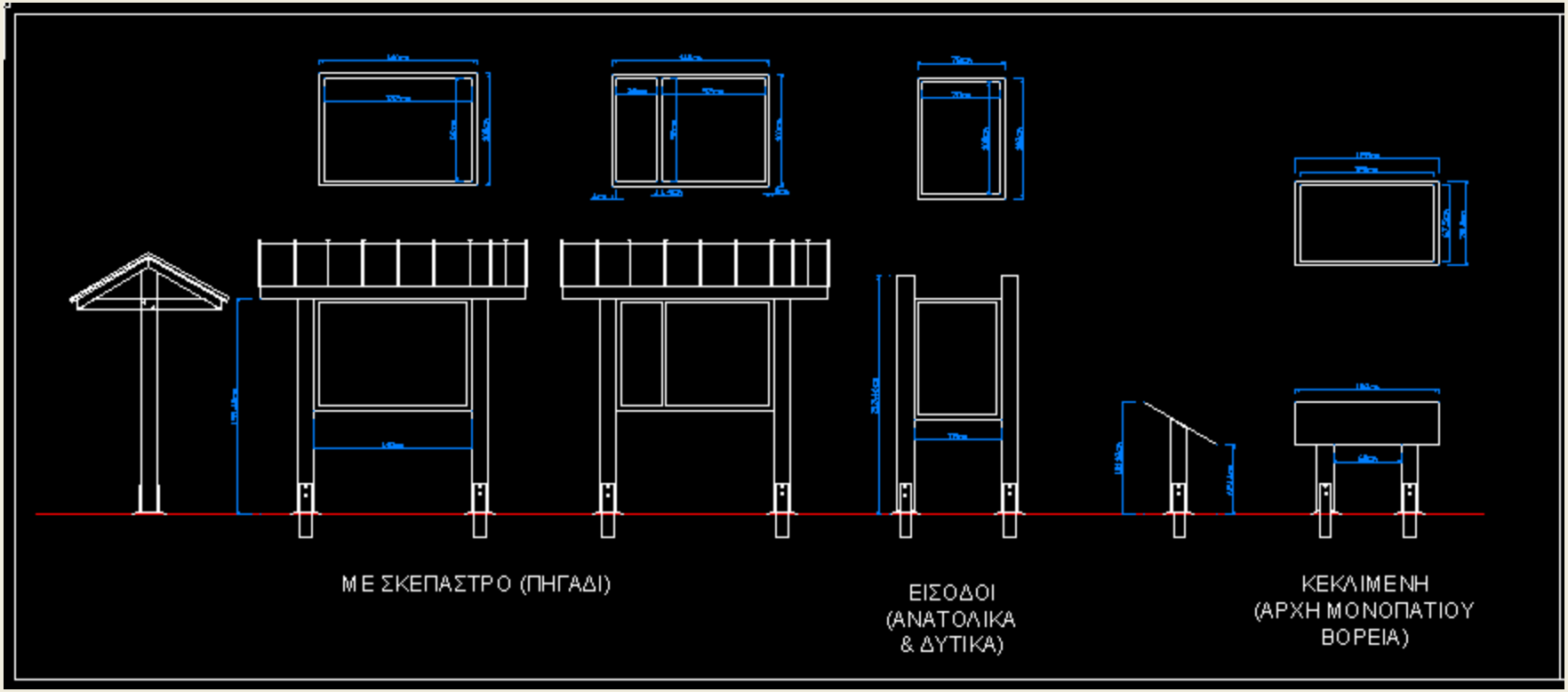
Path deliniation and installation of wooden boardwalks

Installation of wooden tables and benches

Path delineation

Concrete Conservation Actions C6. Visitor management intervention and infrastructures

Installation of wooden boardwalks, width 1,50m


ΜΕ ΣΚΕΠΑΣΤΡΟ (ΠΗΓΑΔΙ)
ΕΙΣΟΔΟΙ
(ΑΝΑΤΟΛΙΚΑ
& ΔΥΤΙΚΑ)
ΚΕΚΛΙΜΕΝΗ
(ΑΡΧΗ ΜΟΝΟΠΑΤΙΟΥ
ΒΟΡΕΙΑ)

Information sign at the entrance of the habitat

C7. Design and installation of Signs

Two-sided information sign inside the habitat

Project panel

Habitat description panel

Site-specific panel

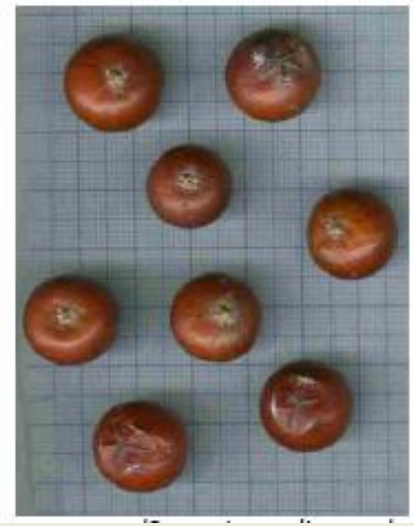
Concrete Conservation Actions

C8. *Ex situ* conservation and propagation of keystone species

- Seed collection of *Juniperus macrocarpa*, *J. phoenicea* and 30 other keystone species
- Storage of collected seeds at the seed bank of MAICh
- Protocols for seed collection, handling and storage of collected keystone species
- Protocols for seed germination of collected keystone species
- Propagation of *Juniperus macrocarpa*, *J. phoenicea* and other keystone species
- Collection and propagation of female cuttings of *J. macrocarpa*

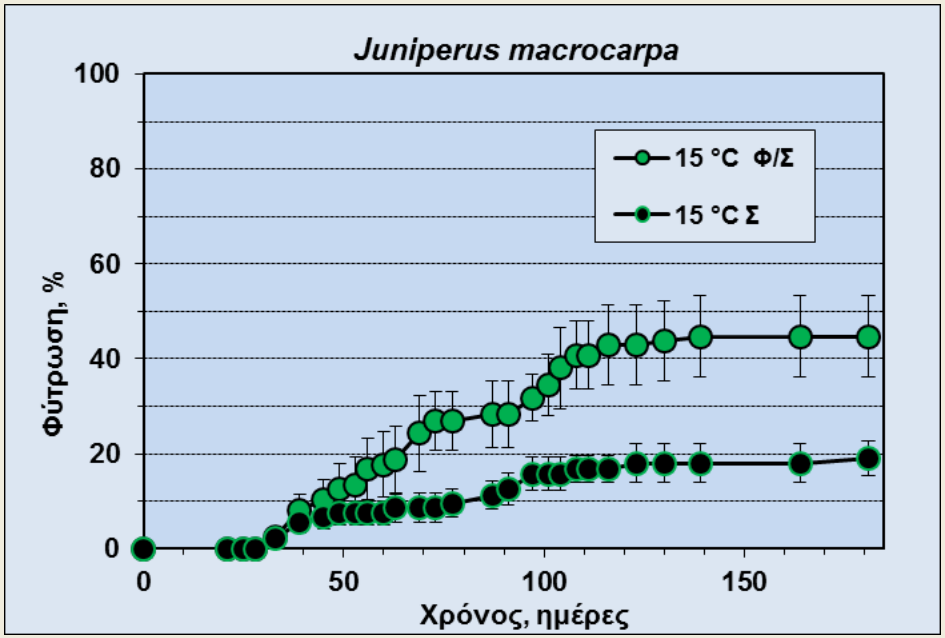
Concrete Conservation Actions

C8. *Ex situ* conservation and propagation of keystone species



Concrete Conservation Actions

C8. *Ex situ* conservation and propagation of keystone species



PUBLIC AWARENESS AND DISSEMINATION OF RESULTS

D1. Development and implementation of a communication strategy

Project leaflet

D1. Development and implementation of a communication strategy

Posters
T-shirts
Radio spot (Gavdos FM)
Project presentation on YOUTUBE

D1. Development and implementation of a communication strategy

Video production

D1. Development and implementation of a communication strategy

Code of Conduct

Αγαπητοί επισκέπτες, οι ακόλουθες πρακτικές θα ελαχιστοποιήσουν τις αρνητικές επιπτώσεις στο περιβάλλον και θα βοηθήσουν στη διατήρηση της φυσικής ομορφιάς του οικοτόπου.

Dear visitors, the following practices would minimize the negative impact on the environment and maintain the natural beauty of the habitat.

Μην κόβετε κλαδιά από τους κέδρους. Ακόμα και αν φαίνονται ξερά, βοηθούν στη συγκράτηση της άμμου, στη στήριξη των κέδρων και αποτελούν σημαντικό παράγοντα της φυσικής ισορροπίας των αμμοθινών.

Don't cut juniper tree branches. *Even if they seem dry, do not cut tree branches for firewood, as these branches allow sand trapping encouraging further dune formation.*

Μην πετάτε σκουπίδια. Αφήστε τον οικότοπο καθαρότερο απ' ότι τον βρήκατε, μαζέψτε τα σκουπίδια και μεταφέρετέ τα στους κάδους συλλογής ή στους κατάλληλους κάδους ανακύκλωσης.

Collect your rubbish. *If you've carried it in, carry it out. Don't burn or bury rubbish, and if you come across other people's rubbish, do the environment a favor: take it with you and dispose it correctly in the appropriate rubbish bins.*

D1. Development and implementation of a communication strategy

Περπατάτε στα μονοπάτια. Όπου είναι εφικτό προσπαθήστε να περπατάτε στα μονοπάτια. Ετσι δεν καταστρέφονται τα νεαρά κέδρα και η υπόλοιπη χλωρίδα, ενώ αποφεύγεται η διάβρωση του εδάφους.

Walk on established paths. *To prevent damage on vegetation and to reduce soil erosion, please, walk on established paths, where possible.*

Αποφύγετε το άναμα φωτιάς. Τα κέδρα δεν είναι πυρόφιλο είδος και δεν αναγεννούνται μετά τη φωτιά. Μην ανάβετε φωτιά, υπάρχει πάντα κίνδυνος πυρκαγιάς. **Σε περίπτωση ανάγκης τηλεφωνήστε στο 199**.

Avoid lighting fires. *Juniper is not a fire-resistant species and it does not regenerate after fire. Do not light fires; there is always a risk of fire.* **In case of emergency call 199**.

Μην ενοχλείτε. Σεβαστείτε την προσωπική ζωή, την κουλτούρα και τις συνήθειες των άλλων επισκεπτών και των ανθρώπων που ζουν στην περιοχή.

Respect your fellow visitors and the local community. *Keep noise levels to a minimum to avoid disturbing others, respect the privacy, cultural heritage, habits and traditions of local community.*

D1. Development and implementation of a communication strategy

Φεύγοντας, πάρτε μαζί σας
τις εμπειρίες σας και τις αναμνήσεις σας.
Αφήστε πίσω **ΜΟΝΟ** τις **πατημασιές** σας**!**

Σας ενημερώνουμε ότι σύμφωνα με την Ελληνική νομοθεσία (Ν.392/76 & Ν.2160/93) η ελεύθερη κατασκήνωση απαγορεύεται.

Upon leaving, take with you
your experiences and memories.
Leave behind **ONLY** your **footprints!**

According to the Greek legislation (Law 392/76 & Law 2160/93) free camping is prohibited.

D1. Development and implementation of a communication strategy

Exhibition “Agrotikos Augustos” Chania 2012, 2013

D1. Development and implementation of a communication strategy

Newspaper articles

D2. **Website development**

http://www.junicoast.gr

D3. Environmental education campaign

School teachers' educational booklet

Environmental education workshop - Chania

D3. Environmental education campaign

Site visits to Kedrodasos with school teachers and students

D3. Environmental education campaign

Environmental education workshop - Naxos

D3. Environmental education campaign

Organisation of Student weeks - MAICh

D3. Environmental education campaign

On-site discussions with campers :

In Gavdos

In kedrodasos

D3. Environmental education campaign

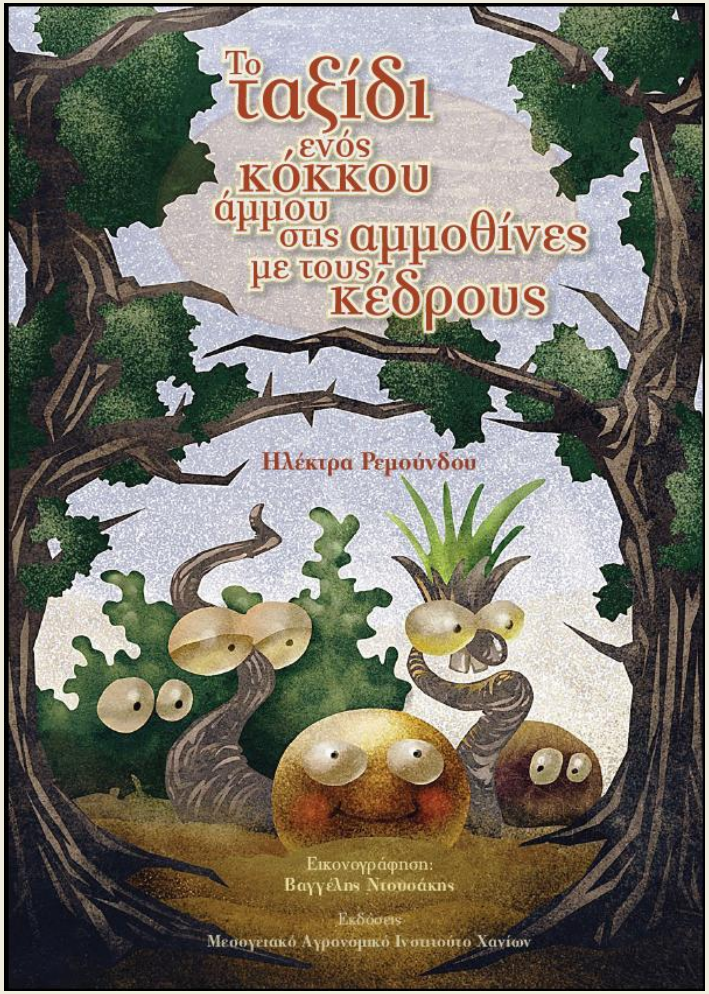
Environmental education workshop co-organized with the Environmental Education Center of Ierapetra

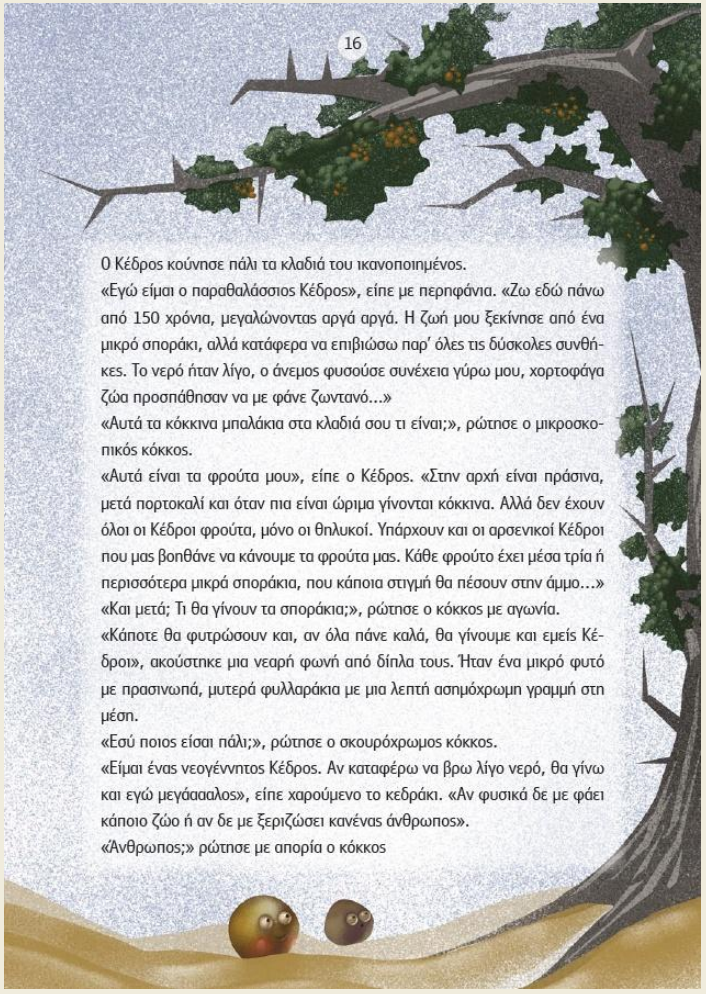
D3. Environmental education campaign

Student information at summer camps in Akrotiri-Chania

D3. Environmental education campaign

Children fairy tale




16

Ο Κέδρος κούνησε πάλι τα κλαδιά του ικανοποιημένος.
«Εγώ είμαι ο παραθαλάσσιος Κέδρος», είπε με περηφάνια. «Ζω εδώ πάνω από 150 χρόνια, μεγαλώνοντας αργά αργά. Η ζωή μου ξεκίνησε από ένα μικρό σποράκι, αλλά κατάφερα να επιβιώσω παρ' όλες τις δύσκολες συνθήκες. Το νερό ήταν λίγο, ο άνεμος φυσούσε συνέχεια γύρω μου, χορτοφάγα ζώα προσπάθησαν να με φάνε ζωντανό...»
«Αυτά τα κόκκινα μπαλάκια στα κλαδιά σου τι είναι;», ρώτησε ο μικροσκοπικός κόκκος.
«Αυτά είναι τα φρούτα μου», είπε ο Κέδρος. «Στην αρχή είναι πράσινα, μετά πορτοκαλί και όταν πια είναι ώριμα γίνονται κόκκινα. Αλλά δεν έχουν όλοι οι Κέδροι φρούτα, μόνο οι θηλυκοί. Υπάρχουν και οι αρσενικοί Κέδροι που μας βοηθάνε να κάνουμε τα φρούτα μας. Κάθε φρούτο έχει μέσα τρία ή περισσότερα μικρά σποράκια, που κάποια στιγμή θα πέσουν στην άμμο...»
«Και μετά; Τι θα γίνουν τα σποράκια;», ρώτησε ο κόκκος με αγωνία.
«Κάποτε θα φυτρώσουν και, αν όλα πάνε καλά, θα γίνουμε και εμείς Κέδροι», ακούστηκε μια νεαρή φωνή από δίπλα τους. Ήταν ένα μικρό φυτό με πρασινωπά, μυτερά φυλλαράκια με μια λεπτή ασημόχρωμη γραμμή στη μέση.
«Εσύ ποιος είσαι πάλι;», ρώτησε ο σκουρόχρωμος κόκκος.
«Είμαι ένας νεογέννητος Κέδρος. Αν καταφέρω να βρω λίγο νερό, θα γίνω και εγώ μεγάααλος», είπε χαρούμενο το κεδράκι. «Αν φυσικά δε με φάει κάποιο ζώο ή αν δε με ξεριζώσει κανένας άνθρωπος».
«Άνθρωπος;» ρώτησε με απορία ο κόκκος

D4. Training for habitat protection and restoration

Training workshop - Naxos

D5. Production and dissemination of habitat protection and restoration guidelines

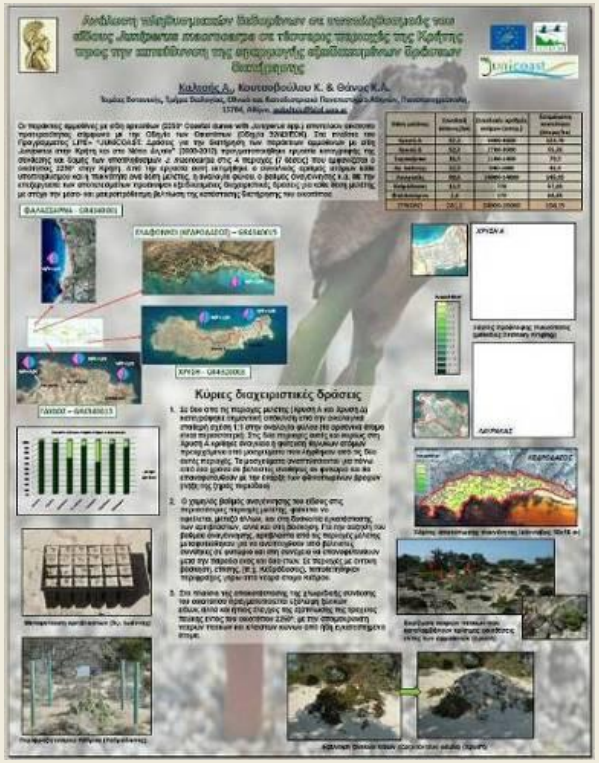
The habitat protection and restoration guidelines include:

- The habitat description
- The description and the methodologies of preparatory actions
- The description, the technical details of the implementation of concrete conservation actions
- The description of dissemination actions
- The monitoring methods

D6. Dissemination of findings to the scientific community and Layman's report

The associated beneficiary NKUA presented a poster in Greek entitled: "Σύνθεση και δομή των υποπληθυσμών του είδους *Juniperus macrocarpa* στην Κρήτη" at the 5th Panhellenic Congress of Ecology that was held on 07-10.10.2010 in Patras.

The associated beneficiary NKUA presented a poster entitled: "Population data analysis of *Juniperus macrocarpa* subpopulations in four sites at Crete towards the implementation of specialized conservation actions" at the 12th Congress of Hellenic Botanical Society that was held on September 2011 in Rethymno.



D6. **Dissemination of findings to the scientific community and Layman's report**

Journal of Environmental Management 113 (2012) 308–318

Contents lists available at SciVerse ScienceDirect

Journal of Environmental Management

journal homepage: www.elsevier.com/locate/jenvman

Participation in the management of Greek Natura 2000 sites: Evidence from a cross-level analysis

Evangelia Apostolopoulou [a,1,3], Evangelia G. Drakou [a,2,3], Kalliope Pediaditi [b,*,3]

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D6. Dissemination of findings to the scientific community and Layman's report

D7. "After-LIFE" communication plan

The **after-LIFE communication plan** identify and propose communication activities which will be implemented after the end of the project.

D7. "After-LIFE" conservation plan

The **after-LIFE conservation plan** identify and propose conservation and management activities which will be implemented after the end of the project.

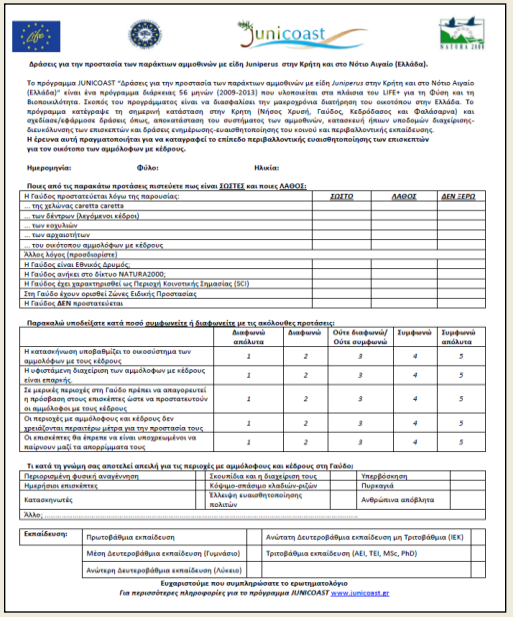
OVERALL PROJECT COORDINATION AND MONITORING

E2. **Monitoring of the effectiveness of the dissemination actions**

The dissemination actions of the project included among others:

1. The leaflet of the project produced and distributed (ferry boats, and on-sites) at the begining of the project
2. The radio spot aired during two consecutive summer seasons (May-Septemeber 2011 and 2012)
3. Various events and Media publicity since the begining of the project
4. Information signs installed at the entrance/exit and within all the habitat areas.

The monitoring of the effectiveness of the dissemination actions was implemented by collecting questionnaires at the begining (2009) and at the end (2013) of the project.



Δράσεις για την προστασία των παράκτιων αμμοθινών με είδη Juniperus στην Κρήτη και στο Νότιο Αιγαίο (Ελλάδα).

Το πρόγραμμα JUNICOAST "Δράσεις για την προστασία των παράκτιων αμμοθινών με είδη *Juniperus* στην Κρήτη και στο Νότιο Αιγαίο (Ελλάδα)" είναι ένα πρόγραμμα διάρκειας 56 μηνών (2009-2013) που υλοποιείται στα πλαίσια του LIFE+ για τη Φύση και τη Βιοποικιλότητα. Σκοπός του προγράμματος είναι να διασφαλίσει την μακροχρόνια διατήρηση του οικοτόπου στην Ελλάδα. Το πρόγραμμα κατέγραψε τη σημερινή κατάσταση στην Κρήτη (Νήσος Χρυσή, Γαύδος, Κεδρόδασος και Φαλάσαρνα) και σχεδίασε/εφάρμοσε δράσεις όπως αποκατάσταση του συστήματος των αμμοθινών, κατασκευή ήπιων υποδομών διαχείρισης-διευκόλυνσης των επισκεπτών και δράσεις ενημέρωσης-ευαισθητοποίησης του κοινού και περιβαλλοντικής εκπαίδευσης.
Η έρευνα αυτή πραγματοποιήται για να καταγραφεί το επίπεδο περιβαλλοντικής ευαισθητοποίησης των επισκεπτών για τον οικότοπο των αμμόλοφων με κέδρους.

Ημερομηνία: **Φύλο:** **Ηλικία:**

Ποιες από τις παρακάτω προτάσεις πιστεύετε πως είναι ΣΩΣΤΕΣ και ποιες ΛΑΘΟΣ;

Η Γαύδος προστατεύεται λόγω της παρουσίας:	ΣΩΣΤΟ	ΛΑΘΟΣ	ΔΕΝ ΞΕΡΩ
... της χελώνας caretta caretta			
... των δέντρων (λεγόμενοι κέδροι)			
... των κοχυλιών			
... των αρχαιοτήτων			
... του ονείσπτου αμμόλοφων με κέδρους			
Άλλες λόγους [προσδιορίστε]			
Η Γαύδος είναι Εθνικός Δρυμός			
Η Γαύδος ανήκει στο δίκτυο NATURA2000;			
Η Γαύδος έχει χαρακτηρισθεί ως Περιοχή Κοινοτικής Σημασίας (SCI)			
Στη Γαύδο έχουν οριοθετεί Ζώνες Ειδικής Προστασίας			
Η Γαύδος **ΔΕΝ** προστατεύεται			

Παρακαλώ υποδείξτε κατά ποσό συμφωνείτε ή διαφωνείτε με τις ακόλουθες προτάσεις:

	Διαφωνώ απόλυτα	Διαφωνώ	Ούτε διαφωνώ/ Ούτε συμφωνώ	Συμφωνώ	Συμφωνώ απόλυτα
Η κατασκήνωση υποβαθμίζει το οικοσύστημα των αμμολόφων με τους κέδρους	1	2	3	4	5
Η υφιστάμενη διαχείριση των αμμόλοφων με κέδρους είναι επαρκής	1	2	3	4	5
Σε μερικές περιοχές στη Γαύδο πρέπει να απαγορευτεί η πρόσβαση στους επισκέπτες ώστε να προστατευτούν οι αμμόλοφοι με τους κέδρους	1	2	3	4	5
Οι περιοχές με αμμόλοφους και κέδρους δεν χρειάζονται περαιτέρω μέτρα για την προστασία τους	1	2	3	4	5
Οι επισκέπτες θα έπρεπε να είναι υποχρεωμένοι να παίρνουν μαζί τα απορρίμματα τους	1	2	3	4	5

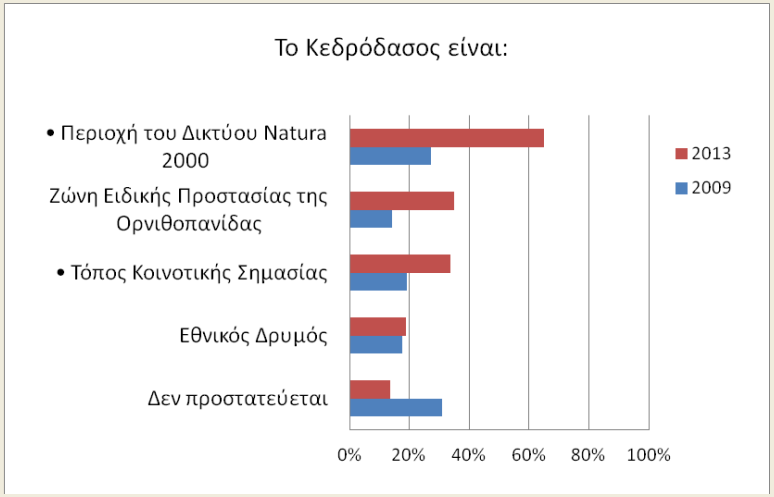
Τι κατά τη γνώμη σας αποτελεί απειλή για τις περιοχές με αμμόλοφους και κέδρους στη Γαύδο;

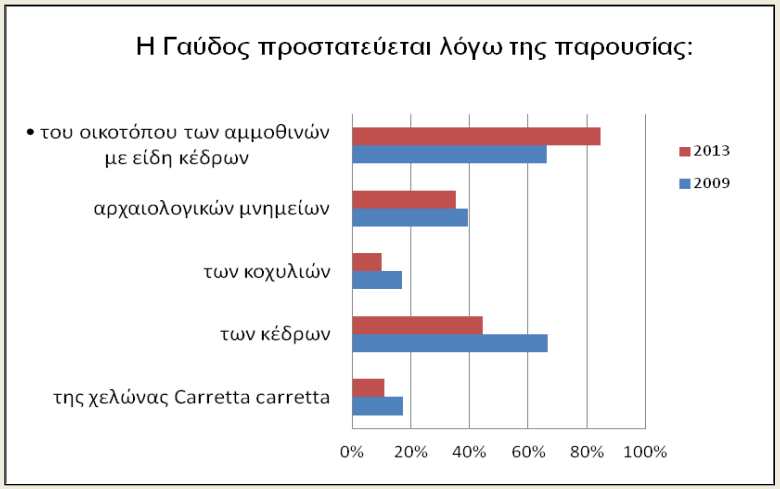
Περιορισμένη φυσική αναγέννηση	Σκουπίδια και η διαχείριση τους	Υπερβόσκηση	
Ημερήσιοι επισκέπτες	Κόψιμο-απόσπαση κλαδιών-ριζών	Πυρκαγιά	
Κατασκηνωτές	Έλλειψη ευαισθητοποίησης πολιτών	Ανθρώπινα απόβλητα	
Άλλο;			

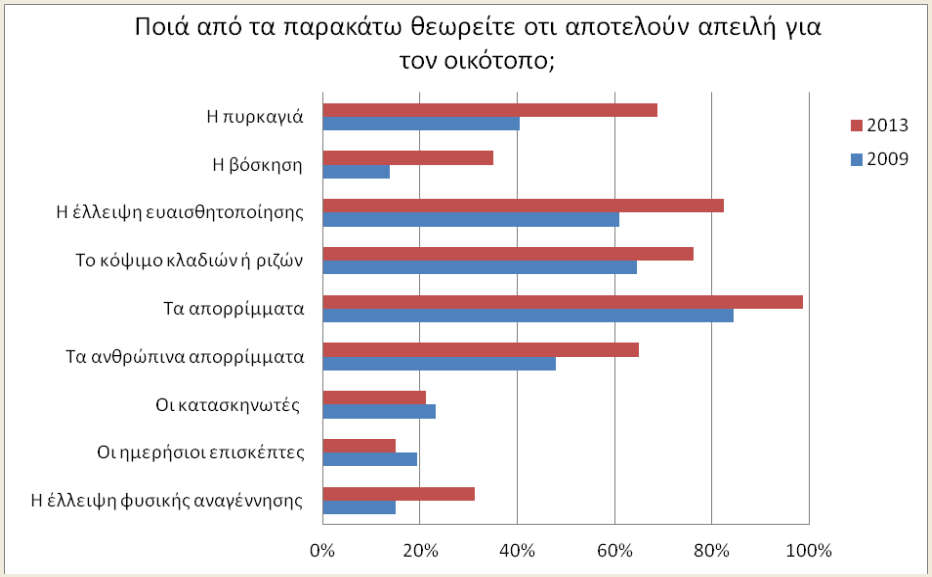
Εκπαίδευση:			
	Πρωτοβάθμια εκπαίδευση	Ανώτατη Δευτεροβάθμια εκπαίδευση μη Τριτοβάθμια (ΙΕΚ)	
	Μέση Δευτεροβάθμια εκπαίδευση (Γυμνάσιο)	Τριτοβάθμια εκπαίδευση (ΑΕΙ, ΤΕΙ, MSc, PhD)	
	Ανώτερη Δευτεροβάθμια εκπαίδευση (Λύκειο)		

Ευχαριστούμε που συμπληρώσατε το ερωτηματολόγιο
Για περισσότερες πληροφορίες για το πρόγραμμα JUNICOAST www.junicoast.gr

E2. **Monitoring of the effectiveness of the dissemination actions**







E2. Monitoring of the effectiveness of the dissemination actions

Conclusions:

- **The visitors' level of awareness**, perceived values and threats established on the onset of the project were taken into consideration in defining the sequence of the communication activities, channels and materials. This participatory approach allowed a better planning of the activities which is of utmost importance for the proper implementation of the communication plan.
- **The code of conduct** developed by the project had a very positive response on the visitors' behavior while on-site.
- **Public education** requires a strategic communication plan based on specific objectives, targeted audiences and implementation approach.
- **The installation of information signs** at strategic points (entrance, exit) and within the habitat boundaries increased the visitors' level of environmental awareness, and reduced their negative impacts while onsite.
- The long-term conservation of coastal dunes with Juniperus spp. requires **continuous efforts** by all stakeholders in identifying, proposing and implementing communication and conservation activities.

E3. Scientific committee

E4. Networking with similar LIFE projects

PROVIDUNE project - ITALY



JUNIPERCY project - Cyprus



E5. Stakeholder Committee

FINAL EVENT – Chania 27-8-2013


Upon leaving, take with you
your experiences and memories.
Leave behind ONLY your footprints!