

# LIFE PLUS PROJECT “CARETTA CALABRIA”



LIFE 12 NAT/IT/001185

Land-and-sea actions for conservation of *Caretta Caretta* in its most important Italian nesting ground (Ionian Calabria)



T. Mingozzi<sup>1</sup>, G. Cambiè<sup>2</sup>, P. Casale<sup>3</sup>, R. Dominici<sup>1</sup>, C. Gangale<sup>1</sup>, A. Nicoletti<sup>4</sup>, P. Paris<sup>5</sup>, V. Pulieri<sup>6</sup>, S. Raimondi<sup>4</sup>, V. Scopelliti<sup>7</sup>, M. Sonnino<sup>1</sup>, S. Urso<sup>6</sup>, D. Uzunov<sup>8</sup>

<sup>1</sup>Dept. of Biology, Ecology, and Earth Sciences, University of Calabria, Rende, Italy; e-mail: [antonio.mingozzi@unical.it](mailto:antonio.mingozzi@unical.it); <sup>2</sup>School of Ocean Sciences, Bangor University, UK; <sup>3</sup>Dept. of Biology and Biotechnologies “C. Darwin” University of Rome “La Sapienza”, Italy; <sup>4</sup>Legambiente Onlus, Rome, Italy; <sup>5</sup>Euro Works Consulting sprl, Bruxelles, Belgium; <sup>6</sup>Palizzi Municipality, Italy; <sup>7</sup>Settore Cooperazione e internazionalizzazione Regione Calabria, Reggio C., Italy; <sup>8</sup>CHLORA S.A.S., Rende, Italy.

## INTRODUCTION

The Southern coast of Ionian Calabria (40,36 km from Capo Bruzzano, 38°02'22.82"N, 16°08'41.03"E, and Melito di Porto Salvo, 37°55'00.28"N, 15°47'15.60"E) (Fig. 1-2), is currently recognized as the main nesting ground for loggerhead turtles in Italy, accounting for 60% of nests laid nationwide each year (Mingozzi *et al.*, 2007).

This small (15-20 nests/year) and residual nesting population, hosting an unique mitochondrial diversity (Garofalo *et al.*, 2009), is seriously endangered by human presence (off-road vehicles, increase of artificial lights), and by coastal management for tourist purposes (beach cleaning or mechanical levelling in summer time, construction of harbours, buildings) (Fig. 3-6).



Moreover, the marine area off the nesting beaches hosts an important foraging area for small and large juvenile loggerhead turtles from Mediterranean rookeries (Garofalo *et al.*, 2011). The high bycatch rate resulting from the interaction between longliners and turtles call for urgent conservation measures (Cambiè *et al.*, 2013) (Fig. 6)."



## THE PROJECT

The project (launched October 2013) will address the main threats occurring both at land and at sea, and will propose an integrated approach between institutions and stakeholders, suitable for different local contexts at different levels of the life cycle of this species.

Interventions will be carried out in coastal areas identified as key for sea turtle nesting, where human pressure and dune habitat degradation are particularly high as well as offshore, where high numbers of turtles are incidentally captured.

## MAIN OBJECTIVES

- Conservation and restoration of four key nesting areas in coastal habitats (dune series);
- Elimination and/or mitigation of the main treats and risk factors for the reproductive success in the area;
- Revision of Natura 2000 sites in the project area and update of Management Plans.
- Reduction of the impact of the longline fishery on loggerhead turtles frequenting the marine area off the nesting beaches.
- Integrated dynamic coastal zone management for the protection of NATURA 2000 habitats (dune series) and of *C. caretta* habitats under high anthropogenic pressure;
- Produce guidelines for the management of coastal habitats;
- Adoption by the coastal municipalities of a shared Action Plan for the prompt implementation of conservation actions along the Ionian Coast of Calabria;
- Widespread dissemination of best practices for a correct use of coastal areas where *C. caretta* nests, addressed both to the local administrators and the resident population.



Fig. 7. One of the four intervention areas. Designed action regards germplasm *ex/in situ* conservation; dune habitat restoration; fighting of the exotic species and regulation of the access and use of the beach.



Fig. 8. The reduction of the impact of the longline fishery requires dissemination of best practices involving: 1. correct handling and release onboard, 2. implementation of circle hooks, 3. implementation of fleet communication system to avoid bycatch hotspots.

REFERENCES: Cambiè G., Sánchez-Carnero N., Mingozzi T., Muñoz R., Freire J. 2013. Identifying and mapping local bycatch hotspots of loggerhead sea turtles using a GIS-based method: implications for conservation. *Mar. Biol.*, 160: 653-655. Garofalo L., Mingozzi T., Mico A. & Novelletto A. 2009. Loggerhead turtle (*Caretta caretta*) matrines in the Mediterranean: further evidence of genetic diversity and connectivity. *Mar. Biol.*, 156: 2085-2095. Garofalo L., Cambiè G., Mingozzi T., Novelletto A., 2011. A hotspot of mitochondrial genetic diversity among juvenile loggerhead turtles (*Caretta caretta*) aggregating offshore the southern coast of the Ionian Calabria (Italy). In: Bentivegna F., Maffucci F., Mauriello V. (compilers) 2011. Book of Abstract. 4th Mediterranean Conference on Marine Turtles Naples-Italy. p. 68. Mingozzi T., Masciari G., Paolillo G., Pisani B., Russo M. & Massolo A., 2007. Discovery of a regular nesting area of loggerhead turtle *Caretta caretta* in Southern Italy: a new perspective for national conservation. *Biodivers. Conserv.*, 16: 3519-3541.

