

**ΤΕΧΝΙΚΗ ΑΝΑΦΟΡΑ: Μελέτη της αλληλεπίδρασης της παράκτιας αλιείας με τη μεσογειακή φώκια και τα θαλασσοπούλια στην Άνδρο**



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*«Διατήρηση των ειδών και οικοτόπων προτεραιότητας της προστατευόμενης περιοχής της Άνδρου με την ενσωμάτωση κοινωνικοοικονομικών παραμέτρων»*

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## Executive Summary

The present report constitutes an assessment of interactions between fisheries and Mediterranean Monk Seal/Seabirds on Andros Island, carried out in the framework of the LIFE Project “Conservation of priority species and habitats of Andros Island protected area integrating socioeconomic considerations” (LIFE16NAT/GR/000606). The project is implemented by the Agricultural University of Athens, in collaboration with the Municipality of Andros, the Hellenic Agricultural Organization “Demeter”, the foundation CBD-Habitat, the Kaireios Library, MOm/Hellenic Society for the Study and Protection of the Monk Seal, and the environmental consulting company Nature Conservation Consultants (NCC Ltd).

The project aims at implementing priority actions for the conservation, improvement of the conservation status and the restoration of the priority alluvial habitat of alder forests (*Alnus glutinosa*), as well as of three marine animal species of Andros with high conservation priority, namely the Mediterranean Monk Seal (*Monachus monachus*), the Mediterranean Shag (*Phalacrocorax aristotelis desmarestii*) and the Audouin’s Gull (*Larus audouinii*). In order to achieve this overall objective, the project is implementing a series of conservation actions, including the protection measures of alluvial alder forests against wild fires, floods, soil erosion and overgrazing, the restoration of recently destroyed areas with alder, cleaning and management of marine plastic debris on the coast and at sea, as well as reduction of the negative interactions between the Mediterranean Monk Seal and fisheries with parallel promotion of the local fisheries products and fishing tourism.

The present assessment aimed to collect and analyse questionnaire-based information from the Andros fishermen in order to evaluate the current situation on the interactions between local professional coastal fisheries and Mediterranean Monk Seal/seabirds. The data collected will be used for the planning of measures for the reduction of interactions and will be implemented in cooperation with Andros fishermen in the framework of the project actions A.3 and C.5.

The assessment was conducted using a special questionnaire which was distributed and filled in by 14 professional coastal fishermen at the Andros ports i.e. Chora, Gavrio, and Korthi. These fishermen represent approximately 70% of the active professional fishermen on Andros.

The main conclusions emerged from the analysis of the data collected are:

- Fishermen are active all year round, using 12 different types of fishing gear, however their use varies by season, fishing vessel and target species. Most of the fishing gear is used in a wide range of sea depths from 0 down to 400 fathoms.

- The main landing ports for the fishing vessels are the 3 main Andros ports i.e. Chora, Gavrio and Korthi.
- All the respondents consider that in the area there is a reduction of fish stocks which is primarily caused by (A) overfishing and (B) illegal recreational fishing. The main measures which are proposed to secure the future of Andros fish stocks include (A) Better implementation of the existing legislation, (B) Restriction of recreational fishing, (C) Restriction or prohibition of fishing in particular areas during particular seasons to allow fish stock recovery and (D) use of different fishing gear and fishing practices.
- Fishermen frequently observe dolphins, Mediterranean monk seal and common seabird species (Mediterranean Shag, Yellow-legged Gull, Yelkouan Shearwater and Scopoli's shearwater) in the marine area around Andros.
- Mediterranean monk seals and dolphins have been reported to cause the greatest damage.
- The species which are affected by bycatch in fishing gear include Mediterranean monk seal, sea turtles and dolphins in fishing nets, as well as Yelkouan Shearwater and Audouin's Gull in longlines.
- The main damages caused by the Mediterranean monk seal are (by decreasing frequency of answer): (A) Fishing net damage, (B) take fish from fishing nets and (C) Damage to catches, while main damages caused by dolphins include: (A) take fish from fishing nets, (B) Fishing net damage and (C) Damage to catches.
- The Mediterranean monk seal causes damage in the entire marine area of Andros, however the areas where interactions are more intense is the marine area between Andros and Tinos, as well as along the eastern and northern coast of Andros.
- The damages by the Mediterranean Monk Seal take place in the coastal areas (up to 50-200m from the coast) and in shallow waters between 20 and 40 fathoms.
- The damages by dolphins take place in coastal as well as deep waters.
- Most of the damages by seals and seabirds occur during spring and summer, while during autumn and winter they are lower.
- Most of the damages by seals and seabirds occur during morning and evening hours.
- Andros fishermen confront damages caused by seals very frequently. Among 13 fishermen who provided relevant information, 8 (62%) face damages in more than 60% of their fishing effort, while the rest in 20-40% of their fishing effort. The frequency of damages caused by dolphins, as reported by a single fisherman, is 20% of the fishing effort.

- Seals cause damage to all catches of different species; however, some fishermen reported that seals prefer pelagic fish, Octopi, Cuttlefish, Saddled seabreams, Black seabreams, Goldblotch groupers, Common Dentexes, Common seabreams and fish caught in longlines.
- Most of the damages to fishing gear caused by seals involve fishing nets (reported by 86% of fishermen) and longlines (reported by 36% of fishermen). Dolphins cause damages to fishing nets.
- The fishermen consider that seals cause severe losses to their income, while losses caused by seabirds are negligible. Regarding seabirds, the greatest losses are caused by the Yelkouan Shearwater.
- The total annual costs of damages to catches are difficult to estimate because the fishermen do not know the amount taken by seals or dolphins. Two fishermen estimated losses to be 1/3 of the total catch, one 20% of the total catches, while another one estimates losses at 3000-4000€ annually.
- The total estimated annual costs of damages to the fishing gear required for repairs range between 1000€ and 3000€ plus labour and between 30% and 50% of the annual cost of the fishing gear.
- The main measures the fishermen take to avoid interactions are: (A) Attempt to avoid interactions, change of fishing area, fishing in deeper waters, and (B) deterrence, while the main proposed solution are compensations based e.g. based on fishing net purchase invoices or number of fish gears used.
- A total of 86% of the respondents consider creation of Andros trademark of fishing products insufficient solution to damages caused by seals and seabirds. The reported reasons are: (A) seals follow the fishing vessels and there are no areas without seals, and (B) the fishermen who will implement measures will be in a disadvantaged position in relation to those which will not. The rest of the respondents consider that it is a satisfactory solution but insufficient.
- A total of 63% of the respondents consider that Andros restaurants will not adopt the Andros trademark of fishing products, while the rest consider that the adoption is possible or difficult (18%), may not be adopted in the beginning but will be gradually (9%) and 1/3 of the restaurants will adopt the trademark (9%).
- Regarding the fishing tourism being a satisfactory income, the respondents in general have a positive, but cautious attitude.