



**DELIVERABLE: CONSERVATION MONITORING PROTOCOL**

**(Action D.1 - Monitoring of Concrete Conservation Actions)**

**Project Partners**



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**Improving the conservation status of the priority habitat types \*1520 and \*5220 at the Rizoelia National Forest Park**

**LIFE12 NAT/CY/000758**



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## Conservation Monitoring Protocol – Action D.1

Action D.1 of the project *LIFE-RIZOELIA: Improving the conservation status of the priority habitat types \*1520 and \*5220 at the Rizoelia National Forest Park (LIFE12 NAT/CY/000758)* is designed to measure the effectiveness of the concrete conservation actions as compared to the initial situation prior to the beginning of the project. Part of this action is the development of the *Conservation Monitoring Protocol*, which will be complementary to the *Project Management Manual* that will be prepared by the Project Management Team (Action F.1). The *Conservation Monitoring Protocol* was preliminarily approved by the Scientific Committee (SC) during its first online meeting (November 2013); final approval of the Protocol by the SC took place in February 2014, during the first official meeting in Cyprus. The Protocol includes and describes the following (Table 1):

- the indicators for monitoring the impact of the project's concrete conservation actions on the status of the targeted species/habitats,
- the relevant project action,
- the responsible beneficiary for the monitoring of each indicator,
- the sources of information that will be used for the monitoring of each indicator,
- the assessment criteria for each indicator,
- the time-frame for the assessment of each indicator and
- the target numbers (where applicable) for each indicator and for different phases of the project.

These monitoring indicators will allow the Project Management Team (PMT) and the SC either to confirm the adequacy of the developed means to address the specific problems and threats, or to question these means and alternatively develop new ones. The SC in all of its meetings will review the progress achieved towards fulfilling each of the monitoring indicators and will provide its scientific guidance so that the monitoring of the impact of the project on the targeted habitats is implemented according to the Conservation Monitoring Protocol. The Project Manager and the Scientific Coordinator will monitor the progress of the Concrete Conservation Actions through the evaluation of the Conservation Monitoring Protocol regularly (at least once a month).

**Table 1: Monitoring Indicators and relevant information**

Indicator	Relevant Action (Start-End date)	Responsible Beneficiary*	Information Sources	Assessment Criteria	Time-frame for the Assessment	Target Numbers (where applicable)	Responsibility for Evaluation**
1. Reduction of impacts from visitor access on habitat *1520	C.1: Demarcation of selected parts of the habitat (Nov 2014-May 2015)	DF	On site visits/records (Cross-checking fire data with data from DF)	Quantity of litter, number of destroyed plants due to trampling, number/frequency of fire events (should be declining)	Every six months from the beginning of the action until the end of the project	Length of 'soft-fencing' ~ 2000 m	PM, SC
2. Natural habitat expansion	C.2: Clearings of competitive vegetation 0,4 ha (Jun 2014-Dec2016)	DF	On site visits/sampling	Extent of openings that are free of competitive vegetation within the targeted habitat type area	Annually after the initiation of the action and until the end of the project	Openings not less than 20 % of habitat area	PMT
3. Control of conifers e.g. <i>Pinus</i> spp.	C.2: Clearings of competitive vegetation 0,4 ha (500 trees/shrubs x 8 m <sup>2</sup> for <i>Pinus</i> , <i>Eucalyptus</i> , <i>Acacia</i> ) (Jun 2014-Dec2016)	DF	On site visits/sampling	Number of <i>Pinus</i> spp. stems removed	Annually after the initiation of the action and until the end of the project	Location and number of stems to be removed will be determined by the results of Action A.1.	PMT
4. Control of <i>Acacia saligna</i>	C.2: Clearings of competitive vegetation 0,4 ha (500 trees/shrubs x 8 m <sup>2</sup> for <i>Pinus</i> , <i>Eucalyptus</i> , <i>Acacia</i> ) (Jun 2014-Dec2016)	DF	On site visits/sampling	Number of suckers and saplings (should be declining)	Annually from the beginning of the action until the end of the project	Location and number of stems/saplings to be removed will be determined by the results of Action A.1.	PMT

5. Control of <i>Eucalyptus</i> spp.	C.2: Clearings of competitive vegetation 0,4 ha (500 trees/shrubs x 8 m <sup>2</sup> for <i>Pinus</i> , <i>Eucalyptus</i> , <i>Acacia</i> )  (Jun 2014-Dec2016)	DF	On site visits/sampling	Number of coppices (should be declining)	Annually from the beginning of the action until the end of the project	Location and number of stems/coppices to be removed will be determined by the results of Action A.1.	PMT
6. Improved conservation status of habitat type *5220	C.3: Restoration of 5220 (1 ha)  (Oct 2014-End of Project)	DF	On site visits/sampling	Successful establishment and survival of planted <i>Ziziphus lotus</i> 1000, <i>Asparagus stipularis</i> 60, <i>Phagnalon rupestre</i> 60, <i>Coridothymus capitatus</i> 60 and <i>Noaea mucronata</i> 60	Annually from the beginning of the action until the end of the project	Production of 1000 <i>Ziziphus lotus</i> , 60 <i>Asparagus stipularis</i> , 60 <i>Phagnalon rupestre</i> , 60 <i>Coridothymus capitatus</i> , 60 <i>Noaea mucronata</i>	PMT
7. Improved conservation status of habitat type *1520	C.3: Restoration of 1520 (0,1 ha) and enhancement of 0,1 ha of 1520  (Oct 2014-End of Project)	DF	On site visits/sampling	Dispersal of at least 6000 seeds of <i>Gypsophila linearifolia</i> , <i>Campanula fastigiata</i> and <i>Herniaria hemistemon</i>  (demarcation of dispersal plots and monitoring of germination and successful growth)	Annually from the beginning of the action until the end of the project	Seed collection and dispersal of at least 6000 seeds of <i>Gypsophila linearifolia</i> , <i>Campanula fastigiata</i> and <i>Herniaria hemistemon</i>	PMT
8. Prevention of habitat loss due to fire events	C.4: Fire prevention. Limited road access by 1 km will be enforced  (Jan 2015-end of project)	DF	On site visits/records	Area of damaged habitat after fire or number of fire incidents (should be declining)  Fire hazards by visitors (presence/absence)  Area of nearby flammable vegetation	Annually from the beginning of the action until the end of the project	Manual clearing (brush-cutter) of dry herbaceous vegetation in an area of 2 ha each year. The exact areas of to be cleared will be identified in action A.1 & 2	PMT

9. Production of saplings	C.5: In situ and inter situ conservation. A protocol on seed germination (Nov 2013-end of project)	FU	Recording the number of produced saplings for the purposes of the project	Success of germination of <i>Ziziphus lotus</i> seeds (*5220) and any keystone species, not annuals (*1520)	Annually from the beginning of the action until the end of the project	% of germination success	PMT
10. Re-creation of the priority habitat *5220	C.6: Habitat re-creation of *5220. (Nov 2014-Feb 2017)	DF	On site sampling	Presence/absence of competitive vegetation  % of the target area adjacent to Rizoelia site (area extent 2 ha) restored through habitat recreation	Annually from the beginning of the action until the end of the project	Restoration of 2 ha of *5220  1500 <i>Ziziphus lotus</i> , 250 <i>Asparagus stipularis</i> , 250 <i>Phagnalon rupestre</i> , 250 <i>Coridothymus capitatus</i> , 250 <i>Noaea mucronata</i> to be planted	PMT
11. Presence of <i>Oxalis pes-caprae</i>	-	DF	On site visits	Mapping and/or pilot control of <i>Oxalis pes-caprae</i>	Once	Digital map with the distribution of <i>Oxalis pes-caprae</i>  Pilot control of 100 m <sup>2</sup> of <i>Oxalis pes caprae</i>	PMT

\* DF: Department of Forests, FU: Frederick University, OUC: Open University of Cyprus, DE: Department of Environment

\*\* PMT: Project Management Team, PM: Project Manager, SC: Scientific Committee