LIFE07 NAT/P/000646

FINAL Report
Covering the project activities from 01/06/2009 to 30/06/2013

Reporting Date
31/10/2014

LIFE+ PROJECT NAME or Acronym
CETACEOSMADEIRA II

Data Project

Project location	
Project start date:	01/06/2009
Project end date:	30/06/2013 **Extension date:** not aplicable
Total budget	795.074 €
EC contribution:	397.537 €
(%) of eligible costs	50% of total eligible budget

Data Beneficiary

Name Beneficiary	**Município de Machico**
Contact person	Dr. Luís Freitas
Postal address	Largo do Município 9200-099 Machico
Telephone	+ 351 291 961 858
Fax:	+ 351 291 961 861
E-mail	luisfreitas@museudabaleia.org
Project Website	www.cetaceos-madeira.com

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2. Executive summary (max 5 pages)

The project CetaceosMadeira II (CMII) had 3 objectives: 1 - Identify the areas of importance for the bottlenose dolphin in the coastal waters of Madeira archipelago, with the aim of establishing marine Nature 2000 sites for this species; 2 - Define areas of operation, and respective carrying capacity, for the whalewatching boats in Madeira archipelago waters; 3 - Surveillance of the conservation status of cetaceans' species in Madeira offshore waters.

The project field work has been carried out in the inshore (objective 1 and 2) and offshore (objective 3) waters of Madeira archipelago, having as main target species the bottlenose dolphin and the short-finned pilot whale, but also addressing all other cetacean species using Madeira waters, and that are listed in Annex IV of the Habitat Directive.

The project due to its nature focused in three types of actions: A – preparatory actions; D – Public awareness and dissemination of results; E – overall project management and monitoring.

The 'preparatory actions' were orientated to the logistic/technical set up and implementation of field work in order to collect the data necessary to address the project objectives. It also involved the analysis of those data and the preparation of associated technical documents. The scientific protocols, important to guide the field work, were prepared (Action A.2 and A.3) with the technical/scientific advice from the project consultants (Action A.4). As a result 6 documents were produced as project deliverables, namely: A.2 – I_*Technical plan for systematic surveys* ; A.2 – II_*Technical plan for non-systematic surveys*; A.2 – III_*Technical plan for photo-identification*; A.2 – IV_*Technical plan for data collection whale-watching*; A.3 – I_*Technical plan surveillance conservation status offshore*; A.4 – I-II-III-IV_*Overall technical meeting reports*.

The overall sea effort (Action A.5 and Action A.6) resulted in: 76 days of systematic nautical surveys, corresponding to 8 800 km of total navigation (on-effort and off-effort); 77 days of random nautical surveys, representing 539 hours and 5600 km of navigation; 509 recorded whalewatching (WW) trips, corresponding to nearly 20 000 km of recorded tracks, 192 trips (± 7 500km) of those with observers on board; 161 days of effort with project observers on board 10 tuna fishing vessels, corresponding to 29 trips (± 7 000km navigated), covering 53% of the fleet.

In actions A.7 and A.8 it was carried out the analysis of data collected in actions A.5 and A.6, respectively. In spite all the sea effort done during the project, to have robust results with smaller confidence intervals, especially in abundance estimates and generation of surface density distribution maps, it was necessary to include in the analysis data from sea campaigns of a previous project. This meant a dataset (effort data, sightings and associated distances and anciliary data) covering the period 2007-2012 with a total effort of 9 160 km and 263 sightings of six *taxa* (species and families), plus the characterisation of 50 co-variates for the analysis. To study the habitat use (spatial distribution of activities) it was necessary to prepare another dataset which covered a wider period than the previous one (2001-2012) and include data from all types of sea surveys (systematic and random nautical surveys; data from observers on whale-watching boats and fishing boats). The dataset included 36 617 km of effort and 1 059 sightings of the four main species targeted by whalewaching boats. To compile these datasets, data had to be either retrieved from field data bases or from paper sheets. These data afterwards needed to be organized, validated, processed and analysed.

During the project field work a total of 20 000 photo-identification images were taken of bottlenose dolphins, corresponding to 248 individuals. To make the analysis more robust data collected in previous projects were added to the final database totalizing two hundred and seventy two photo-id events (272), with 500 well marked individuals identified. The photo-identification studies were also expanded to other species, such as short-finned pilot whale, Bryde's whale, Atlantic spotted dolphin and Risso's dolphin, resulting in a total of over 80 000 photographs analyzed covering, overall, a period from 1997 to 2012. We these data it was

possible to estimate abundances, population vital rates, movements and population structure for bottlenose dolphins and short-finned pilot whales, as well as, short-term fidelity and/or long-term residency patterns for the 5 species studied. The data processing and analyzing is a very extensive and time consuming process.

It was also analysed the data to characterize the whale-watching activity and its interactions with cetaceans. This included an experiment to study the cetacean availability *vs* the WW boats pressure.

Field work also included surveys in Madeira offshore waters onboard tuna fishing vessels, as platforms of opportunity. A total of 161 days of observation effort were made on board these vessels between 2010 and 2012 (March to September) totalising 7 068 km track lines in the Madeira EEZ area. Ten species were identified in the 203 cetaceans' sightings recorded in the offshore waters. Besides biological data on cetaceans it was also gathered data on human activities, namely, marine traffic, litter and interactions between tuna fisheries and cetaceans. Although the use of tuna fishing vessels (as platforms of opportunity) provided valuable data at a very low cost, changes in the searching/working pattern of these vessels resulted in a much lower coverage of the offshore waters, which reduced the usefulness, for statistical analysis, of the data collected. As a result data from inshore waters had to be integrated in the final assessment of the conservation statuses.

The methodological setup, field work and data analysis carried out in the preparatory actions (A.2 – A.8) had the involvement of 28 people, including volunteers, the project manager, the four project biologists, the two project offshore observers and the two project consultants. Overall, the data processing and analysis was done mainly by the project manager, the four project biologists and the SIG technician, with the advice of the project consultants. Three students did their degree/master thesis within the project, under the supervision of the project technical staff.

The 'preparatory actions' produced the necessary knowledge to answer the underlying questions of the project objectives, including: abundance estimates, surface density distribution maps and the respective confidence limits for bottlenose dolphin, short-finned pilot whale, Atlantic spotted dolphin and common dolphin and two families (Ziphiidae – beaked whales; Balaenopteridae – baleen whales); surface distribution maps of the main activities (feeding, resting, socialising, traveling; nursing) of the above mentioned species; population vital rates, movements and population structure for bottlenose dolphins and short-finned pilot whales; short-term fidelity and/or long-term residency patterns of 5 species targeted by the WW industry; characterization of the WW industry and its interaction with cetaceans; first characterization of cetaceans' species use of Madeira offshore waters; first characterization of human activities and their impact on cetaceans in offshore waters.

All this knowledge was the basis for the proposals related with objective 1 (SCI for bottlenose dolphins), objective 2 (areas of operation for WW boats and respective carrying capacity) and objective 3 (surveillance of the conservation statuses of cetaceans in offshore waters), and are presented in following deliverables: **A.7 – I_** Proposal to establish a Site of Community importance (SCI) for the bottlenose dolphin in Madeira Archipelago waters; **A.7 – IA_** Technical-scientific report to support the proposal of a Site of Community importance (SCI) for the bottlenose dolphin in Madeira Archipelago waters; **A.7 – II**_Proposal of areas of operation for the whale-watching activity and its respective carrying capacity; **A.7 – IIA_** Technical-scientific report to support proposal of areas of operation for the whale-watching activity and its respective carrying capacity; **A.8 – I**_*Report surveillance cetaceans conservation status Madeira EEZ*;

The implementation of the 'preparatory actions' was very successful, although adjustments were necessary either because of sea conditions, logistic problems or administrative difficulties outside the control of the project team. Extra challenges came during the data

analysis, and although expectable, they could not be prevented as the specific problems were detected and addressed as the analysis evolved.

All the 'Public awareness and dissemination of results' actions were carried out and, overall, exceeded the goals set in the approved project application for each action. The project, its aims, actions and results were publicised in a very diversified way (media coverage, web page, facebook, notice boards, workshops and conferences for target audiences, a program direct to schools, temporary exhibition, scientific conferences and publications, a DVD and layman report), taking in consideration the different target audiences. The project dissemination actions were effective and had impact at the international, national, regional and local level.

The project web page had 9 763 visits, of which 7 211 were exclusive visitors, during the project life span. The facebook page reached the 528 likes by the end of the project and a total of 4 notice boards and two canvas were set in different location to publicise the project (actions D.1 – D.2). The two planned press conferences took place and as the project progressed there were 56 news in the printed media, several interviews and news in local radios and TV (action D.3). The planned workshop to present the results of the project to WW operators took place with the presence of 5 operators in a total of 9 people (action D.4) as well as the seminar for the crews of fishing boats involved in offshore surveys, with the presence of 11 stakeholders, namely, local tuna fishing boat owners and captains (action D.5). All the divulgation material considered in the application was produced and distributed helping to publicise the project (action D.6).

In order to increase these communities awareness for cetaceans conservation issues and take advantage of impact factor, the project team joined the Natura 2000 Network temporary exhibit (action D.9) together with the conferences that were planned to be held at the same place (action D.7 and D.8). The conferences and the temporary exhibit promoted the project, raised awareness towards the conservation of cetaceans, the marine environment and the importance of the Natura 2000 marine sites network. A total of 4 conferences took place in different fishing communities and towns with an attendance of 105 people. The temporary exhibit was displayed in all major localities of Madeira archipelago, including Porto Santo Island, more precisely 13 places with a total number of 148 182 visitors.

The project and its results were presented in international scientific fora (action D.10), namely the European Cetacean Society Conferences of 2012 (Galway, Ireland) and 2013 (Setúbal, Portugal). Up to date a total of 5 scientific papers were published in national and international journals with results from the project or that included data from the project. More scientific publications are expected in the future with the remaining results from the project.

It was decided to incorporate the DVD (action D.12) in the layman report (action D.13), since both actions are related to the dissemination of project results and complement each other. Two hundred out of the 500 layman report hard copies have the DVD attached to it. The DVD gives a general perspective of cetaceans in Madeira waters, their conservation issues, explains in a simple way Natura 2000 network and presents broadly the project main results. The layman report was elaborated with particular attention to its target public, the general public and the stakeholders involved in the project. It was used a simple language and many images and graphics to illustrate the more technical aspects covered in the report. The DVD and the Layman report were produced both in Portuguese and English, to broaden the audience, having an impact in the tourists visiting the island and at an international level. Besides the hard copies, both the layman report and the video are available in both languages to be downloaded from the Project and the Madeira Whale Museum (MWM) websites and visualized in the respective facebook pages.

The MWM Educational services developed educational/dissemination/awereness activities (lectures, exhibitions and complementary activities) within the CM II project, such as: *Environmental awareness lectures at Madeiran schools/social centers* – these lectures presented the project CM II, and addressed environmental awareness and conservation issues,

and marine biodiversity and sustainable development. A total of 32 lectures were given for a total of 1 445 people - 1 256 students of different grades, 70 senior citizens and 119 teachers; 2 exhibits were organized where the project was integrated, namely, exhibit "*MWM – Recordando o Passado, Preparando o Futuro (Remembering the past, Preparing the future)"* and "*exhibit Cachalotes e Margaridas (Sperm whales and daisies)".* There was an estimated total of 197 000 people visiting these exhibit, mainly tourists due to nature of the locations where they were displayed (Madeira airport and Funchal cruise ships harbour); *Activities to complement the Natura 2000 sites network temporary exhibit* (Action D.9), aimed at Madeira and Porto Santo students, reaching a total of 926 students; *summer 2011 activities* - activities related with project CM II were developed for several institutions during 2011 summer holidays and had the participation of 100 students and 11 monitors; Organization of a workshop for teachers - "*Madeira Whale Museum: history, science and education - An approach to the educational community in RAM***",** with the participation of 33 teachers and where the project CM II was presented; Publishing of a book for children entitled *"Pintarolas e o Futuro do mar – Um contributo para a Rede Natura 2000* (*Pintarolas* and the future of the sea – a contribution for Natura 2000 network)*".* The book resulted from the partnership with a local school library and 1 000 books were printed and distributed to all schools and libraries of the Madeira archipelago. An electronic version of the book is available for download at project's web site as well as at the Museum web site; organization of the creative contest ***baleiArte*** **-** *3D models of the CMII project target species*. Three-dimensional Styrofoam models of bottlenose dolphins and short-finned pilot whales were created in order to stimulate a creative competition between students of Madeira schools and promote the Project CMII, the Natura 2000 Network and the awareness towards the conservation of Cetaceans. Eighteen models were made available to the educational and social communities (schools, ocupacional centers for people with special needs and day centers for elderly people) for them to decorate. This contest involved a total of 625 students and teachers, and exhibition was set up using all the decorated models and displayed in several locations across Madeira, with an estimated total of 300 000 visitors. Overall the MWM Educational activities related with CM II reached an estimated total of 499 515 people.

The third type o actions considered in the project were the management actions, including administrative/financial project management, project monitoring and reporting, training of project staff, life+ networking workshop and preparation of the After-LIFE conservation plan.

The project administrative/financial management was carried out by three people, namely, the project manager (part-time), the administrative manager and the administrative assistant. Both the administrative manager and the administrative assistant, under the supervision of the project manager, carried out the daily general management/administrative tasks to provide the project technical team and field work team the necessary logistical conditions to carry out the project actions and to fulfil the administrative/legal obligations, in coordination with the Municipality administrative services. There were regular informal meetings between the project administrative staff to coordinate work. Every three months or so there was a general monitoring meeting with all the project team to monitor the project advances and setbacks, discuss problems and find solutions and coordinate the next 3 months of work (action E.6).

The project team faced many challenges, some expected like limitations in field work due weather constrains, others unpredictable or unexpected at the time of the project application, like the financial crisis that Portugal faced in the last 3 years, with all the administrative and financial implications that it had. Eventually all the problems were overcome, sometimes with final results that exceeded the initial expectations. The project management system worked well. All project activities were carried out, the deliverables produced and project objectives achieved within the project approved budget, in spite the problems the project team had to deal with along the project lifetime, and which resulted in delays.

The workshop for LIFE projects networking (action E.5) was held in November 2012 at the MWM Auditorium with a total of 40 participants, including 8 international invited speakers, 1 invited speaker representing whale-watching operators, 2 invited speakers representing the Madeira Government and 5 speakers from the project CMII. The workshop had the participation of Projects LIFE+ *MarPro* (Aveiro/Minho), LIFE+ *INDEMARES Golfo de Cádiz* (CIRCE, Spain) and LIFE+ *Ilhéus do Porto Santo* (Madeira). A total of 24 oral presentations were given during the workshop and several discussion sessions took place. As a result from the workshop Deliverable E.5 – I_ *Report on the Technical and LIFE+ networking workshop of Project CETACEOSMADEIRA II* was produced.

The project technical staff participated in several training workshops and courses to improve their technical/scientific skills relevant to the project (especially for actions A.5 and A.7), such as: seminar related with cetaceans Bycatch issues: a workshop related with survey analytical techniques; a course related with *Distance sampling* methodology; a workshop related with program Mark used in analysis of photo-id data; and a workshop regarding the use language R for univariate statistics.

The after-LIFE conservation plan is another deliverable of the project (annex E.9-I). This plan is a proposal to be submitted to the Madeira Regional Government, the entity which is responsible for establishing and implementing the conservation policies in Madeira archipelago. Several suggestions are put forward in this document to maintain the consistency of the work done regarding cetaceans conservation in Madeira in the last decade, and propose guidelines for future actions, management and monitoring.

The overall project expenditure presented in this report is very close to the project initial budget. Considering only the costs budgeted in the project application and any other eligible costs, the final project expenditure was of **764.967,61 €** (99 99% of the project initial budget). As expected, there were some fluctuations in the different categories final costs in comparison with the initial application budget. These costs differences reflect adjustments necessary to achieve the project results as well as the natural evolution of costs and needs which are not always possible to predict in the application budget. However, all the changes respect the limits established by article 15.2 of the common provisions which allow budget adjustments/transfers between cost categories within the 30.000€ and 10% limits.

In spite the necessary adjustments in some actions to deal with unexpected challenges and problems that arose during the project, we can firmly say that all the project actions were carried out, the results and associated objectives were achieved in a very satisfactory way. All the deliverables considered in the project application were produced. The actions were conducted in an efficient way, in general, taking advantage of the resources available.

The project results are knowledge to be used as advisory tools in conservation policies directed to cetaceans in Madeira waters to be carried out by Madeira Regional Government. The project impacts are already being felt, through legislation already in place and through the knowledge acquired that will set a reference for future comparison in the evaluation of the conservation statuses of cetaceans, for example within the reporting framework of Habitat Directive or the Marine Strategy Framework Directive. Such is the case of the establishment of areas of operation for WW and respective carrying capacity (objective 2) adopted by the Madeira Government through "Portaria nº 46/2014 (22 April), and based on the technical/scientific recommendations of this project (See Deliverable A.7-II/A.7-IIA). The same applies to the project resources that will continue to be used in the study and monitoring of cetaceans in Madeira waters for conservation purposes. The creation of a SAC for the bottlenose dolphin and other cetaceans, based on the technical/scientific recommendations of this project (See Deliverable A.7-I/A.7-IA), is also assumed by the Regional and National government, by including such proposal as a measure in the Report produced in the framework of the Marine Strategy Framework Directive.

Introduction

2.1.1. Overall and specific objectives

-Identify the areas of importance for the bottlenose dolphin in the coastal waters of Madeira archipelago, with the aim of establishing adequate marine Nature 2000 sites for this species;

- Define areas of operation for the whale-watching boats in Madeira archipelago waters and establish the respective carrying capacity;

- Surveillance of the conservation status of cetaceans' species in Madeira offshore waters;

2.1.2. Which sites are involved

The field work for objectives 1 and 2 was carried out (action A.5) in the inshore waters of Madeira archipelago around Madeira, Porto Santo and Desertas Islands. For objective 3 (action A.6) the work was carried out in the offshore waters of Madeira EEZ (see figure 3.1.2.1).

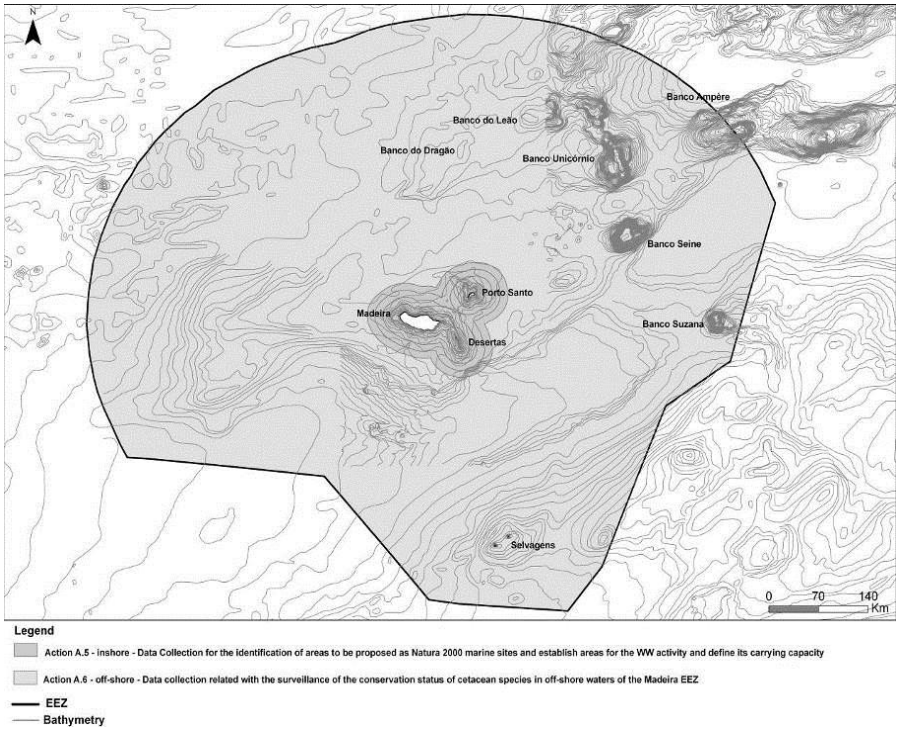


Figure 3.1.2.1 – Map of the areas were the project field work was carried out.

2.1.3. Which habitat types and/or species are targeted

The project targeted the following species:

- - *Tursiops truncatus* (Bottlenose dolphin) - Listed in Annex II of the Habitat Directive (HD)
- - *Globicephala macrorhynchus* (Short-finned pilot whale) - Listed in Annex IV of the HD

- Other cetacean species- All listed in Annex IV of the HD

2.1.4. Main conservation issues being targeted (including threats) and socio-economic context

- The *Tursiops truncatus* (bottlenose dolphins) are known to occur mainly in coastal waters habitats. Despite the conservation status of the species being defined as "Least Concern" for

the Madeiran waters, the higher frequency of occurrence of this species was recorded in a low depth inshore area between Madeira and Desertas islands that is subjected to several threats resulting from human activities. These include increase of shipping traffic resultant from the recent implementation of the main commercial Madeira harbour and the Madeira fuel logistic center. The increasing number of recreational boats in the archipelago and the newly built marina increases the pressure in the concerned area which due to its characteristics may be a critical habitat for the bottlenose dolphin in Madeira archipelago. The add up of all this pressures, together with the pressure from the fast growing whale watching activity may contribute in the mediam/long term to a negative change of the bottlenose dolphin present conservation status. The precautionary principle should be considered in order to maintain or halt eventual changes on the present conservation status.

Other areas in the archipelago are also important sites for this species. The creation of the marine Natura 2000 sites for bottlenose dolphin fit into the wider perspective of Atlantic population of bottlenose dolphins shared by Madeira, Azores and the Canary Islands. The establishment of these sites will clearly contribute for the improvement in the ecological coherency and connectivity of the Natura 2000 network of marine sites in the Atlantic.

- In the last few years the whale-watching activity showed a fast growth in Madeira Island, as have been reported elsewhere, with negative impacts on the cetacean populations. The potential market of this activity will certainly put pressure to increase the number of boats operating in the Madeira archipelago. In that sense, to avoid the activity to grow to an unsustainable level (with the inherent impacts on cetacean populations) it is important to establish operating areas and the respective carrying capacity. All the cetaceans occurring in Madeira archipelago are potentially subjected to the negative impacts from the activity.

- The surveillance of the conservation status of cetacean species in Madeira has been conducted only in the inshore waters, up to 12 nautical miles, as a result of the lack of financial resources. Therefore, there is a lack of knowledge on the offshore marine environment of Madeira EEZ. In order to fill this gap, evaluation of the potential threats upon cetaceans acting in the offshore environment of Madeira EEZ is needed. The awareness of such impacts is fundamental for the implementation of measures to halt those impacts and contribute for the maintenance or improvement of cetaceans' conservation status in Madeira archipelago. Since one of the main activities developed in these offshore waters is fisheries, known for their impact on cetaceans, this should be one of the activities to be targeted by the surveillance efforts. In effect, in the recent past there were reports by tuna fishermen of interference of cetacean in their activity, namely the tuna fish to sink with the loss of catch. The problem rather than being by-catch (pole and line) it may be an increasing aggressive behaviour of the fishermen towards this animals resulting in potential lethal effects on these animals. The *Globicephala macrorhynchus* is one of the main species blamed by the fishermen.

2.2. LIFE+ Nature and Biodiversity: e.g. ha habitat protected, population of species xx

This project has generated data and knowledge about the abundance, distribution and habitat use of bottlenose dolphin, short-finned pilot whale, common dolphin and spotted dolphin very important as the basis for conservation and management measures for these species. The project proposes conservation/management measures for bottlenose dolphins and other cetacean species – see objective 1 (Deliverable A.7 – I) and objective 2 (Deliverable A.7 – II). The project also gathered information regarding the interactions of cetaceans and human activities such as whale-watching and fisheries relevant for the conservation cetaceans and management of these activities in order to minimize human impact.

3. Administrative part (max 3 pages)

4.1 Description of management system

The project management was carried out at an administrative level and at a technical level.

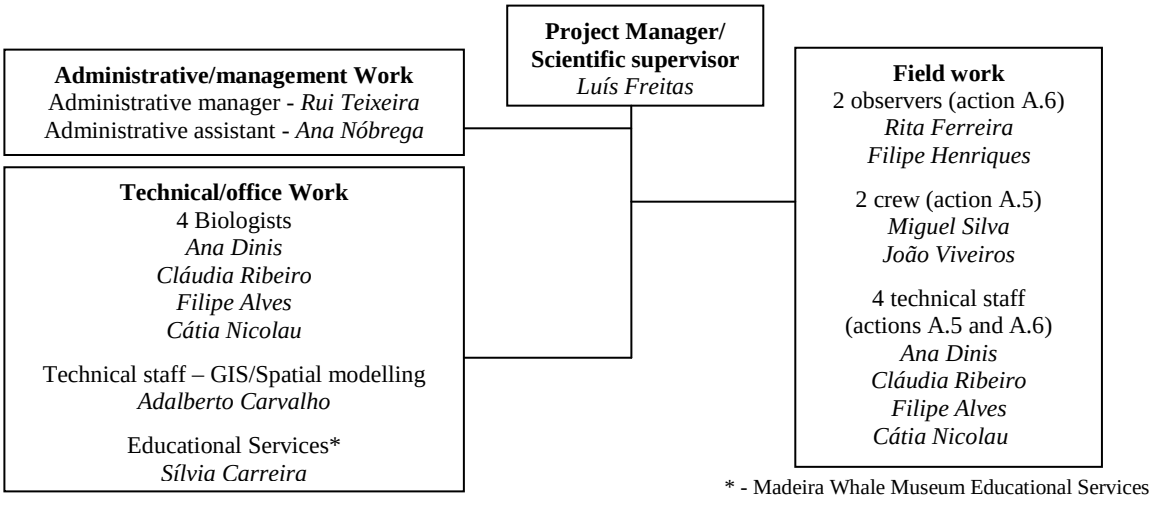
The project administrative management followed the laws and rules defined by the European Commission Common Provisions for Life+ projects, by the Portuguese National laws the Municipality administrative internal procedures. For the project administrative management three people were involved, namely, the project manager (Luís Freitas, part-time), the administrative manager (Rui Teixeira) and the administrative assistant (Ana Nóbrega). Both the administrative manager and the administrative assistant, under the supervision of the project manager, carried out the daily general management/administrative tasks to provide the project technical team and field work team the necessary logistical conditions to carry out the project activities and to fulfil the administrative/legal obligations, in coordination with the Municipality administrative services. There were regular informal meetings between the project administrative staff to coordinate work.

The overall project technical management was carried out by Luís Freitas (project manager) in a supervising, coordinating perspective. Autonomy and responsibility was given to the technical staff (see project organogram). The project technical and part of the dissemination activities were distributed amongst the technical staff which was responsible for one or more activities. Although the technical and field work staff would cooperate to carry out the different activities there was always one individual responsible for an activity. Besides informal talks and debates amongst the team, there were regular technical meetings debating scientific issues, field work, dissemination, logistics, etc. These meetings were usually conducted by the project manager to establish priorities, coordinate efforts, plan work, discuss technical/scientific issues, promote brainstorming sessions, sort out problems, in order to insure that the planned activities were carried out and the project objectives achieved as efficiently as possible in face of the available resources and problems that popup during the course of the project.

Every three months or so there was a general monitoring meeting with all the project team to monitor the project advances and setbacks, discuss problems and find solutions and coordinate the next 3 months work (see point 5.1.27- action E.6).

For further information on the project management please see point 5.1.1 – Action A.1, point 5.1.22 – Action E.1 and point 5.1.27 – Action E.6.

Organogram of the project team and the project management structure



* - Madeira Whale Museum Educational Services

4.2 Evaluation of the management system

The project management system worked well. All project activities were carried out, the deliverables produced and project objectives achieved within the project approved budget, in spite the problems the project team had to deal with along the project lifetime.

The project management scheme described in point 4.1 worked well for the project and promoted a team spirit, a good working environment, it kept all team members aware of each other's work, promoted information sharing and cooperation within the team and among activities, gave flexibility in the use of resources and more efficiency to the whole project.

Overall the human resources were adequate to carry out the project, although there were times when those resources were scarce or the team had to be very flexible (e.g. working extra hours) to accommodate unpredictable changes in plans, imposed for instances by weather changes that conditioned field work. The administrative team (project manager, administrative manager and assistant) was the minimum necessary to deal with the project administrative and logistic workload. Besides administrative supervision, the project manager had from time to time to reinforce the administrative team to deal with particular issues or periods with extra work. The technical team was also the minimum necessary to carry out the project technical and dissemination activities, although there were many times when other human resources were involved, besides the project ones, namely extra staff from the Museum education services, other museum staff and many volunteers. The project volunteers were very important not only to help the team achieve the project objectives, but above all to increase the project outputs (see annexes of Thesis developed during the project).

The material resources were adequate for the project, being used either the ones acquired in this project, in the previous life project (CM Project), in other projects or by MM. A rigorous use of the material resources available to the project allowed us to achieve the project goals, generate more scientific knowledge than initially considered (e.g. see point 5.1.5 Action A.5 – observers on land), produce more dissemination material than initially budgeted (e.g. see point 5.1.32 MWM Educational Services – A.2, A.3, C, D, E and F) increasing significantly the project outreach.

Regarding the equipments purchased by the project, as it happened in previous EU funded projects, namely CM co-financed by Life, they will be used exclusively in actions and projects aiming the study and conservation of cetaceans and the marine environment, in the light of the general Life+ conservation objectives. It is important to remind that several equipments used in this project, such as the van and the vessel "Ziphius" were purchased in CM.

The project team faced many challenges, some expected like limitations in field work due weather constrains, others unpredictable or unexpected at the time of the project application like the financial crises that Portugal faced in the last 3 years, with all the administrative implications and financial constrains that it had. Eventually all the problems were overcome (see for each activity "Problems encounters and measures to overcome them:") sometimes with final results that exceeded the expectations we had at the beginning of the project.

Although the project had no other direct participant entities besides the MWM - MM), it established valuable partnerships with two very important groups of stakeholders, namely, whale-watching companies and fishermen. With the collaboration of these stakeholders it was possible to understand better two activities that have interactions with cetaceans and potentially have impact in these animals. The partnerships worked well and allowed the museum to have a much better geographical and temporal coverage of Madeira waters, specially offshore waters, that otherwise would have not been possible cover.

All dissemination activities were carried out and overall exceeded the quantitative results set as reference in the approved project application for each activity. The project, its aims, activities and results were publicised in a very diversified way (media coverage, web page, facebook, notice boards, workshops and conferences for target audiences, a program direct to schools, temporary exhibition, scientific conferences and publications, a DVD and layman report), taking in consideration the different target audiences. The project dissemination activities were effective and had impact at the international, national, regional and local level.

This project does not have physcal/material outputs, such as infrastructures, land purchased for specific conservation objectives. The project results are knowledge to be used as advisory tools in conservation policies directed to cetaceans in Madeira waters to be carried out by Madeira Regional Government. Besides the written commitment signed by the Madeira Government through the "Direcção Regional do Ambiente" at the project application, the MG Environment Secretary has shown in different occasions its interest in taking in consideration the information and technical/scientific advice resulting from this project and translate it in concrete measures. The project impacts are already being felt, through legislation already in place (see Annexes A.7_III and IV) and through the knowledge acquired that will set a reference for future comparison in the evaluation of the state of cetaceans and the marine environment, for example within the reporting framework of Habitat Directive (HD) or the Marine Strategy Framework Directive (MSFD). Such is the case of the establishment of areas of operation for WW and respective carrying capacity (objective 2) adopted by the Madeira Government through "Portaria nº 46/2014 (22 April), and based on the technical/scientific recommendations of this project (See Deliverable A.7-II/A.7-IIA). The same applies to the project resources that will continue to be used in the study and monitoring of cetaceans in Madeira waters for conservation purposes.

4. Technical part

4.1. Actions

The present document report all the actions considered in the project CETACEOS MADEIRA II.

4.1.1. Action A.1: Logistical and administrative set-up of the Project

Progress of the action:

Most of the equipment and services considered in the application (or requested in the inception report) were purchased/contracted. They were purchased/contracted according to its need to carried out the project actions.

The acquisition of equipment, services and contracting staff was mainly carried out in this action. Some extra small equipment was requested in the inception report as explained below.

EQUIPMENTS

The preparatory work done in actions A.2 and A.3, highlighted the need to purchase some small equipment and accessories not considered in the project initial proposal and contract. The justification of the utility, need and expected cost of those equipment was given in the inception report and its acquisition was agreed by the Commission in letter dated 22-06-2010 (ENV/E.3/MD/jv ARES (2010) 357094).

These small equipment were purchased with the money remaining in the durable goods budget after all the equipment originally considered and needed was bought. The approved budget for durable goods was not exceeded.

The following equipment was purchased for the project (see Annex A.1- I) :

- 3x Desktop computers – HP Dx2420 with Windows Vista , processor Intel E5300, 4 GB RAM memory, 320 GB Hard drive and HP V185WS/ 18'5' screen. As considered in the project's application;
- 4x Notice boards – for more information see Action D.2;
- 2x compact digital cameras Olympus (described in the application as photographic digital cameras – surveillance), each with a 4Gb SD memory card. As considered in the project's application;
- 2x Compact digital photo cameras suitcases – surveillance. As requested in the inception report**;**
- 3x laptop computers – Toshiba SatPro T130-15 C with Windows 7 Pro, 4GB RAM memory, 320 Gb hard drive and 13,3" screen. As considered in the project's application;
- 1x reflex digital camera Nikon D700 – Although it was considered in the application the acquisition of two reflex digital cameras, it was only necessary one camera more to carry out the photo-id work considered in Action A.5;
- 2x Nikkor lenses (80-400mm; 70-200mm) – As considered in the project's application;
- 1x Nikkor lens (70-300mm) – As requested in the inception report**;**
- 3x extra batteries for photographic cameras – according to the inception report 4 extra batteries were requested for DSLR Cameras. Actually there was a mistake in the type of batteries requested. Instead of 4 extra batteries for DSLR cameras, it was our intention to purchase 2 extra batteries for DSLR cameras and 2 extra batteries for compact cameras. In the

end we bought 3 extra batteries because one DSLR camera was not purchased as explained bellow.

- 3x 8Gb memory cards for DSLR cameras – one card less than considered in the project application. These cards were used in DSLR camera bought by the project (NIKON D700) and in cameras previously bought by the museum. It was considered that 3 cards were enough to carry out the photo-id work as one less DSLR camera was bought.

- 5x portable GPSs. One GPS more than initially considered in the project application. Due to the need to collect georeferenciated data 4 GPS's were considered initially in the project application. However with the implementation of actions A.5 (part regarding collection of whale-watching boats routes and georeferenciation of data collected by museum observers on board whale-watching boats) and actions A.6 (embarked observers on board fishing vessels) we realised that it would be needed an extra GPS to be able to carry out these tasks simultaneously. This was very important because many times the opportunity of embarking in fishing vessels and in whale-watching boats happened at the same time, and although we might have observers (including volunteers) to carry out the tasks we would not have a GPS for georeferenciation. Taking in consideration the small investment in a GPS in relation of other costs involved in carrying out these tasks we decided to purchase the extra GPS.

- 2x personal safety beacon – as requested in the inception report under the name (Fast Find Personal Beacon);

- 1x VHF radio to comply with international maritime regulations – as requested in Inception report;

- 1x wind speed meter system – as requested in the inception report;

- 4x binoculars – In the project application 6 binoculars were considered for the field work (Actions A.5 and A.6). However, after starting the actions, taking in consideration the real needs in the field and considering the binoculars already owned by the Museum, we realised that only 4 binoculars were needed to carry out the work;

- 6x floating neck support for binoculars and DSLR cameras - as requested in the inception report**;**

- 2x digital video cameras – as considered in the project application;

- 2x extra batteries for the digital video cameras – as requested in the inception report**;**

- 2x Video cameras protective suitcases - as requested in the inception report**;**

- 1x video camera housing (waterproof) – as requested in the inception report;

- 2x AIS receptors and antennas + software – as requested in the inception report**;**

- 2x offshore survival + 2 offshore protective suits – as considered in the project application;

- 5x inshore survival/protective suits – An extra suit was purchased in relation to what was initially considered in the project application, so that all crew could be adequately protected at sea. The acquisition of these 5 suits was made within the budget initially considered for the 4 suits in the project application**;**

- 1x Battery isolator for vessel (Ziphius) - as requested in the inception report**;**

- 1x Autopilot hydraulic pomp for the vessel - as requested in the inception report**;**

- 2x Pen drives - as requested in the inception report**;**

The following equipment/durable goods were not bought although considered in the application or requested in the inception report:

- 1x DSLR Camera – budgetary limitations prevent us from purchasing the 2º camera considered in the project as well as the other photographic equipment/accessories mentioned below. When those limitations were surpassed most of the field (actions A) and project dissemination work (Actions D) was done, making the investment in these equipment unnecessary and unjustifiable;
- 1x extra battery for DSLR camera – see justification above;
- 1x memory cards for DSLR camera – see justification above;
- 1x HDMI connecting cable for the digital video camera – cables came with the cameras**;**
- 2x GPS for DSLR cameras – see justification above;
- 1x 10 - 24mm lens – see justification above;
- 1x Net printer – The Museum purchased printers in another project, discarding the need to buy this printer;
- 1x GIS software tool – the acquisition of this software was not necessary because the Madeira Whale Museum purchased it in the time between the project approval and its beginning to be used in a different project**;**
- 1x Statistica software tool – the acquisition of this software was not necessary because the Madeira Whale Museum purchased it in the time between the project approval and its beginning to be used in a different project**;**

SERVICES

The following services have been contracted to external firms as considered in "External assistance costs":

- Creating Project Logo
- Project Web Page (see 5.1.9 - action D.1 of this report for more explanations)
- Technical consultancy to action A2 and A.7 (see 5.1.4 - action A.4 for more explanations)
- Technical consultancy to action A.3 and A.8 (see 5.1.4 - action A.4 for more explanations)
- Production of the temporary exhibit Nature 2000 marine sites (see 5.1.17 - action D.9 of this report for more explanations)
- DVD production (see 5.1.20 - action D.12 of this report for more explanations)
- External audit (see 5.1.29 - action E.8 of this report for more explanations)

The only service considered in the "External assistance costs" and not contracted was the acquisition of physical and oceanography data. It was possible to download the relevant data free of charge, being only needed extra-time from the GIS technician contracted by the project to process that data and deliver it in a usable format.

The following services have been contracted to external firms as considered in "Other costs":

- Divulgation material (see point 5.1.14 - action D.6 of this report for more explanations)
- Equipament repair and maintenance
  - "Ziphius" docking (Museum boat used in Action A.5);
  - Part of the Ziphius maintenance/repair work - The work carried out in the boat involved maintenance/repair work of the hull, pilot house repair, electric

systems, steering, navigation systems (including replacing the autopilot hydraulic pump that was damaged), as well as some adaptations to accommodate the project needs (manual davit to deploy oceanographic equipment, installation of a cover to protect the crew from the sun and bases for three angle boards necessary to measure angles to determine perpendicular distance of cetaceans to the boat). The cost of this maintenance/repair work was above the cost budgeted in item equipment repairs and maintenance (other costs). So we are considering that part of these costs be covered by the project overheads and part the Machico Town Hall budget.

- Rigid-inflatable "Roaz" (museum boat used in Action A.5- photo-id work) maintenance/repair work;
- Scientific/photographic equipment repair/maintenance used in Actions A.5 and A.6;
- Maintanance/service of safety equipament – liferafts of "Ziphius" and "Roaz" used in action A.5;

- Printing the booklet "Pintarolas e o Futuro do Mar" – Action 5.1.32 (see Annex 5.1.32-VII);
- Printing scientific posters to present project results at the European Cetacean Conference in 2013 (see point 5.1.18 - Action D.10);
- Insurances of personnel, boats, van and other equipment used in the Project;
- Bibliography;
- Conferences and training courses fees.

The action had the involvement of Ana Nóbrega, Rui Teixeira and Luís Freitas.

Problems encounters and measures to overcome them:

The first steps for this action were taken before the project's official beginning date. The procedure to recruit the staff considered in the project began in January 2009, namely the biologists and the administrative manager. Unfortunately the implementation of new legislation (published on the 23 January 2009) governing the recruitment of staff to the public services brought new procedures that took time to be implemented. Adding to that there was the difficulty of response of MM over-stretched administrative services. These two reasons together resulted in a major delay in contracting the personnel needed. The procedure began in June 2009, candidates selection tests and interviews were carried out in October and the selected staff began work formally in January 2010.

Similar problems also happened with the procedures to purchase equipment and contracting services. Changes in the law governing public contests, acquisition of equipment and services, resulted in a major delay. That law includes an obligation by the public administration of implementing an electronic platform for the management of the administrative procedures related with the acquisition of services and equipment online. All the procedures above 6500€ must be carried out on this platform. The practical implementation of such a measure took time. The MM electronic platform was operational in February 2010. In the meantime Luís Freitas and later the contracted staff (biologists and manager) were involved in preparing the technical documents that describe the characteristics of the equipment needed as well as of the services that need to be contracted. These delays although were a setback at the beginning of the project, did not result in drastic delays on the remaining actions.

Status of this action is: completed in 31 May 2010. No more staff hours were considered in this action after the mentioned date, being all staff working hours regarding purchase of equipment, contracting of services and management accounted in **action E.1.**

4.1.2. Action A.2: Technical planning of the data collection and analysis for Action A.5

Progress of the action:

Improved field protocols were developed based on the discussion from consultants meetings, literature review and on meetings with the technical/scientific team of the project. The field protocols from previous projects were systematically reviewed and the experience gained with their application in the past was incorporated. Additional input was also considered from other projects using similar methodologies. A first version of the technical plan for action A.5 was prepared on schedule and was implemented in the field in May 2010. A final version was finished in July 2010. These documents included methodologies and techniques that were used on data collection, analysis, and respective field protocols. The field protocols, were tested in the first surveys and when necessary were subject to corrections and adjustments. The final versions of each document (4 documents in paper and electronic format) were sent with the Mid-term Report section 7.1 – Deliverables. It comprises a total of 4 documents, namely:

- Protocolo dos censos náuticos_CETACEOSMADEIRAII vs2.1_09-07-2010 (Deliverable A.2–I_Technical plan for systematic surveys);
- Protocolo dos censos náuticos aleatórios_CETACEOSMADEIRAII vs1.0_ 21-10-2011 (Deliverable A.2–II_Technical plan for non-systematic surveys);
- Protocolo de foto-identificação de roazes_CETACEOSMADEIRAII_vs1.0_06-07-2010 (Deliverable A.2–III_Technical plan for photo-identification);
- Protocolo de capacidade de carga de WW_CETACEOSMADEIRAII vs1.1_27-10-2011 (Deliverable A.2–IV_Technical plan for data collection whale-watching boats);

These 4 documents are sent in electronic format (PDF) annex to the project Final Report - Deliverables.

This action had the involvement of Ana Dinis, Cláudia Ribeiro and Luís Freitas, with the contribution from Filipe Alves and Cátia Nicolau.

Problems encounters and measures to overcome them:

The delay contracting the project staff reflected in the final dates of this action. Those delays were already explained in the inception report and no other problems related with this action were encountered. The postponement of this action was requested in the inception report and accepted by the Commission in letter dated 22-06-2010 (ENV/E.3/MD/jv ARES (2010) 357094).

Status of this action is: completed in 31 August 2010.

4.1.3. Action A.3: Technical planning for the support and development of surveillance of the conservation status of cetacean species in off-shore waters of the Madeira EEZ

Progress of the action:

This action was planned to be carried out between July 2009 and April 2010 in the initial proposal, and it a postponement to June 2010 was requested in the Inception Report and accepted by the Commission in letter dated 22-06-2010 (ENV/E.3/MD/jv ARES (2010) 357094). As planned, draft versions of the proposed technical plan "Protocolo para a vigilância do estatuto de conservação dos cetáceos em águas off-shore do arquipélago da Madeira" were finished on the 20th and 30th April 2010, respectively for v1.0 and v1.1. After being tested it in the field during the first trips in tuna fishing vessels, a version (v2.1) was finished on the 30th June 2010. Therefore, the status of this action was considered completed, and done within the programmed schedule. However, this was a dynamic action, in which the experience acquired by the offshore observers during embarks brought new minor changes to the technical plan, which resulted in a new version. The final version (v.2.2), created on 06th January 2011 (see Document "Plano Técnico Obj3_CETACEOSMADEIRAIIvs2.2_06-01-2011" in section 7.1 – Deliverables of the Mid-term Report, sent in paper and electronic format). A table featuring the historic of the several version of the technical plan is showed on page 3 of that deliverable.

This document is sent in PDF format annex to the project Final Report (Deliverable A.3-I_Technical plan surveillance conservation status offshore waters).

This action had the involvement of Filipe Alves and Cátia Nicolau, with the contribution from Ana Dinis, Cláudia Ribeiro and Luís Freitas.

Problems encounters and measures to overcome them:

As mentioned in the Inception Report, the MWM established collaboration with the DRP in order to increase the coverage of the Madeira fishing fleet, namely the blackscabbard fishing fleet, and consequently the amount of data to be analysed. Although the MWM shared the data collected during trips in the tuna fishing vessels with the DRP during 2010, we have not received any data from DRP as it failed to reiniciate their observers' programme in 2010, 2011 and 2012.

Status of this action is: completed in 30 June 2010.

4.1.4. Action A.4: Technical meetings with the project consultants for technical advice during the implementation of action A.2 and A.3

Progress of the action:

While the first two meetings with the project consultants were to establish the technical protocols for the fieldwork (Actions A.2 and A.3), the following three meetings were to discuss the data analysis (Actions A.7 and A.8). Two international researchers with experience on sampling design, data collection, data analysis and spatial modelling in marine environment, namely Ana Cañadas (Alnilam, Spain) and Phil Hammond (University of Saint Andrews, Scotland) became the project consultants for the Objectives 1 and 2. On the other hand, two national scientists with experience on tuna fisheries observation programs, namely Rui Prieto and Miguel Machete, both from DOP-Azores (Department of Oceanography and Fisheries of the University of the Azores) became consultants for the project Objective 3.

The first meeting took place at the MWM between 15th and 17th December 2009 and had the participation of the two external consultants (Ana Cañadas and Phil Hammond), Luís Freitas

(project manager) and the voluntary participation of Ana Dinis, Cláudia Ribeiro, Filipe Alves and Cátia Nicolau. Despite it was mainly dedicated to Action A.2, it was also discussed the implementation of action A.3. It focused mainly on general methodologies to achieve the proposed objectives (see Deliverable A.4-I_Draft of the first Technical Meeting LIFE+).

The second meeting took place at the MWM on 02nd February 2010 and had the participation of the two external consultants (Rui Prieto and Miguel Machete), Luís Freitas and the Cláudia Ribeiro (biologist 2), Filipe Alves (biologist 3) and Cátia Nicolau (biologist 4). The meeting was dedicated to Action A.3 (see Deliverable A.4-II_Draft of the second Technical Meeting LIFE+).

The third meeting took place at the MWM between 15th and 17th July 2012. The meeting was conducted by Luís Freitas with the participation of the four project biologists as well as the consultants Phil Hammond and Ana Cañadas. The meeting was primarily dedicated to Action A.7, but due to the large expertise of the consultants, we took the opportunity to discuss the data analysis of Action A.8 during the afternoon of the last day (see Deliverable A.4-III_Draft of the third Technical Meeting LIFE+).

The fourth meeting took place at the MWM between the 9th and 11th November, just after the Workshop LIFE projects networking held from 6th to 8th November 2012 (see Action E.5), in order to take advantage of the presence of the project consultants Phil Hammond and Ana Cañadas in Madeira during that week. The meeting was dedicated to Action A.7 and contributed a step forward for the data analysis of the project Objectives 1 and 2. The meeting report is in Deliverable A.4-IV_Draft of the fourth Technical Meeting LIFE+.

As mentioned in the Progress Report (see 5.1.4), a fifth and final meeting (forth regarding actions A.5 and A.7) was considered dependent on the outcome from the Workshop LIFE projects networking, on the meeting to take place with the consultants parallel to the workshop and on the progress of the data analysis (Action A.7). In fact, the fifth meeting was found necessary to finalize the data analysis, but this time only with the presence of one project consultant (Ana Cañadas) and the project manager (Luís Freitas). Due to timetable constrains on part of the consultant, the meeting took place at the Alnilam office in Madrid, between 18th and 22th June 2013. The cost related with the fifth meeting was within the Technical Consultancy budget with no implications for the overall project budget. It revealed being a crucial step for proceeding with the spatial modelling analysis, which is essential for the Objectives 1 and 2 of the project. As this was not a formal meeting, but more a session of data analysis and results discussion no meeting report was done.

Taking advantage of the presence in Madeira of Henrike Siebel, expert on marine mammals' strandings, it was organised at the Whale Museum a small workshop regarding the identification in stranded animals human activities interactions marks, namely of fisheries. The informal workshop took place on 14 April 2011 and included a necropsy to stranded dolphin (Atlantic spotted dolphin – stranding code: MB.Sf.10.04) and discussions regarding the issue at hand (see photographs of the workshop/necropsy in 'Annex A.4-I_Workshop with expert on necropsies').

An overall report comprising all the individual meeting reports with the consultants is sent - Deliverable A.4-I-II-III-IV_Overall technical meeting reports.

This action had the involvement of the all the project team with the exception of the crew.

Problems encounters and measures to overcome them:

In the project proposal the first two meetings with the consultants, for Actions A.2 and A.3, were planned to take place between July and September 2009, and those took place only in 15th and 17th December 2009 and on 02nd February 2010. The delays were due to delays on

personnel contracting (see 5.1.1 of the Inception Report for details) and due to agenda availability of consultants (as stated in 5.1.4 of the Inception Report).

The remaining meetings related with actions A.7 and A.8 were planned in the proposal to take place between October 2011 and June 2012. However, due to delays in the data collection (Actions A.5 and A.6, and accordingly with action A.7 and A.8), in the Mid-term Report we considered reasonable to postpone this Action six months (between March and December 2012), according to what was requested during the external audit held between 19th and 20th May 2011 in the MWM (see action E.8 of the Mid-term Report). The acceptance of our request was confirmed by the Commission in letter 27-06-2011(ENV.E3/MD/jv ARES (2011) 688893) and letter dated 10-10-2013 (ENV.E3/MD/jv ARES (2011) 1070150). This Action was officially scheduled to happen between March and December 2012. Only the fifth and last meeting happened after December 2012, but that possibility and reasons were already mentioned in the Progress Report (see 5.1.4 of that Report).

As initially proposed, there were two additional meetings programmed with the consultants (Rui Prieto and Miguel Machete, DOP Azores) for action A.8 (scheduled to happen between March and December 2012). However, as mentioned in the Progress Report (see 5.1.4 of that Report) those two meetings were not necessary. That decision was based on the preliminary data analysis conducted within Action A.8. Additionally, the opportunity to discuss the data analysis with the project consultants for Action A.7 (Phil Hammond and Ana Cañadas), enabled us to get the proper advice regarding the data analyses considered for Action A.8. Moreover, the input on this subject from the participants of the Workshop LIFE projects networking (see Action E.5) also contributed to sustain that decision.

Status of this action is: completed in 30 June 2013

4.1.5. **Action A.5: Data collection for the identification of areas to be proposed as Natura 2000 marine sites and establish areas for the WW activity and define its carrying capacity**

Progress of the action:

Systematic nautical surveys (SNS)

By the end of 2012 a total of 76 days of SNS were carried out representing 68% of the predicted systematic effort (112 days, see table A.5.1). These 76 days of SNS translate in average 11 hours of daily navigation and 8800 km of total navigation (on-effort and off-effort).

It is important to point out that it was necessary to expand the survey period until the end of 2012 to achieve this number of 76 executed days. Moreover, during the initial scheduled period just 60% of the effort days predicted were available for the systematic surveys. For the period of the project (2010-2012) 70% of the working days were not available for this type of survey due to weather conditions, 18% due to logistic constraints such as boat damage, sickness and a maternity leave from team elements, etc. From the total days of the initial survey plan, less than 2% of the good days ("available days for SNS") were lost (Executed days vs Available days).

Table A.5.1- Resume of executed, predicted, unavailable and extra days of effort for SNS performed since the beginning of the project until December 2012

	2010			2011				2012				Total
Trimester	II	III	IV	I	II	III	IV	I	II	III	IV	
Predicted days	14	14	14	14	14	14	14	14	-	-	-	112
Working Days	62	65	60	63	60	49	60	64	61	64	61	669
Unavailable days due to weather conditions	45	30	46	48	46	37	42	54	40	40	41	469
Unavailable days due to logistic reasons	12	25	7	3	5	7	9	4	12	23	16	123
Executed Days	5*	9	7	12	9	5	9	6	9	1	4	76
Available Days for systematic surveys	-	10	7	12	9	5	9	6	9	1	4	72

* Experimental Surveys: these surveys were carried out to test all the equipment and personnel.

Random nautical surveys (RNS)

From the 80 days initially planned for RNS, 77 days of effort were done by the end of September 2012, representing 96 % of the total initially programmed (see table A.5.2). It represents a total of 539 hours and 5600 km of navigation (on-effort and off-effort).

The 10 more days of random surveys performed during the second and third trimester of 2012, represented extra days of effort in order compensate for programmed days of sea effort not done in previous years (2010 and 2011) because of weather or logistic problems (see tables A.5.1 and A.5.2).

Table A.5.2 Resume of executed days and predicted days for the RNS.

	2010			2011				2012			Total
Trimester	II	III	IV	I	II	III	IV	I	II	III	
Predicted days	10	10	10	10	10	10	10	10			80
Executed days	1	8	7	8	13	11	9	10	5	5	77

Whale watching

The data regarding the WW activity was collected in three different ways: GPS devices to record WW boats tracks; Observers on board WW boats; observers on land.

GPS to record WW boats tracks

GPS devices were delivered to WW operators to record tracks while they carried out their normal WW operations. This meant delivering the GPS's to the boat skippers, explain the procedures to operate the devices and every week one team member (biologist) went to meet the skippers to download the data (limited data storage memory in the GPS devices) and rotate the GPS's among the operators.

Observers on board WW boats

A protocol was established between the MWM and the WW operators to allow collecting valuable data for the project Objective 2 on a very cost-effective way. Those embarks helped answering questions related with (i) the encounter rate of cetaceans in the WW trips, (ii) the species that are most encountered during the WW trips, or (iii) with the site-fidelity of the observed animals. Apart from the GPS tracks recorded by the WW operators (see '*GPS to record WW boats tracks*' above), the protocol also allowed observers from the MWM to embark on the WW boats. All type of boats from the WW fleet operating in Madeira was covered, including catamarans, sailing boats and rigid inflatable boats.

The field work was done mostly by volunteers on the project and most of the operators cooperated very well. The seven observers that embarked in the WW boats received intensive 1-day training by the biologists of the project in order to ensure that they would collect reliable data. Each observer carried sighting paper sheets to record information on every sighting. That included

information about the species, hour and GPS position. Additionally, whenever possible, each observer also carried out a digital camera with lenses to photograph the encountered animals in order to assess the frequency of the same animals using the WW area. There was only one observer per boat/trip. Data collection was carried out year-round from August 2010 to June 2012 with a total of 192 trips made (see table A.5.3). Despite most of field work was done by volunteers, the Biologists Ana Dinis and Cláudia Ribeiro (technical staff of the project), were responsible for (i) contacting and establishing the protocols with the WW operators, (ii) the preparation of all the protocols for conducting the fieldwork, (iii) training the observers, (iv) calling (phoning) the WW operators to ask about the availability/presence of an observer from the MWM, (v) ensure that the scientific equipment (photographic cameras) were adequately charged and (vi) downloading gps tracks and photographs to a computer. All four biologists were involved in the experiment in June 2012, embarking on the WW boats and acting as lookouts on land (see '*Observers on land*' below).

Several trips on board the WW boats were carried out by a student (Ana Filipa Costa) as her final academic degree was in ecotourism, with the collaboration of the MWM. Ana Filipa Costa used the collected data for her study (see Annex A.5-III_Thesis of Ana Filipa Costa), giving a useful contribution for educational purposes towards ecotouristic guidelines for the whale-watching operators.

Table A.5.3 - Resume of executed and predicted trips.

Predicted trips	96
Executed trips	192

Observers on land

In June 2012 an experiment was made to determine (i) the availability (or detectability, given that some available groups of cetaceans could have been missed) of groups of cetaceans in the main WW operation area and (ii) the pressure of WW boats approaching these groups. We used data collected from a multi-site experiment, combining data collected from observers in WW boats (see '*Observers on board WW boats*' above) simultaneously with data collected from observers on land. The experiment was conducted during 12 days, between 11 and 22 June 2012, allowing to collect data over 24 half-day sampling events (with a duration of approximately 3h; one in the morning and another in the afternoon). Each event coincided with the duration of a typical whale-watching trip. During each event, the observers on land used two look-out posts around Funchal, one in Garajau and another in Pico da Cruz. Each observer in each look-out post worked independently. These observers scanned the area with binoculars Steiner 25x80 to search for groups of cetaceans, and registered it on proper sheets whenever they detected it. The observers also registered whenever a detected group was approached by a whale-watching boat, and recorded the number of boats and the total duration of time during the encounters.

The different activities in this action had the involvement of Ana Dinis, Cláudia Ribeiro, Cátia Nicolau, Filipe Alves, Miguel Silva and João Viveiros, with Luís Freitas supervision.

During the fieldwork, a total of 21 volunteers have participated in all type of surveys carried out in the project, namely, Adalberto Carvalho, Ana Higueras, Alexandra Pisareva, Carlos Silva, Cláudia Gomes, Daniel Martins, Filipe Henriques, Jonatan Svensson, José Tosta, José Roberto, Luís Dias, Maria Ovando Rodriguez, Nuno Marques, Mafalda Ferro, Marianne Böhm-Beck, Pedro Neves, Raquel Marques, Rita Ferreira, Rodrigo Freitas, Jose Antonio Bonales, Virginie Wyss.

Problems encounters and measures to overcome them:

As referred in previous reports the sea state was the main constraint for Action A.5 (see Annex A.5-I_Table with records of weather forecast, logistic and sea trips of working day for the period between July to December 2012, and A.5-II_Weather forecast examples), since the systematic nautical surveys can only be performed with sea state Beaufort $\leq$ 3. For most of the working days, around 70% there were no favourable conditions to carry out the systematic surveys.

In that sense and to overcome these problems the sampling period was extend to December 2012, in order to insure that minimal annual coverage considered in the protocols was completed. The extension of this action was requested in the Mid-term report and accepted by the Commission in letter dated 01-02-2012 (ENV.E3/MD/MLM/ml ARES (2012) 116213).

This extension started on the second trimester of 2012 and as referred in the Mid-term Report did not implied an increase of effort (more days at sea) and resources (more people and fuel), but allowed within the meteorological limitations to conduct the sea effort to collect the data necessary to address the questions posed in Objective 1 and 2.

This extension of action A.5 was absorbed within the overall project period and implied also an extension of action A.7 to allow processing the data collected in action A.5 during that period.

We reiterate that all efforts were made by the team to carry out the field work and achieve the project objectives. The data collected in the project combined with the data collected by the Museum in previous projects using the same methodology was enough to answer the questions posed by the objectives of CMII project.

Status of this action is: completed in 31 December 2012

4.1.6. **Action A.6: Data collection related with the surveillance of the conservation status of cetacean species in off-shore waters of the Madeira EEZ**

Progress of the action:

A total of 161 days of data collection were carried out (Table A.6.1), exceeding the 160 initially proposed in the project. The total effort corresponded to 29 trips in 10 tuna fishing vessels, covering 53% of the fleet. The data was collected according to the technical plan of Objective 3 (see Action A.3 of the Final Report). A total of 29 observer's reports were compiled (one per trip), together with a summary of the data collected in each trip and an example of a full report (data collection forms) - 'Overall Observers Report (Deliverable A.6–I_Overall observers report). All data were also documented through photographic (see Annex A.6-I_Photographs in tuna fishing boats) and video images (see Annex A.6-II_Video 1 in tuna fishing boats, Annex A.6-III_Video 2 in tuna fishing boats, and Annex A.6-IV_Video 3 in tuna fishing boats).

Table A.6.1 Summary of effort in tuna fishing vessels 2010- 2012.

Year	No. observers available	No. days accomplished	Cumulative no. days accomplished
2010	2	40	40
2011	4	23	63
2012	4	98	161

Problems encounters and measures to overcome them:

The difficulties encountered during this action were related to delays in contracting the off-shore observers. Because of these delays during 2010 only the biologists Filipe Alves (3) and Cátia Nicolau (4) embarked the tuna fishing vessels (platforms of opportunity), and therefore only 40 days were accomplished (as initially planned: 20days/observer/year). Finally, in late May 2011 the off-shore observers were contracted and a total of 23 days of data collection was performed this year. Immediately after their contracting, an effort was made to train them in order to reinforce data collection (see point 5.1.13 of this report – Action D.5). Because of the late contracting of the two external off-shore observers it was necessary to postpone the end of this action to October 2012 in in order to complete the 160 days of data collection planned in the project. This action was initially expected to be carried out between April 2010 and March 2012, but an extension of this action in 2012 was required since the tuna fishing season starts only in March. The extension of this action was requested in the Mid-term report and accepted by the Commission in letter dated 01-02-2012 (ENV.E3/MD/MLM/ml ARES (2012) 116213).

Other difficulties, eventually overcome, occurred during the implementation of this action, such as:

a) The lack of tuna fish in our waters caused all the tuna fishing vessels to look for the fish in higher latitudes (the Azores archipelago) by the end of June 2011, leaving us without platforms to collect the data.

b) Equipment (security and scientific) constraints allows only two observers to embark at the same time;

c) As mentioned in Action 5.1.6 of the Mid-term Report we had a problem with the AIS Equipment software. We contacted the company responsible for the software but only in June 2012, by the end of the data collection in tuna fishing vessels, the problem was solved with the replacement of the hardware. To overcome the lack of AIS data regarding maritime traffic in the Madeira EEZ we formally requested data on fishing boats traffic to DRP (see Annex A.6-V_Document from the MWM to DRP requesting data on fishing traffic and fax communication report), and on ships traffic to IPTM (see Annex A.6-VI_Document from the MWM to IPTM requesting data on ship traffic and fax communication report). Both institutions accepted to collaborate and planned to provide us the data by early 2013. However, only in June 2013 we received the AIS data from APRAM, the institution responsible for this data, and it did not include all the months and years requested. Such data covered only March 2010 and 2011, April 2010 and 2012, May 2010, June 2010 and 2011, and July 2010 and August 2010. Yet, it allowed us to analyse the marine traffic for those months (see point 5.1.8 of this report – Action A.8). The data regarding fishing boat traffic was never delivered by the National Fisheries Authorities to DRP and to us.

This action had the involvement of Cátia Nicolau, Filipe Alves, Rita Ferreira (Observer) and Filipe Henriques (Observer), with Luís Freitas supervision.

Status of this action is: completed in 30 September 2012.

4.1.7. **Action A.7: Data compilation, processing and analysis for the identification of areas to be proposed as Natura 2000 marine sites and establish areas for the WW activity and define its carrying capacity**

Progress of the action:

The action was carried out at the same time as action A.5 and extended as expected after the end of data collection. A first organisation and data validation happened just after every field trip, with the aim of detecting mistakes in the data collection, record and storage. This work was done by Claudia Ribeiro, Ana Dinis and Filipe Alves. Data analysis started later as explained further down.

FIELD WORK

Systematic nautical surveys (SNS)

Around 5500km were navigated on effort (visual effort) resulting on 229 cetacean sightings events (see Figures A.7.1 and A.7.2, and Tables A.7.1, A.7.2 and A.7.3).

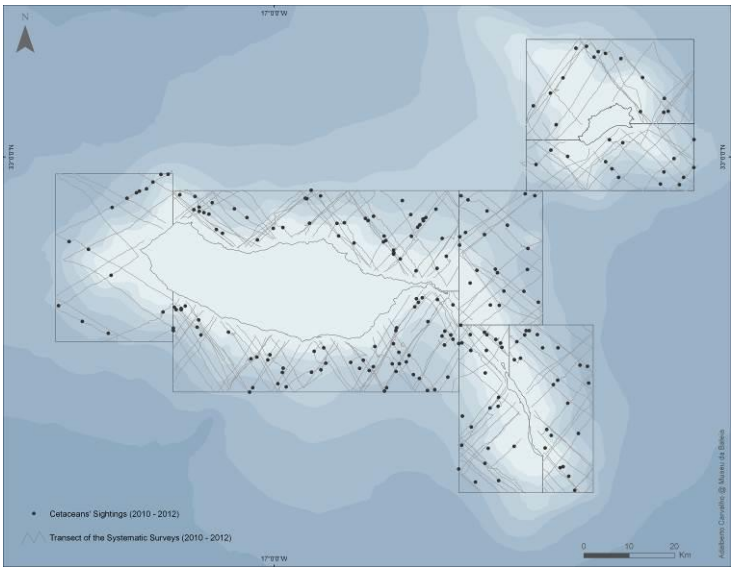


Figure A.7.1 Map with the systematic nautical survey transects carried out in action A.5 and respective cetaceans sightings.

The cetacean sightings included: Bryde's whale (Be) fin whale (Bp), common dolphin (Dd), short-finned pilot whale (Gma), pigmy sperm whale (Kb), sperm whale (Pm), rough-toothed dolphin (Sb)striped dolphin (Sc), Atlantic spotted dolphin (Sf), bottlenose dolphin (Tt), Cuvier beaked whale (Zc) and Blainville beaked whale (Md) (see Figure A.7.2, and Tables A.7.2 and A.7.3). The bottlenose dolphin, the target species of the project (bottlenose dolphin) was the second most sighted species (45 sightings) during the SNS after common dolphin.

Table A.7.1 Resume of days at sea (km on-effort), number of sightings and number of species sighted in systematic surveys.

Year	Trimester	Days	Kms on effort	Sightings	No of species
2010	II	5	204	8	5
	III	9	923	25	6
	IV	7	525	9	4
2011	I	12	711	28	6
	II	9	763	63	8
	III	5	339	13	4
	IV	9	648	24	7
2012	I	6	432	11	5
	II	9	670	42	5
	III	1	28	1	1
	IV	4	189	5	3
Total		76	5432	229	12

Table A.7.2 Number of sightings per species in systematic surveys.

Species	Dd	Tt	Sf	Gma	Pm	Bp	Sc	Zc	Kb	Bbr	Sb	Md
No sightings final	50	45	26	18	9	8	7	3	2	1	1	2

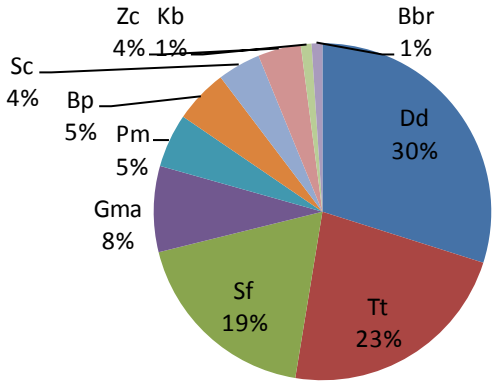


Figure A.7.2 Species sighted (percentage) during systematic nautical surveys.

Table A.7.3 Number of sightings of non-identified species of cetaceans in systematic nautical surveys. N is non-identified cetacean; nM is non-identified *Mesoplodon*; NBA is non-identified Balaenopteridae; NDE is non-identified Delphinidae and NZI is non-identified Ziphiidae.

Species	N	nM	NBA	NDE	NZI	Total
Total	8	4	12	20	10	54

Random nautical surveys (RNS)

In total 5634 km were made on-effort with 199 sightings of identified cetacean species (see Figures A.7.3 and A.7.4, and Tables A.7.4 and A.7.5).

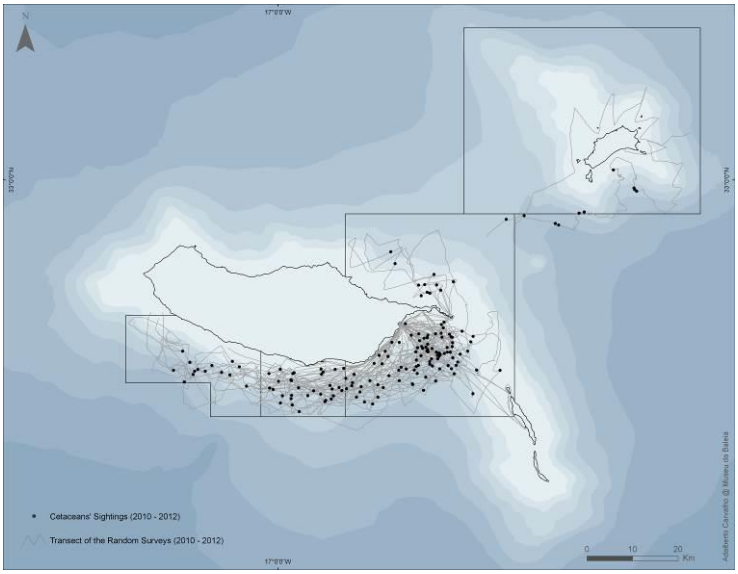


Figure A.7.3 Map with the random nautical survey transects carried out in action A.5 and respective cetaceans sightings.

Table A.7.4 Systematic nautical surveys effort by year.

	2010	**2011**	**2012**	**Total**
Km on Effort	953	3266	1415	5634

Table A.7.5 Number of sightings per species in random surveys since the beginning of the project - bottlenose dolphin (Tt), common dolphin (Dd), short-finned pilot whale (Gma), Atlantic spotted dolphin (Sf), striped dolphin (Sc), Bryde's whale (Be), fin whale (Bp), sperm whale (Pm), pigmy sperm whale (Kb) and Blainville beaked whale (Md).

Species	**Tt**	**Dd**	**Gma**	**Sf**	**Sc**	**Bbr**	**Bp**	**Pm**	**Kb**	**Md**	**Total**
No sightings	66	49	42	22	10	4	2	2	1	1	199

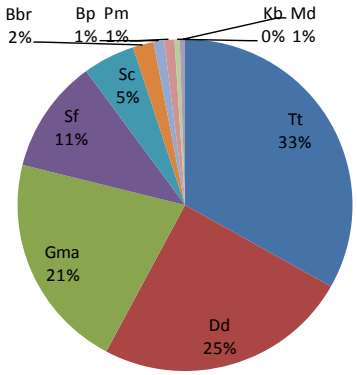


Figure A.7.4 Species sighted (percentage) during random nautical surveys since the beginning of the project.

Whale-watching trips

The data regarding the whale-watching (WW) activity was collected in three different ways: GPS to record WW boats tracks; Observers on board WW boats; observers on land.

GPS to record WW boats tracks

A total of 509 WW boat tracks (i.e. 509 trips) were recorded, giving a good representation how these boats used the inshore sea of Madeira (Figure A.7.5). Of those 321 tracks (12 413 km) were collected by the boats' skippers and the remaining 188 by the project observers (see Table A.7.6).

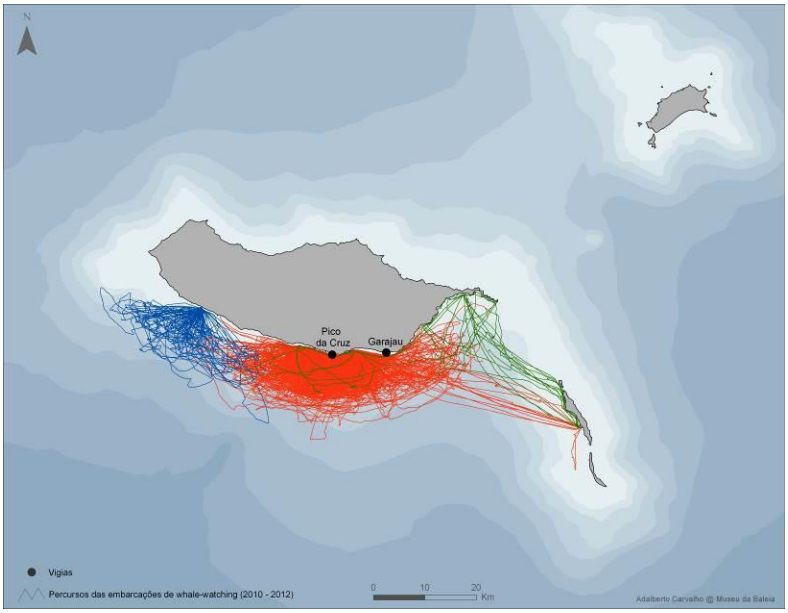


Figure A.7.5 Map with the GPS tracks of the WW boats.

Observers on board WW boats

The trips on WW boats finished in June 2012, and the data collected in paper sheets was introduced and stored in an Access database. A total of 7 463 km of observation effort was carried out by the project observers, covering 71% of the fleet (Table A.7.6).

Table A.7.6 Summary of effort, total and with observer.

Summary of effort in ww boats 2010-2012	Total	With observer
No. of trips	509	188
Km tracked	19876	7463
No. of months covered	12	11
No. of trimesters covered	4	4
No. of boats covered	10	10
% ww fleet (no. of boats) covered	71	71
Estimate % ww fleet (no. of trips) covered	11	4
Estimate no. of ww trips (all fleet) per year	4500	

The following species were sighted: bottlenose dolphin (Tt), short-finned pilot whale (Gma), Atlantic spotted dolphin (Sf), common dolphin (Dd), sperm whale (Pm), Bryde's whale (Bbr), non-identified baleen whale (NBA), non-identified beaked whale (NZI), Cuvier beaked whale (Zc), rought-tooth dolphin (Sb), striped dolphin (Sc), killer whale (Oo), fin whale (Bp), pigmy sperm whale (Kb), and Blainville's beaked whale (Md) (see Figure A.7.6).

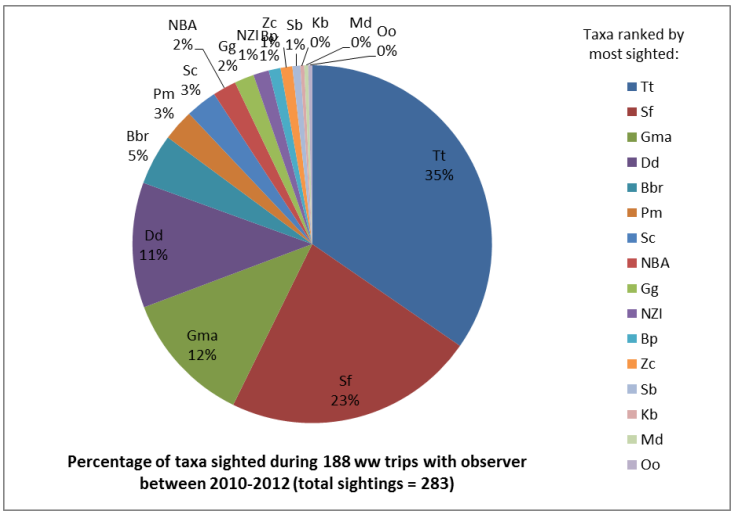


Figure A.7.6 Species sighted (percentage) during WW trips with observer, since the beginning of the project.

Observers on land

As mentioned in point 5.1.5 (ActionA.5 – Observers on land) an experience was carried out and data of 24 half-day sampling events collected. After a truncation of the original dataset to remove events with poor visibility, a reduced dataset with 18 half-day events was used to perform the data analysis. The data collected in the look-out posts was intercepted/matched with the data collected onboard the whale-watching boats by the observers, and with the GPS tracks / sighting sheets from the WW operators, in order to obtain certainty about the species, the encounter-ID and WW boat-ID. The data analysis was carried out by the biologist Filipe Alves under supervision of Luís Freitas.

Based on the 18 half-day events, it was determined the mean number of groups of cetaceans and the mean number of species available/detectable in the main whale-watching operation area per trip. We determined the mean percentage of those groups of cetaceans that were approached by WW boats, taking into account the effect of the number of WW boats. To assess the percentage of groups of cetaceans approached by whale-watching boats according to different number of whale-watching boats and groups available in the study area per half-day event, we determined an index based on the number of groups divided by the number of whale-watching boats, which was assessed with a linear regression. To further assess the pressure of the whale-watching boats on cetaceans we determined the number of WW boats in each encounter as well as the duration of each encounter (from the first to the last WW boat).

Only brief results are shown here, since detailed results are presented in the Objective 2 Final Report (see Deliverable A.7 – IIA_Technical-scientific report to support proposal of areas of operation for the whale-watching activity and its respective carrying capacity"). We determined a mean of 3.4 (SD=1.6, range: 1-7) groups of cetaceans, which corresponded to a mean of 2.7 species (SD=1.3, range: 1-5), available in the main whale-watching operation area per trip. These values should be regarded as minimum values since are based on detected groups, which can include some present/available groups that were not detected. We determined that a mean of 90.4% (SD=14.4, range: 67-100) of the groups available/detected were approached by WW boats. We observed that when the number of whale-watching boats in the area was higher than five, all of the available/detected groups were approached by those boats. We also observed that the percentage of groups of cetaceans approached by whale-watching boats tended to be closer to 100% when the number of those boats in the area was higher than the number of groups available. We determined a mean of 2.7 (SD=1.5) WW boats and a mean of 24.9 minutes (SD=13.5) per encounter in South Funchal.

DATA PROCESSING AND ANALYSIS

A review of systematic and random nautical surveys databases as well as overall organization, validation and data analysis was carried out. The GIS technician processed and analysed georeferenciated data of the systematic and random nautical surveys, the whale-watching data as well as oceanography data.

Photo-identification data analysis

The photographic comparison process of bottlenose dolphin ended in February 2013, i.e., the catalogue was completed by that date. From February 2013 on the data analysis began. Between May 2010 and December 2012, around 20 000 photographs of bottlenose dolphins were taken and 248 new individuals were added to the existent catalogue (Figure A.7.7).

The data (photographs and metadata) for this analysis was obtained from the SNS and RNS.

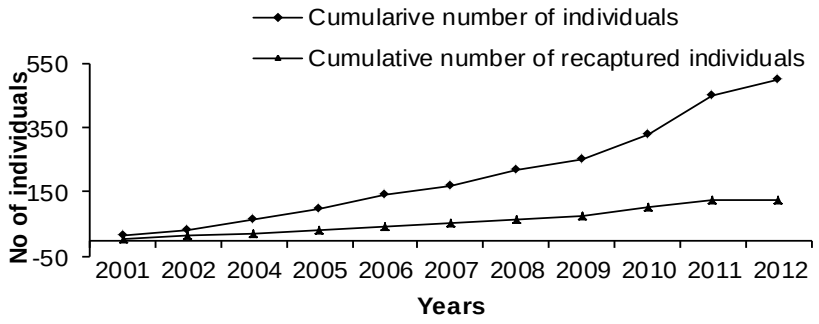


Figure A.7.7 Number of cumulative individuals that were added along the years, where in the last three (project duration) there was a big increase in the number of bottlenose dolphins added to the catalogue.

To make the analysis more robust data collected prior to the project was added to the final database totalizing two hundred and seventy two photo-id events (272), with 500 well marked individuals identified. Digital photographs were downloaded and organized by survey date and sighting number. Then, they were sorted by sharpness, exposure, contrast and position of the dorsal fin. Photographs were rated from excellent (1) to bad (3) quality and, distinctiveness was graded independently of quality: from major marks (1) to poorly marked or unmarked (3). Photographs were then imported to matching software ©Darwin and analyzed, which uses the pattern of naturally acquired nicks on the trailing edge of the dorsal fin, for individual identification. The trailing edge of each imported dorsal fin had to converted into numeric format through a graphic tool. If a match was found the photograph was linked to the existing identification number; if not, a new number was given to the individual and it was added to the catalog. Capture histories were then exported into *MARK*, a program used to model various parameters estimates from marked animals based on recaptures. Mark recapture models are defined as either open or closed and there are different assumptions for both types. Here we used open model POPAN to obtain a seasonal estimate of the number of individuals that used the area across the study period (superpopulation) and an estimate of the number of resident dolphins. We also used 2-sample Chapman modified Peterson estimator to obtain a seasonal estimate of the number of individuals between two consecutive seasons. We also use program ©SOCPROG to analyze the social structure of bottlenose dolphins and its residency patterns.

For management and conservation purposes it is important to know if the animals that are sighted twice to three times per day are the same. Knowing if resident populations do occur in the study area can imply different management plans. In order to evaluate site fidelity, observers equipped with digital cameras and zoom lens photographed all animals sighted

during WW trips taken during 2011 and 2012. Marked animals were catalogued (based on scratches and nicks) and went to a sorting and matching process. This helped assessing short-term site fidelity. The analysis of short-term site fidelity of cetaceans in the main area used by the WW boats was assessed between August and October 2011 by a student (Ana Higueras Vera) as a Research Study for the Environmental Sciences Degree in collaboration with the MWM. Ana Higueras Vera was the observer/volunteer that performed more trips in the WW boats and used that data for her study (see Annex A.7-I_Thesis of Ana Higueras Vera). The remaining photographs of Atlantic spotted dolphin and of risso's dolphin from 2011 and from 2012 were analyzed by a volunteer (Mafalda Ferro) and supervised/confirmed by Filipe Alves.

To assess long-term residency patterns we also compared individuals photographed during the last decade (since 2001) during nautical surveys conducted by the MWM, as well as from opportunist surveys (since 1997). Additionally, photographs collected by experienced whale-watching operators were also used. These analyses were restricted to the South of Madeira, thus covering the main area of operation by the whale-watching industry, which allow inferences about its potential impacts. The analysis of long-term residency patterns was restricted to the well-marked species in Madeira, namely, the bottlenose dolphin, the short-finned pilot whale and the Bryde's whale. Since the photo-identification analysis is a very personal process (identifying individuals and becoming familiar with them), the all data analysis for each species was made by the same researcher. Ana Dinis conducted the pho-identification analysis of the bottlenose dolphin and Filipe Alves conducted the photo-identification analysis of the short-finned pilot whale and the Bryde's whale. The photo-identification results of the bottlenose is both important for Objective 1 and 2 of CMII project, the photo-identification of the remaining species is relevant for Objective 2.

Over 80 000 photographs were analyzed from all species and from the whole period (over a decade), and these were a long and time-consuming processes. It included downloading the photographs to a computer, organizing by species/date/encounter, processing the image, cropping the area of the dorsal fin in each photograph, using Adobe PhotoShop Elements 3.0 © to highlight the contrast of the trailing edge of the fin, selecting the best photograph of each individual from each encounter, comparing with the catalogued individuals, and if new, give an ID. The establishment, education/training, and download of the photographs from WW operators/photographers were also carried out by Filipe Alves and Ana Dinis.

Only a resume of the main results are shown here, since detailed results are presented in the Objective 2 Final Report (see Deliverable A.7 – IIA_Technical-scientific report to support proposal of areas of operation for the whale-watching activity and its respective carrying capacity").

Photo-identification showed indications of both short- and long-term use of the area by several cetacean species, ranging from a scale of diel (twice in the same day; sighted in morning and afternoon) to years. Several species, such as Atlantic spotted dolphin, short-finned pilot whale, bottlenose dolphin and Bryde's whale, were captured during the same day (zero day-interval) (see Annex A.7-I_Thesis of Ana Higueras Vera). These same species, as well as Risso's dolphin, were captured during few days interval. Finally, the short-finned pilot whale, the bottlenose dolphin and the Bryde's whale showed indications of long-term residency patterns, given the number of recaptures obtained over different years (e.g. 14-years for the short-finned pilot whale). More detailed results on the short-finned pilot whale are showed in scientific publication (see Action D.11).

Whale-watching data analysis

The analysis of the data collected in collaboration with the WW operators was less complex than the analysis of the data from the systematic and random nautical surveys (including photo-id data). For further information on this analysis see Deliverable A.7 – IIA_Technical-scientific report to support proposal of areas of operation for the whale-watching activity and its respective carrying capacity".

Distance sampling analysis

Distance Sampling methodology and analysis allow us to obtain abundance and density estimates, and respective confidence intervals for the studied area, in our case the sampled Madeira inshore waters (see figure A.7.1). Besides field limitations in applying the methodology there are also some data requirements to have robust estimates. One of those requirements is the minimum number of sightings for each analysed species and the distance accuracy and consistency of the distance and angle measurements (from the boat - transect line - to the sighted animals).

To obtain robust results we had to include in the analysis data from SNS of previous years (2007 – 2009 – Project EMECETUS – 3660 km effort and 117 sightings) to complement the data collected in CM II project (2010 – 2012 – 5500 km effort and 187 sightings). This way we managed to have a reasonable number of valid sightings (with measured angle and distance from the transect line to the sighted group) to use in the analysis.

However to incorporate the data from 2007-09 SNS it was necessary to correct for each observer (they were the same for both periods) the estimated distance values from the transect line to the sigthed groups. While in 2007-09 SNS the distances were estimated by eye, in the 2010-12 SNS the distances were estimated by eye as well as readings from the binoculars scale, which gives a more reliable distance measurement. It was possible, using the data from this last period, to calculate a correcting factor for each observer to apply to its distances estimated by eye for the previous period, and thus having more reliable data to do the distance sampling analysis. This procedure also added up time to the overall analysis time.

It was possible to obtain abundance estimates for the following species or groups of species with reasonable CVs, based in the following number of usable sightings:

Table A.7.7 Number of sightings used in the Distance analysis and the results (abundance estimates, lower and upper confidence limits and CV for several cetacean species). The abundance estimate values are the estimated animals' average per species at any given moment for the sampled period (2007-2012). For the Common dolphin the sampled period only included the "winter" months (November – May), at which time the species is present in Madeira inshore waters.

Species/ group of species	N sightings	Abundance Estimates	Lower Confidence limit	Upper Confidence limit	N CV
Bottlenose dolphin	69	558	384	812	0.19
Common dolphin	67	675	363	1254	0.31
Spotted dolphin	46	947	520	1722	0.31
Short-finned pilot whale	27	112	59	215	0.34
Baleen whales	33	18	10	32	0.30
Beaked whales	22	31	16	61	0.35

The abundance estimate values presented in Table A.7.7 are underestimated values and do not take in consideration the availability bias.

The preparatory work to carry out the distance sampling analysis involved retrieving the data from Access data base files (produced by "Logger software" used to record sightings during

the surveys) from both sampled periods (2007-09 and 2010-12), looking for incoherencies and mistakes, model the distances by observer to correct individual biases in measuring distances (for the period 2007-09), compile all necessary data into Distance software format and run the analysis. Although explained like this it sounds simple, if we take in consideration the amount of data, the number of species analysed and the specificity and format demands of the Distance software, it turned out to be a very long iterative process.

The analysis itself is also an iterative process where several models are tested to see which fits the data better and gives more robust results. A total of 365 models were run for all the species/groups of species, some of them two or more times (any time a mistake or problem with the data was identified), so that the best models might be selected and the best abundance estimates obtained (see Table A.7.7).

This analysis was carried out by Cláudia Ribeiro and Luís Freitas.

Spatial modelling

Using data collected during the SNS, which includes sightings of cetaceans (e.g. species, geographic location, group size) and sampling effort (the transects kilometres navigated in active search for animals), it is possible to model the distribution of the species observed in the study area. In order to do so, it was used one or more co-variates (depth, distance from shore, etc.) that better "explained" the distribution of sightings taking in consideration the sampling effort. Usually, the more effort and more sightings are used in the analysis the more robust will be the results. With this analytic tool it is possible to calculate abundance estimates as well as generate maps of the spatial distribution of cetacean species for the study area.

This analysis demands great quantities of data and it is very time consuming, but it is presently the most reliable and statistically meaningful way of generating distribution maps and obtain abundance estimates to corroborate the distance sampling results.

We started with the GIS technician creating a grid cell (2x2nautical miles) that covered the whole study area and then retrieved data from different sources (high definition bottom topography maps, satellite data, and others) and compiled a table (excel file with 239 columns by 1102 rows – GRID) with the data of each chosen covariate for each grid cell (total of 1102 grid cells).

A total of 50 co-variates were selected. From these 9 were dynamic covariates, such as SST (Sea Surface Temperature), CHLA (Cholorophil A – indicator of primary productivity), CDOM (Dissolved Organic Matter) and SST, CHLA and CDOM for winter (November to May) and summer (Jun to October). The other 41 were static covariates and described fixed characteristics of each grid cell (average depth, minimum depth, maximum depth, average slope, index contour, aspect, distance from coast, etc.).

It was then necessary to compile another table with 239 columns by 2606 rows (SEGMENTS table) with effort and cetacean sightings information from the surveys. The data collected at sea went through the initial organization and validation (as explained at the beginning of this section – A.7), and then the relevant data for this analysis was selected and organized in the correct format. The GIS technician had an important role by dividing each transect in legs (variable length) and then subdivide the legs in segments (=<2nm). Each segment was allocated to a grid cell as well as the respective sightings by species (nº of groups seen in the segment, group size, number of calves, and behaviour classes). Finally a third table was needed with the selection of the sightings data and covariates. Then all information was

compiled in tables and validated by Luís Freitas, which then carried out the spatial modelling analysis to obtain abundance estimates and distribution maps.

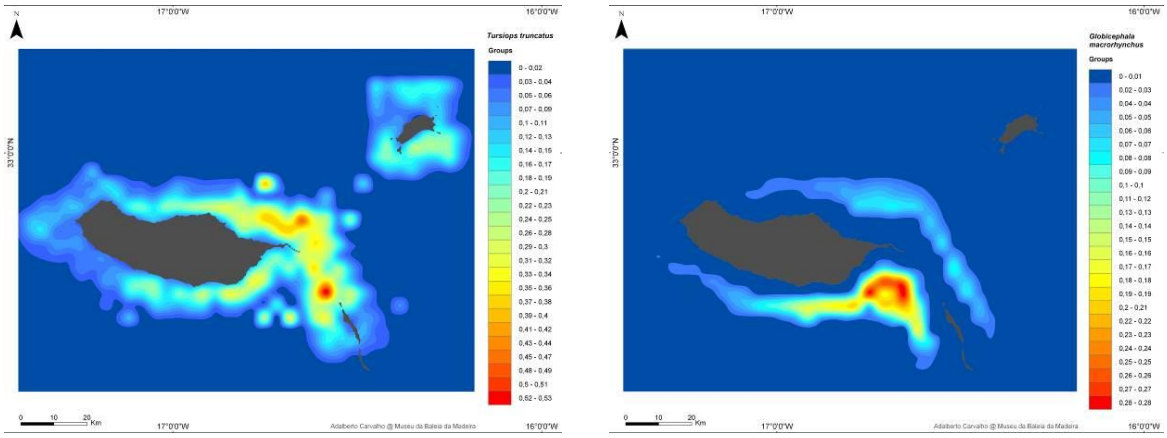
This analysis used data from the same period as the Distance sampling Analysis – SNS from 2007-09 and 2010-12, because it is necessary to use one output result from Distance sampling (ESW – Effective strip width) to be able to obtain abundance estimates in spatial modelling.

The spatial modelling analysis implies running a script in the statistic program R, and see how well does one covariate "explains" the group sightings distribution taking in consideration the effort and how statistically meaningful is that result. After preliminary trial analysis, we selected 32covariates for the analysis. We runned models with all the selected covariates, changing parameters in the model for each covariate tested, and then combining the most meaningful covariates to choose the final model (with one or more co-variates), that best "explains" the sightings distribution taking in consideration the effort distribution. This is an iterative process that takes time. After this a script is also ran to model the group size, following the same iterative process described before. The abundance estimates are obtained finally based on the models that best describes group distribution and the group size. Finally another script is run to obtain the confidence intervals for the abundance estimates through bootstrap. Also as a result of this analysis, we got density distribution maps (group, group size and animals). In Annex A.7–IIA we present one file showing the different models run to get to a final model that best explains the data. There is one such file for each analysed species or group of species. In Table A.7.8 a resume of the results from this analysis are presented and in Figure A.7.8 an example from a group density distribution map generated by the analysis.

Table A.7.8 Number of sightings used in the Spatial modeling analysis and the results (abundance estimates, lower and upper confidence limits and CV for several cetacean species). The abundance estimate values are the estimated animals' average per species at any given moment for the sampled period (2007-2012). For the Common dolphin the sampled period only included the "winter" months (November – May), at which time the species is present in Madeira inshore waters.

Species/ group of species	N sightings	Abundance Estimates	Lower Confidence limit	Upper Confidence limit	N CV
Bottlenose dolphin	69	482	365	607	0,14
Common dolphin	67	741	496	1032	0,27
Spotted dolphin	46	1067	717	1378	0,22
Short-finned pilot whale	27	151	99	201	0,23
Baleen whales	33	20	15	26	0,28
Beaked whales	22	27	16	36	0,32

Based on the chosen models for the four most seen species by the whale-watching boats (bottlenose dolphin, short-finned pilot whale, common dolphin and Atlantic spotted dolphin – represent 81% of all sightings) it was possible to predict abundance of groups for smaller areas within the study area, in which the whale-watching activity is taking place and use those values in the calculations to establish a carrying capacity for the areas of WW operation.



a) b)

Figure A.7.8 Examples of the distribution maps obtain from spatial modelling analysis: a) Bottlenose dolphin group density distribution map; b) Short-finned pilot whale group density distribution map.

Finally this analytical tool was also used to model distribution of some of the observed cetacean species activities, such as feeding, resting, socialising, calves, traveling and reaction to boats. To do this it was necessary to increase the dataset in order to have the maximum number of sightings for each of the four main species mentioned before (bottlenose dolphin, short-finned pilot whale, common dolphin and Atlantic spotted dolphin) and for each activity class.

The datasets included in the analysis were:

- SNS 2001-2004 (Project CM – LIFE – 5165km effort and 94 sightings)
- SNS 2007-2009 (Project EMECETUS – INTERREG IIIB – FEDER – 3660km effort and 90 sightings)
- SNS 2010 – 2012 (Project CMII – LIFE+ - 5500km effort and 139 sightings)
- RNS 2004-2005 (Project MACETUS – INTERREG IIIB – FEDER – 2310 km and 96 sightings)
- RNS 2006 (Project GOLFINICHO – FCT – National funding – 2005km and 78 sightings)
- RNS 2007 (Project EMECETUS – INTERREG IIIB – FEDER – 649km effort and 30 sightings)
- RNS 2010-2012 (Project CMII – LIFE+ - 5634 km and 212 sightings)
- Tuna Fishing boats observers data 2010-2012 (Project CMII – LIFE+ - 4235 km effort done inshore waters (study area for this analysis) and 84 sightings)
- Whale-watching boats observers data 2010-2012 (Project CM II – LIFE+ - 7459 km effort and 236 sightings)

The final dataset included 36 617 km effort and 1059 sightings of the four species analysed.

It was necessary to recalculate the average values for the 9 dynamic covariates for the GRID table, based on the monthly average for the sampled period (2001-2012).

It was also necessary to process all the effort data in GIS software to prepared as explained before (=<2nm segments) and compile all information into a single segment table (SEGMENTS Table). This table ended up with 239 columns by 10873 rows. Finally a SIGHTINGS Table was compiled with 239 columns by 1059 rows (1059 sightings).

After all the tables were ready, the analysis was carried out as explained before, a model were generated for each covariate/species/activity in a more or less iterative way until the best model (based on one or more covariates combined) to describe the data was found for each activity for each species and/or all detected errors were purged from the dataset. A total of 32

final models (4 species x 8 activities) were obtain which means that many more models were run, one for each covariate plus the combination of covariates.

These daunting tasks generated results important for objective 1 and 2 and are fully presented in the following documents annex to this report:

- Deliverable A.7 – I_Proposal to establish a Site of Community importance (SCI) for the bottlenose dolphin in Madeira Archipelago waters;
- Deliverable A.7 – IA_Technical-scientific report to support the proposal of a Site of Community importance (SCI) for the bottlenose dolphin in Madeira Archipelago waters;
- Deliverable A.7 – II_Proposal of areas of operation for the whale-watching activity and its respective carrying capacity;
- Deliverable A.7 – IIA_Technical-scientific report to support proposal of areas of operation for the whale-watching activity and its respective carrying capacity;

The postponement of this action did not have any financial implications in the project that finished on the 30 June 2013.

Problems encounters and measures to overcome them:

This action suffered delays for two main reasons: 1 – delays in data collection as explained in action A.5; 2 – delays in data processing and analysis as explained bellow. The extension of this action was requested in the Mid-term report and accepted by the Commission in letter dated 01-02-2012 (ENV.E3/MD/MLM/ml ARES (2012) 116213).

The complexity and amount of data used in the different analysis, the necessary steps of data compilation, organization, validation, identification of errors and their correction, and the overall iterative nature of the different data analysis contributed to an overall longer analysis period than initially foreseen.

However, and in spite of these natural difficulties, the final results obtained are good and very relevant to answer the questions posed by objective 1 and 2. The delays suffered in the analysis contributed for more robust and reliable results.

The final version of the deliverables A.7-I/A.7-IA (Proposal to establish a Site of Community importance (SCI) for the bottlenose dolphin in Madeira Archipelago waters) and A.7-II/A.7-IIA (Proposal of areas of operation for the whale-watching activity and its respective carrying capacity) took far longer than expected due to the reasons explained in point 4.1.25 – Action E.4.

In spite these delays in finishing the above mentioned documents (deliverables) in its final formal version, the project results were presented to the MG Environment Minister at beginning of 2014. Both the creation of a SCI and the proposals to establish areas of operation and its carrying capacity for the WW were welcome by the MG and steps were taken to implement them. Regarding the SCI for bottlenose dolphins, its creation is being debated at a more technical level with MG managers, and its establishment was included as a measure in the Portuguese report under the MSFD to be implemented in the near future. Regarding the establishment of areas of operation and carrying capacity for the WW activity, legislation was published in April 2014 (Annex A.7_IV_Legislation - Portaria 46/2014 of 22 April) defining those parameters based on the technical advice from the MWM, from data/knowledge obtained in Project CMII (Deliverable A.7-II). This "Portaria" follows the publishing of legislation (Annex A.7_III_Legislation - Decreto Legislativo Regional nº 15/2013 de 14 May) on the observation of marine vertebrates in Madeira waters, namely cetaceans. This legislation was the culmination of a long process that started with the first proposal presented by the MWM in 2005 as a result of the Project CM.

Status of this action is: completed in 20 October 2014

4.1.8. Action A.8: Compilation, processing and analysis of data related with the surveillance of cetaceans' conservation status in off-shore waters of the Madeira EEZ

Progress of the action:

FIELD WORK

All effort and sighting data of cetaceans carried out on-board the tuna fishing vessels were registered in printed data forms. The tuna fishing vessels tracks and the sighting data were recorded using GPS. The position of cetaceans was recorded during on-effort mode, and occasionally during off-effort when the observer was resting but randomly looking at sea. The cetaceans' sightings were also registered in the inshore and offshore waters of the Madeira EEZ. Data regarding their group composition and size, as well as their natural behaviour were also recorded. Additionally, all known main human activities taking place in the Madeira EEZ offshore waters that may have potential impacts on cetaceans were registered, described and analysed. These were the marine traffic, litter and the interaction between fisheries and cetaceans.

All data (effort, sighting data, visual marine traffic, interaction between fisheries and cetaceans, and litter) collected on-board the tuna fishing vessels were recorded by the biologists Filipe Alves (3) and Cátia Nicolau (4), and by the offshore observers Filipe Henriques and Rita Ferreira.

To assess the marine traffic in the Madeira EEZ, two types of data were collected: (1) visual data of maritime traffic collected on-board the tuna fishing vessels (between 2010 and 2012), and (2) Automatic Identification System (AIS) data provided by the APRAM (between 2008 and 2011). The AIS data of the fishing fleet that operates in the Madeira archipelago was also requested to the DRP but unfortunately they were not able to provide it. The process of requesting the AIS data, both with the APRAM and with the DRP, included several meetings between the MWM and those institutions, and was conducted by the biologists Filipe Alves, Cátia Nicolau and Luís Freitas (project manager).

To assess the interaction between fisheries and cetaceans, all fishing events on-board the tuna fishing vessels were recorded. Information regarding the number of fishing events, type of fisheries, presence of cetaceans in the fisheries (video, and photos were taken when the cetaceans where present in the fisheries), by-catch of cetaceans, fisherman behaviour towards the presence of cetaceans in the fisheries, cetaceans behaviour towards the fisheries, and the fish behaviour towards cetaceans presence in the fisheries were recorded.

To assess the litter at sea, information about the type of litter, dimension and aggregation was recorded only during on-effort mode on-board the tuna fishing vessels.

DATA PROCESSING AND ANALYSIS

The compilation and verification of all the data collected during Action A.6 (see 5.1.6) was completed. That was made immediately after returning ashore from each trip by the technical staff responsible for this action, i.e., the biologists Cátia Nicolau and Filipe Alves This compilation and verification also included the data collected by the external off-shore observers. The data analysis proceeded accordingly to the plan. A preliminary analysis, which included calculating encounter rates per species of cetacean and the interaction with the fisheries as well as quantifying the litter at sea, was made until December 2012 in order not to compromise Action D.12. The complete analysis of the data collected on board the tuna fishing vessels was made and it is presented in the Objective 3 Final Report (see Deliverable A.8-I_Report surveillance cetaceans conservation status Madeira EEZ). All the data analysis was carried out by the biologists Cátia Nicolau, Filipe Alves and Luís Freitas (as supervisor), except the analysis of the AIS data that was carried out by the MSc student by Inês Cunha. Inês Cunha has been in the MWM between September 2012 and September 2013 to conduct

her MSc thesis, which allowed an excellent opportunity to develop a deeper analysis of the marine traffic in the Madeira EEZ. For that, Inês Cunha used visual data collected by the MWM between 2001 and 2012 and AIS data provided by the APRAM that covered the periods between 2008 and 2011 (see Annex A.8-I_Thesis of Inês Cunha).

After the compilation and verification of all the data collected, all track lines (recorded with the GPS) from the 161 days at sea during the on effort mode were downloaded to the computer using the software programme Mapsource® and then converted into Excel files. That process was carried out by the biologists Cátia Nicolau and Filipe Alves. The following step was to introduce it (the track lines converted in Excell files) in the ArcView 9.3.1, which was used for data preparation for the mapping analysis. That process was carried out by Adalberto Carvalho (GIS technical staff) together with the support/accompanied by the biologists Cátia Nicolau and Filipe Alves.

For the analysis, the effort at sea was divided into two categories based on the type of navigation: (A) Survey mode, when the vessel was travelling, that included two possible types of navigation (1 - navigation towards specific coordinates, or 2 - active search of tuna); and (B) Point count mode, when the vessel is not in travelling, that included other three possible types of navigation (3 - resting, 4 - fishing, or 5 - resting from fishing). Positions from all cetaceans' sightings were also introduced in the ArcView 9.3.1. The encounter rate of a group of cetaceans (number of encounters per 100 km), and their relative abundance (number of individuals per 100 km) in the offshore waters, was calculated using only on-effort and in 'survey mode' sightings. The area defined for the SNS (≈12 nmi of the coasts of the islands of Madeira, Desertas and Porto Santo) was used to differentiate between inshore and offshore waters (see Figures A.8.1 and A.8.2). All categories (effort at sea, type of navigation, cetaceans, litter, etc.) in the database were analysed taking the inshore *vs.* the offshore area into account. The main database (with the effort mode and type of navigation) covering the 29 trips yielded 2589 rows (with a row per coordinate). This preparation for the analysis became a major time-consuming, but fundamental, process. All the preceding analyses were carried out by Cátia Nicolau, Filipe Alves and Adalberto Carvalho, and supervised by Luís Freitas.

The visual data about the marine traffic was introduced in the ArcMap 10.1, used for mapping the data collected. The AIS data provided by the APRAM was collected through a land station positioned in the Funchal harbour, which collects all the Madeira EEZ AIS traffic. Aerial transmission signals from the AIS device presented an interval of 1 minute between them. Vector maps were created, using the ArcMap 10.1. For the analysis a sample of 7 consecutive days was used as being representative of that specific month. The number and type of vessels were also considered in the analysis. The AIS data analysis was carried out by Inês Cunha, with the support of the project biologists Filipe Alves, Cátia Nicolau and Cláudia Ribeiro, with the GIS technical assistance of Adalberto Carvalho, and supervised by Luís Freitas.

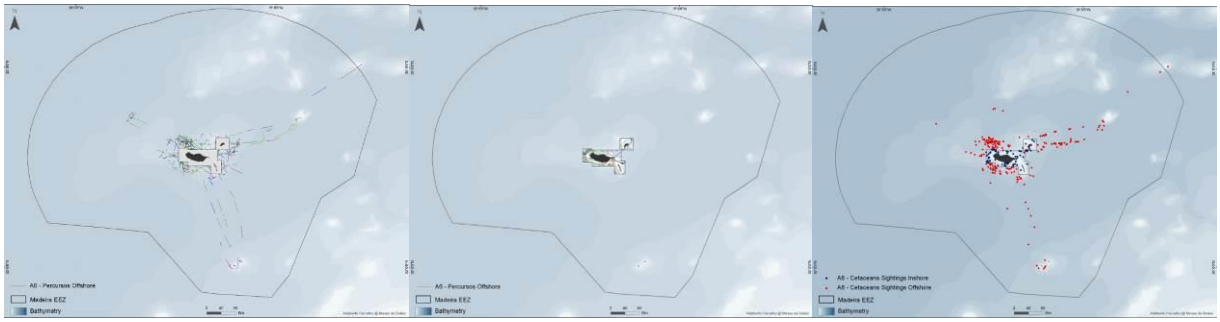
All cetaceans' sightings in the study area, collected during off and on-effort mode, were included in the analysis of the interaction between the fisheries and the cetaceans.

Finally, in order to determine the conservation status of a species, biological parameters needed to be collected and analysed. Since no biological parameters are known for any species of cetacean from the offshore waters of the Madeira EEZ, the biologists Cátia Nicolau, Filipe Alves and Luís Freitas , used biological information collected in the Objective 1 and 2 of the CMII and in previous projects for Madeira inshore waters. The anthropogenic impacts on cetaceans in the offshore waters were evaluated to determine whether it could have an impact of the cetaceans' population, and if it worth changing the status previously established. The data obtained was collected and analysed following the IUCN criteria (software program RAMAS®) to determine the conservation status of the cetaceans' species. The IUCN criteria are based in characteristics such as number and distribution of individuals,

fluctuation and declines in the abundance and distribution, and risk of extinction. That program implements those criteria and allows the incorporation of uncertainty in the data introduced. The final result is a technical sheet, containing information about the species, and the classification of the species by category. The IUCN Red List Categories and Criteria were designed for global taxon assessments; however it was our interest to apply it regionally. Therefore the guidelines for the application of the IUCN red list criteria at regional and national levels prepared by IUCN/SSC Regional Applications Working Group and the National Red List Working Group of the IUCN SSC Red List Committee were followed. Yet, the evaluation of the conservation status was possible to apply to only four species. These were the *Delphinus delphis*, the *Stenella frontalis*, the *Tursiops truncatus* and the *Globicephala macrorhynchus*, and the analysis and results are described in detail in Objective 3 Final Report (see Deliverable A.8-I_Report surveillance cetaceans conservation status Madeira EEZ).

Only brief results are shown here, since a deeper analysis and more detailed results are presented in the Objective 3 Final Report (see Deliverable A.8_I), using the available data that covered the project period (i.e. 2010 and 2011). Additionally, more details of the marine traffic in the Madeira EEZ based on visual data collected by the MWM (between 2001 and 2012) and on AIS data provided by the APRAM (that covered the periods between 2008 and 2011) are showed in the MSc thesis of Inês Cunha (see Annex A.8 - I).

During the 161 days of effort on board the tuna fishing vessels between March and September from 2010 to 2012, a total of 7068 km track lines were made in the Madeira EEZ area. Of those, 5220 km were conducted in the offshore waters (Figure A.8.1-a) and 1848 km in the coastal waters (Figure A.8.2-b) of the Madeira archipelago. Of the 5220 km conducted in the offshore waters, 3833 km were recorded on survey mode and 1387 km in point count mode.



a) **b)** **c)**

Figure A.8.1 – a) Map of the Madeira EEZ with the trips made on-board the tuna fishing vessels in the offshore waters; b) Map of the Madeira EEZ with the trips made on-board the tuna fishing vessels in the inshore waters; c) Map of the cetaceans' sightings made on-effort mode in the Madeira EEZ. The red dots correspond to the 203 cetaceans' sightings in the offshore waters, and the blue dots to the 74 cetaceans' sightings in the inshore waters.

Ten species were identified in the 203 cetaceans' sightings recorded in the offshore waters on-effort mode (Figure A.8.1-c), being the short-beaked common dolphin the most sighted one (29%). Calves were present in 15.94% of those cetacean groups. Eight types of vessels were identified, being the tuna fishing vessels the most sighted (60.57%), followed by cargo ships (24.23%). The analysis of the AIS data showed the marine traffic was recorded all around the Madeira EEZ, being the cargo ships the type of marine traffic with the highest percentage of records (89.46%). Only 13% of all sightings were present in the fisheries and all recorded during the tuna fishery (and none during the live bait fishery), and only in 3% the cetaceans disturbed the fisheries, with no by-catch of cetaceans. Plastic was the most sighted type of litter in the offshore waters with 64.5% of all the records.

Problems encounters and measures to overcome them:

This action was expected to be carried out between July 2010 and December 2012, but due to delays in action A.6 (see 5.1.6) it was required an extension of this action up to 31st March 2013. The extension of this action was requested in the Mid-term report and accepted by the Commission in letter dated 01-02-2012 (ENV.E3/MD/MLM/ml ARES (2012) 116213). It took several months more to finalise data analysis, write up and revise the associated deliverable (A.8 – I). The final revision of the report was done in September 2014 due to delays in other actions that needed more attention, such as, action A.7.

Status of this action is: completed in 30 September 2014

4.1.9. Action D.1: Project Web Site

Progress of the action:

With the purpose of having a broader dissemination of this project to the general public and to the target stakeholders, external advisers and other beneficiaries involved in the project, a CMII website and Facebook page were created (see 5.1.9 of the Inception and Mid-term Report). This activity had the involvement of the 4 biologists (Claudia Ribeiro; Cátia Nicolau; Ana Dinis and Filipe Alves), the management staff (Luís Freitas and Ana Nóbrega) and the Museum Educational Services staff, in preparing and revising the web page contents.

The project website, as well as the Facebook page, was always updated with news and photos of the work developed by the project team. The web page and Facebook updates were the responsibility of Cátia Nicolau and Ana Dinis, respectively. Rui Teixeira was responsible for quarterly update of project activities progress table.

As mentioned in the Progress Report (see 5.1.9), the number of visits initially expected (4000 visits to the webpage) was already achieved, and exceeded with 7211 exclusive visitors, 9 763 visits and 20 710 page visualisations (see Annex D.1-I_Google analytics from the project website). The Facebook page of the CMII project has currently (on 28th July 2013) 528 "likes" (see Annex D.1-II_Images of the project Facebook).

As requested by the Commission the webpage was update regularly with a timetable portraying the evolution of the different project actions. It is also possible to download from the webpage the products (documents, books, etc) produced by the project.

The webpage will be kept online after the project as finished, following the same procedure with webpages of previous projects carried out by the MWM (www.museudabaleia.org; menu: Science/Projects).

Problems encounters and measures to overcome them:

No problems were encountered.

Status of this action is: completed in 30 September 2013

4.1.10. Action D.2: Notice Boards

The project considered a total of 4 notice boards to be placed in Caniçal (2), Machico (1) and Porto Santo (1). With the beginning of the project we decided to convert one notice board into canvas to be put in the Museum research sailing boat, publicizing the project in the harbours it visited. In the meantime the company responsible for producing the notice boards produced 4 units rather than the three contracted. It ended up offering the fourth notice board to the project. The preparation of the contents for the notice boards was the done by Ana Dinis.

A total of four notice boards and two canvas were used in total to publicize the project.

We placed two at Caniçal, one at the promenade (2011) just below the Madeira Whale Museum easily seen by the local people who frequently use it, and the second at the main entrance of the museum (2010).

The fourth notice board was placed at the Marina of Machico (2010), and the last one in Porto Santo (2012). This last notice board was only held in May of 2012 because we had some constraints about the location but, ultimately it was placed, in the Porto Santo harbour, near the passenger's exit of the main ferry that connects this island to Madeira.

Although the Commission had accepted our request to not install the Porto Santo notice board (letter ENV.E3/MD/jv ARES (2012) 534487 de 30/04/2012), by the time we received the Commission's answer, the administrative process was already concluded and the installation costs contracted with the Harbour Authorities.

In 'Annex D.2-I_Locations and pictures of the notice boards' are presented evidences of the notice boards, in the different locations.

Problems encounters and measures to overcome them:

It was mentioned in the initial report that the installation of the Porto Santo notice board was dependent on approval of the Municipality of Porto Santo. Unfortunately the Municipality of Porto Santo gave a negative response related to the required location (near the city center, with greatest public impact) claiming that it was, at the time, being subjected to maintenance. Alternatively, we requested the authorities of the Porto Santo harbour permission to install the notice board there, near the passenger's exit of the ferry that connects Madeira to Porto Santo. This alternative was accepted, so we took advantage of a scientific survey to Porto Santo, to install the Notice Board.

Status of this action is: completed in 30 September 2011.

4.1.11. **Action D.3. Press conferences to divulge the project**

Progress of the action:

The first press conference was held on 20th July 2010 in the Machico marina, onboard the research vessel Ziphius, and focused on the main goals of the CMII project (see Annex D.3-I_News of the first press conference).

The press conference had the presence of several Madeira Media (Local radios, newspapers and Local Television channel) and had the participation of the mayor of Machico - Dr. Emanuel Gomes, Dr. Dinarte Teixeira representing the Environmental Regional Director, the MWM Director - Dr. Luís Freitas and the Project Team.

This action was initiated in accordance with the suggested dates in the inception report (5.1.11).

The second press conference considered in the project was held at the Madeira Whale Museum on the 6 October 2014. There were present the Mayor and other municipality representatives as well as local TV, Radio and newspaper journalists. Press conference was presented by project manager Luís Freitas. (see Annexes D.3-II_News of the second press conference; D.3 – IIA_RTPMadeira TV news_final press conference; D.3 – IIB_Radio Zarco news_final press conference).

Between press conferences more media coverage has been given to the project through the divulgation of other project initiatives and through general project news (see Annex D.3–III_News and press releases of the project; Annex D.3 - IV_CMII_Radio Zarco news_20-07-2010; D.3 - V_CMII_Radio Santana news_2011; D.3 - VI_CMII_Radio Calheta news_04-12-2011), namely:

Table D.3.1 News and press releases about CetáceosMadeira II

Year	Date	Journal	Title
2010	14-07-2010	Diário de Notícias	Projecto Cetáceos Madeira II apresentado dia 20 de Julho
	15-07-2010	Jornal da Madeira	Projecto Cetáceos II apresentado dia 20 de Julho
	20-07-2010	Radio Zarco	Luís Freitas interviewed on Radio Zarco to present projecto"Cetaceosmadeira II"
	21-07-2010	Diário de Notícias	Cetáceos Madeira II até 2013
	21-07-2010	Jornal da Madeira	700 mil euros para cetáceos
	21-07-2010	Público	Madeira vai monitorizar o impacto da actividade humana nos cetáceos
2011	02-06-2011	Site CMM	Conferência de sensibilização Rede Natura 2000
	03-06-2011	Diário de Notícias	Museu da Baleia promove apresentação de livro infantil
	06-06-2011	Diário de Notícias	Rede Natura 2000-Projecto Cetáceos Madeira II" na Câmara Municipal de Santana
	07-06-2011	Jornal da Madeira	Rede Natura 2000 exposta em Santana
	08-06-2011	Radio Santana	Exposição Rede Natura na Câmara Municipal de Santana – com o jornalista Flávio Matta
	08-06-2011	RDP Madeira	L. Freitas interviewed - program "viva voz" to talk about CMII temporary exhibition
	09-06-2011	Jornal da Madeira	Cetáceos em exposição
	26-06-2011	Jornal da Madeira	JSD-M sensibiliza à preservação dos mares
	12-09-2011	Diário de Notícias	"Rede Natura 2000-Projecto Cetáceos Madeira II em exposição nas grutas de São
	13-09-2011	Jornal da Madeira	"Grutas" acolhem exposição da Rede Natura 2000
	12-10-2011	Jornal da Madeira	Câmara de Lobos acolhe exposição "rede natura 2000"
	12-10-2011	Diário Cidade	Câmara de Lobos acolhe exposição "rede natura "
	29-10-2011	Jornal da Madeira	Sensibilização sobre cetáceos
	04-11-2011	Jornal da Madeira	"Rede Natura 2000-Projecto Cetáceosmadeira IIem exposição na Casa da Cultura de
	04-12-2011	Rádio Calheta	Ponta do Pargo acolhe exposição da Rede Natura
2012	30-01-2012	Diario de Noticias	Cetaceos da Madeira no Centro Cultural John dos Passos
	03-02-2012	Diario de Noticias	Conferência sobre conservação de cetáceos
	03-02-2012	O Liberal	Conservação de cetáceos
	20-03-2012	Diario de Noticias	Exposição sobre cetaceos na Biblioteca da Ribeira Brava
	21-03-2012	Cidade Net	Projecto cetaceos Madeira promove descentralização cultural
	12-04-2012	Diario de Noticias	Rede Natura 2000 em exposição no Museu da Baleia
	25-07-2012	Diario de Noticias	Câmara de Machico expõe "Rede Natura2000 - Projeto de CetáceosMadeira"
	11-10-2012	Diario de Noticias	Museu da baleia acolhe concurso baleiaArte
	14-10-2012	Diario de Noticias	Concurso divulga trabalho de protecção nos mares
	14-10-2012	Jornal da Madeira	Museu lança BaleiaArte
	29-10-2012	Diario de Noticias	Baleiarte surpreende
	02-11-2012	Diario de Noticias	Museu da Baleia da Madeira acolhe workshop spbre cetáceos
	05-11-2012	Diario de Noticias	Museu da baleia acolhe workshop
	07-11-2012	Jornal da Madeira	Potenciais reservas em análise
	13-11-2012	Diario de Noticias	Porto Santo assinala dia nacional do mar
	13-11-2012	Diario de Noticias	Museu da baleia assinala dia nacional do mar
	17-11-2012	Jornal da Madeira	Porto Santo assinala dia nacional do mar
2013	27-01-2013	Diário de Noticias	Museu da Baleia da Madeira dinamiza projecto baleiArte
	26-04-2013	Diário de Noticias	Inauguração da exposição BaleiArte
	29-04-2013	Diário de Noticias	Exposição no Museu da baleia
	01-05-2013	Diário de Noticias	Museu da baleia reforça atractividade
	01-05-2013	Jornal da Madeira	Museu da baleia acolhe exposição
	07-05-2013	Diário de Noticias	Patrícia Sumares expõe no Museu da Baleia
	28-05-2013	Diário de Noticias	Inauguração da Biblioteca Municipal no Museu da Baleia e entrega dos prémios do
	29-05-2013	Jornal da Madeira	Machico cria Biblioteca no Museu da Baleia
	04-06-2013	Diário de Noticias	Cetáceos em destaque na FNAC Madeira
	05-06-2013	Jornal da Madeira	Breves – Baleiarte
	05-06-2013	Jornal da Madeira	Manuel António no Baleiarte
	07-06-2013	Diário de Noticias	Uma semana de intensa atividade artística na Madeira
	17-06-2013	Diário de Noticias	Baleiarte no Museu da Eletricidade
	17-06-2013	Jornal da Madeira	Semana das artes começa hoje
	18-06-2013	Jornal da Madeira	Exposição Baleiarte inaugura-se hoje no Museu de Eletricidade-casa da luz
	18-06-2013	Jornal da Madeira	Baleiarte divulga Museu da Baleia
	19-06-2013	Jornal da Madeira	Baleiarte divulga Museu da Baleia
	19-06-2013	Diário de Noticias	Museu da baleia prepara novo concurso
	06-08-2013	Diário de Noticias	Aeroporto da Madeira recebe BaleiArte
	07-08-2013	Jornal da Madeira	Baleiarte no aeroporto recebe o Museu da Baleia
2014	03-10-2014	Diário de Noticias	News publicizing the final project press (II) conference
	06-10-2014	Radio Zarco	Presentation of project results in final press (II) conference
	06-10-2014	RTP Madeira	Presentation of project results in final press (II) conference
	07-10-2014	Diário de Noticias	Presentation of project results in final press (II) conference

See the following annexes as examples of TV broadcasting news and internet news about CMII project actions: D.3 - VII; D.3 - VIII; D.3 - IX; D.3 - X; D.7_II; E.5_VI.

The postponement of this action did not have any financial implications in the project that finished on the 30 June 2013.

Problems encounters and measures to overcome them:

Although scheduled to happen in the first trimester of 2013, it was delayed to a date when all the project results and the divulgation (DVD and layman report) and technical final documents were ready to be presented publically. The delay in the data analysis resulted in delays in the final technical report that influenced this action delay. On the other hand with the of the biologists and most project staff in the end of September 2013, the remaining work (data analysis, writing up reports and deliverables) was carried out by Luis Freitas together with the management of the Whale Museum. The result was a longer period than expected and wished the finish the project products, such as technical reports of objective 1, 2, and 3, the final report as well as other project documents.

Status of this action is: completed in 06 October 2014

4.1.12. **Action D.4. Workshop with Whale-watching operators to explain the establishment of areas of operation and the respective carrying capacity**

Progress of the action:

This workshop took place at the Auditorium of the MG Environment Secretary on the 5 May 2014 (see annex D.4 – I). There were present 5 whale-watching operators in a total of 9 people. The Worshop was presented by the project manager Luís Freitas with the presence of biologists Ana Dinis (1) and Cátia Nicolau (4).

This workshop allowed the presentation to the whale-watching operators of the rationale behind the definition of areas of operation as well as the respective carrying capacity. The scientific results based on data from this project and previous projects was presented and it was explained how it supported the three proposals presented/discussed with MG for areas of operation and respective carrying capacity.

The postponement of this action did not have any financial implications in the project that finished on the 30 June 2013.

Problems encounters and measures to overcome them:

Although this action was initially programmed to take place in the last semester of 2012, delays in the data collection made us request a postponement for the first trimester 2013. The extension of this action was requested in the Progress report and accepted by the Commission in letter dated 27-11-2012 (ENV.E3/MD/jv ARES (2012) 1400110).

Unfortunately, as explained in point 5.1.7 (Action A.7), there were delays in the data analysis that resulted in a further postponement of actions such as this one. The Workshop was scheduled for the beginning of 2014 but difficulties in conciliating the operators availability with project team availability during the first months of the year proved difficult for a range of different reasons.

Status of this action is: completed in May 2014.

4.1.13. **Action D.5: Seminar for the observers and crews of fishing boats involved in action A.6**

Progress of the action:

A seminar with owners and masters of the fishing boats collaborating as platforms of opportunity in objective 3 of the project (see point 5.1.6 – Action A.6) was organized in order to explain the project goals, to obtain their input and to discuss some logistical details, *i.e.* how can the work be better conducted on board. First, a preliminary meeting was held with 3 captains and the president of the Fishermen Association in Madeira (Coopesca) on 05th February 2010 in the MWM auditorium in order to prepare the seminar (see Annex D.5-I_ Preliminary meeting with 3 captains and the president of the Madeira Fishermen Association). The seminar took place on 23rd February 2010 again in the MWM auditorium (see Annex D.5-II_ Seminar with owners and skippers of the tuna fishing boats) and had the presence of 11 stakeholders, namely, local tuna fishing boat owners and captains. The seminar was presented by the project manager Luís Freitas and the biologists Filipe Alves (3) and Cátia Nicolau (4). The aims of this action were accomplished, including the number of participants which exceeded the expected and also the feedback obtained from the fishermen especially during data collection.

Problems encounters and measures to overcome them:

The only problem encountered (as referred in the point 5.1.13 of the Inception Report) was that the two external off-shore observers were not yet contracted at the time of the seminar, which invalided their participation. As explained in the Inception Report (see section 5.1.13) this problem was overcome with a training course given to those observers as soon as they were contracted, in order to teach them the field methodology, protocols and adequately prepare them to embark on those vessels. The training course was held in the MWM auditorium and was given by the project manager Dr. Luís Freitas and by the biologists Filipe Alves (3) and Cátia Nicolau (4). The two initially contracted external off-shore observers were Rita Ferreira and Valter Miranda, but the latter was substituted by Filipe Henriques even before the trips had started. Those three observers, as well as two other potential observers (in case some of the hired ones fail) participated in the training course (see Annex D.5-III_ Pictures of the seminars for the offshore observers and training course, Annex D.5-IV_Video 1 of the external observers training course, and Annex D.5-V_Video 2 of the external observers training course). The intensive training course was mainly theoretical but also included some practical lectures (security and handling of scientific equipment).

This action was expected to be finished by September 2010 (see 5.1.13 of the Inception Report), however, the delay in the contracting process of the two external off-shore observers postponed the intensive training course to the first week of June 2011.

Status of this action is: completed in 30 June 2011

4.1.14. **Action D.6: Publicising material to divulge the project**

Progress of the action:

For this action 10,000 leaflets, 1000 t-shirts, 1000 hats sun, 1000 calendars, 500 rain coats, 200 posters, 500 sweatshirts and 500 notebooks were produced as planned (see Annex D.6-I_Divulgation material- electronic version of this report; see also annex D.6 – II). These products were delivered in December 2010. An item of each of these products was sent to the commission together with the Mid-term Report. This activity had the involvement and supervision of Luís Freitas.

This advertising material has been distributed free of charge by schools, WW operators and general public in the Project temporary exhibits.

Additionally to what was considered in the Project application, 1000 books entitled "Pintarolas e o futuro do mar - um contributo para a Rede Natura 2000" were printed (Annex 5.1.32-VII_Livro Pintarolas contributo RedeNatura2000). This book was the result of a partnership between the educational services of the MWM and students of Elementary School 1/PE Machico. The remaining material, 1000 bookmarks, 25 flags and 25 stickers (see Annex D.6-I_Divulgation material) were distributed on August, 2011. (the authorization for this additional expense was given by email on 27th of May, 2011).

Problems encounters and measures to overcome them:

This action was finished 3 months after the project application original date due to delays in the administrative procedures to contract the respective services and delays in the products delivery by the company who won the "Consulta Prévia". All efforts were made to reduce to a minimum this delay.

Status of this action is: completed in 31 December 2011

4.1.15. **Action D.7: Conferences in fishing communities to sensitise fishermen for the conservation of cetaceans**

Progress of the action:

The project application considered four conferences at fishing communities, namely, Machico, Câmara de Lobos, Caniçal and Porto Santo. These conferences targeted the main fishing communities in the Madeira archipelago and were lectured by the biologists (Cátia Nicolau, Filipe Alves, Ana Dinis and Cláudia Ribeiro) of the project.

In order to increase these communities awareness for cetaceans conservation issues, the project team joined actions D.7, D.8 and D.9; thus every time the Natura 2000 Network exhibition was displayed in a target fishing community, conferences were planned to be held at that place. Therefore, these conferences promoted the project, raised awareness towards the conservation of cetaceans, the marine environment and the importance of the Natura 2000 marine sites network, focusing the big issue that litter in sea is for the marine life and the impact of human activities. The details of each conference are described below.

The first conference was held in Machico (at the parish council) on 1st June 2011, and it had an attendance of 15 participants (Table D.7.1) (Annex D.7-I_First conference in fishing community (Machico)). This conference had also the presence of the media, and it was promoted in the TV newscast regional TV channel – RTP Madeira (Annex D.7-II_ Video TV news about first conference fishing community).

The second conference was prepared to be held in Câmara de Lobos on 28th October 2011. Despite our efforts in advertising it (see examples in Annex D.7-III_Second conference in fishing community (Câmara de Lobos)) the conference was a failure, with zero participants (Table D.7.1). A second and different approach was tried but again with no success. Details of our efforts to overcome this issue are described below in 'Problems encounters and measures to overcome them'.

The third conference was held in the MWM Auditorium on 03rd February 2012 for the fishing community of Caniçal. It had an attendance of 80 participants (Table D.7.1), mainly fishermen from the tuna fishing vessels, which is the main fishing activity in that village. Photographs of this conference are shown in the Annex D.7-IV_Third conference in fishing community (Caniçal).

The fourth and last conference was held in Porto Santo Island (at the office of 'Clube Naval do Porto Santo') on 04th December 2012. It had an attendance of 10 participants (Table D.7.1). Photographs of this conference are shown in the Annex D.7-V_Fourth conference in fishing community (Porto Santo).

Table D.7.1 Date and number (No.) of participants in each conference.

Fishing community	Date	No. of participants
Machico	01st June 2011	15
Câmara de Lobos	28th October 2011	0
Caniçal	03rd February 2012	80
Porto Santo	04th December 2012	10

These conferences were given by the project biologists.

Problems encounters and measures to overcome them:

The progress of this action did not follow the initially proposed timetable (October 2009 to June 2011). This was mainly because we decided to join Action D.7 (conferences) and D.9 (Natura 2000 Temporary exhibit) in the localities where these conferences were scheduled, to maximise the publicity and local impact. Therefore, delays in delivering Natura 2000 Network exhibit (see explanations in action D.9) imposed a delay in the start of this action. As a consequence, in the Mid-term Report (5.1.15 of that Report) we requested this action to be carried out until December 2012 to follow the timetable of the Action D.9.

Another problem encountered, and probably the major one for this Action, was the difficulty to engage the Câmara de Lobos fishing community in the project initiatives, namely the conference and exhibit. For that reason, in the Progress Report (point 5.1.15 of that Report) we requested this action to continue until the end of the project (June 2013), to give us more time to find ways of captivating that difficult audience for the conference.

As mentioned in the Progress Report (see point 5.1.15 of that Report) a second and different approach was planned in order to successfully organize a conference with the fishing community in Câmara de Lobos. As so, in October 2012 the Câmara de Lobos Town Hall was contacted (throughout the councillor Dulce Oliveira Luís) to help the MWM organizing a successful conference with the fishing community since their relationships with the fishermen could facilitate the process of accessing that community. The idea was to conduct the conference in the MWM auditorium. Therefore, we made available a bus for the transfers from Câmara de Lobos to the MWM and back and offered them a free entrance in the MWM. Although this second attempt was again a failure as no fisherman was interested in participating, the same process was repeated in April 2013 to discard any seasonal effect that could have influenced the fishermen not to participate, but again with no success. We even considered a fourth and final approach to visit them in the fishing harbour of Câmara de Lobos to pass the action message across in an informal way. Unfortunately, the large amount of data to analyse and of documents to prepare invalided this intention.

Status of this action is: completed in 30 June 2013.

4.1.16. **Action D.8: Public Information meetings to explain of the importance of marine Natura 2000 sites network**

Progress of the action:

The project application considered two conferences, one in Machico and another in Porto Santo. To increase the project and Nature 2000 Network dissemination (locally and through the media) we decided to joined actions D.7, D.8 and D.9. This way we would have bigger impact events, including conferences and exhibits. As explained in point 5.1.15 – Action D.7, the conferences not only addressed fishermen but also included information about Nature 2000 Network as part of action D.8. Unfortunately due to delays in data analysis it was not possible to include in those conferences the results of the project regarding the proposal of a SCI for bottlenose dolphins (objective 1), as considered in the application. However, to overcome this issue we have included the dissemination of these results in the workshop for the WW operators (point 5.1.12 – action D.4) as well as in the project final press conference (point 5.1.11 – action D.3). This situation was not clearly explained in previous project reports by mistake.

Overall we had 3 conferences (see point 5.1.15 – Action D.7) with the presence of 105 people and one workshop (see point 5.1.12 – action D.4) with the presence of 12 people.

These results were also presented to Madeira Government in a meeting held with the Minister of Environment and Natural Resources of MG in January 2014.

Problems encounters and measures to overcome them:

The delay in data analysis had impact in obtaining the final results for dissemination. The extension of this action was requested in the Progress report and accepted by the Commission in letter dated 27-11-2012 (ENV.E3/MD/jv ARES (2012) 1400110) with the intent to publically presenting the project results regarding the proposal of SCI for bottlenose dolphins in Madeira (objective 1). That was achieved by presently publically these results together with action D.4 and action D.3, as explained above.

Status of this action is: completed in 10 September 2014

4.1.17. **Action D.9: Temporary exhibit to sensitize people for the importance of marine Natura 2000 sites network**

Progress of the action:

Initially there was a delay in this action. The temporary exhibit, was scheduled to start in October 2009, but was only ready and delivered by the contracted company in April 2011. Once received, an exhibit communication plan was implemented and associated educational activities were prepared (see annex D.9 - II-III_Temporary exhibit_layout and trainer manual_communication plan). The temporary exhibit opening was in 20 May 2011 at Machico and the display extended until 3 June. After surpassing the initial problems, the temporary exhibit was displayed in all major localities of Madeira archipelago, including Porto Santo Island, more precisely 13 places with a total number of **148 182** visitors (see Annex D.9 - I_Location and photographs of the different places were the exhibit "Rede Natura 2000" was displayed). Those places were:

- Machico 20th of May to 3rd June 2011
- Santana (Município) 8th of June to 24th June 2011
- Porto Moniz 11th of July to 11th September 2011
- São Vicente 12th of September to 10th October 2011
- Câmara de Lobos 11th of October to 28th October 2011

- Santa Cruz 03rd of November 30th November 2011
- Ponta do Pargo 3nd of December to 30th January 2012
- Ponta do Sol 1st of February to 23 th February 2012
- Ribeira Brava 21st of March to 08th April 2012
- Caniçal (MWM) 13th of April to 16th May 2012
- Madeira Shopping (Funchal) 18th of May to 28th May 2012
- Porto Santo 15th of November to 7th December 2012
- Santana (Rocha do Navio) 15th of July to 17th October 2013

The temporary exhibit also had media coverage with local and regional impact (see Annex D.3 – III_News and press releases of the project).

The temporary exhibit contents were organized by Claúdia Ribeiro with the contributions of the other biologists with the Luís Freitas supervision. There were many people of the project and the Museum involved in the organization, transport and logistics of exhibit, namely Ana Nóbrega, Cláudia Ribeiro and Sílvia Carreira (booking and organization), Miguel Silva (boat skipper- project staff) and João Viveiros (boat crew- project staff) and other Museum staff (Ricardo Carvalho, Rui Vieira, Jorge Bacanhim, entre outros) in the transport and logistics, as well as, the Museum educational staff (Sílvia Carreira e Ana Alves) and exhibits personnel (Florentina Jardim, Carla Moreira, Nuno Marques, Dino Gouveia, among others) in promotion of parallel activities to the exhibit (see point 5.1.32)

Problems encounters and measures to overcome them:

The problems were related with a delay in administrative procedure and the delivering of the exhibit by the contracting company that conditioned the beginning date of the exhibit display.

Status of this action: completed in December 2012.

4.1.18. **Action D.10: Participation in Conferences, workshops and congresses for the dissemination of the project results**

Progress of the action:

The project had collaborators participating in two conferences, the 26th and the 27th Conference of the European Cetacean Society, held in Galway (Ireland) in March 2012 and in Setúbal (Portugal) in April 2013, respectively. The project manager and also biologist Luís Freitas was at both conferences and the biologists Ana Dinis (1), Cláudia Ribeiro (2), Filipe Alves (3) and Cátia Nicolau (4) were in the latter. A total of 2 oral communications and 3 posters with information about the project were presented in both conferences.

Oral presentations

- **Luís Freitas** (speaker), Ana Dinis, Cláudia Ribeiro, Cátia Nicolau and Filipe Alves presented a lecture at the 26th Conference of the European Cetacean Society, with the title "Project CetaceosMadeiraII - Identifying critical marine areas for bottlenose dolphin and surveillance of the cetaceans' conservation status in Madeira archipelago". The presentation showed the objectives and preliminary results of the project (presentation in Annex D.10-I_Presentation given by Luis Freitas at the European Cetacean Society Conference, Galway, Ireland, March 2012).

- **Filipe Alves** (speaker), Sophie Quérouil, Ana Dinis, Cátia Nicolau, Cláudia Ribeiro, Manfred Kaufmann, Caterina Fortuna and Luís Freitas, presented a lecture at the 27th Conference of the European Cetacean Society, with the title "Population structure and parameters of short-finned pilot whales in an oceanic archipelago (Madeira, NE Atlantic):

implications for conservation". The presentation showed the results obtained for one of the two target species of the project, with information for the Objective 2 (presentation in Annex D.10-II_Presentation given by Filipe Alves at the European Cetacean Society Conference, Setúbal, Portugal, 08th April 2013).

Posters

- **Ana Dinis** Luís Freitas,Cláudia Ribeiro, Adalberto Carvalho, Filipe Alves, Cátia Nicolau, Philip S. Hammond, Manfred Kaufmann and Ana Cañadas presented a poster at the 27th Conference of the European Cetacean Society. The presentation with the title "Evaluation of some ecological parameters of the bottlenose dolphin (*Tursiops truncatus*) in Madeira archipelago: implications for its conservation" showed the results obtained for one of the two target species of the project, with information for the Objective 1 and 2 (presentation in Annex D.10-III_Poster presented by Ana Dinis at the European Cetacean Society Conference, Setúbal, Portugal, 08-10th April 2013).
- **Cátia Nicolau,** Filipe Alves, Rita Ferreira, Filipe Henriques, Ana Dinis , Cláudia Ribeiro, and Luís Freitas presented a poster at the 27th Conference of the European Cetacean Society. The presentation with the title "A first assessment of the cetaceans' occurrence and threats in the offshore waters of Madeira" showed the results obtained for the Objective 3 (presentation in Annex D.10-IV_Poster presented by Cátia Nicolau at the European Cetacean Society Conference, Setúbal, Portugal, 08-10th April 2013).
- **Cláudia Ribeiro**, Adalberto Carvalho, Cátia Nicolau, Filipe Alves, Ana Dinis, Ana Cañadas, Philip Hammond, Luís Freitas presented a poster at the 27th Conference of the European Cetacean Society. The presentation with the title "Applying distance sampling techniques to estimate bottlenose dolphin abundance in Madeira Island waters: first approach" showed the results obtained for one of the two target species of the project, with information for the Objective 1 and 2 (presentation in Annex D.10-V_Poster presented by Cláudia Ribeiro at the European Cetacean Society Conference, Setúbal, Portugal, 08-10th April 2013).

Problems encounters and measures to overcome them:

In the project application we planned to participate in the Conferences of the European Cetacean Society in 2011, 2012 and 2013. However, due to the lack of data we decided not to participate in the first one (see 5.1.18 of the Mid-term Report). Additionally, due to budgetary restrictions imposed to the Municipalities by the Portuguese Government in 2012 as a response to the financial crisis, only one member of the project could participate in the conference that year. Yet, the restrictions imposed to this action did not affect its objectives since the project results were disseminated to the scientific and conservation/management European communities and promoted potential future partnerships. Further dissemination of the results will happen through peer-reviewed scientific publications (see point 5.1.19 – Action D11).

Status of this action is: completed in 30 April 2013.

4.1.19. **Action D.11: Dissemination of results in technical publications**

Progress of the action:

The process of publication in peer-reviewed journals is usually a long and time-consuming procedure. It is dependent on the data analysis (actions A.7 and A.8) and on a review process that implies submitting and sometimes reanalysing the data and/or rewriting the manuscript. As planned, the two technical publications were published before the end of 1st trimester of 2013; a third technical publication is in press and two are submitted, as described below:

1. Freitas, L., A. Dinis, C. Nicolau, C. Ribeiro, F. Alves (2012). New records of cetacean species for Madeira Archipelago with an updated checklist. *Bol. Mus. Mun. Funchal*, **62** (334): 25-44. (Deliverable D.11–I)
2. Alves F, Quérouil S, Dinis A, Nicolau C, Ribeiro C, Freitas L, Kaufmann M, Fortuna C (2013). Population structure of short-finned pilot whales in the oceanic archipelago of Madeira based on photo-identification and genetic analyses: implications for Conservation. *Aquatic Conservation: Marine and Freshwater Ecosystems* **23**(5): 758-776. (Deliverable D.11–II)
3. Alves F, Dinis A, Ribeiro C, Nicolau C, Kaufmann M, Fortuna CM, Freitas L (2013). Daytime dive characteristics from six short-finned pilot whales *Globicephala macrorhynchus* off Madeira Island. *Arquipelago - Life and Marine Sciences*, **31**:1-8.
4. Alves F, Nicolau C, Ribeiro C, Dinis A, Kaufmann M, Fortuna C, Freitas L (2014). Survival and abundance of short-finned pilot whales in the archipelago of Madeira, NE Atlantic. *Marine Mammal Science.* DOI: 10.1111/mms.12137.
5. Alves F, Freitas L, Carvalho A, Ribeiro C, Dinis A, Nicolau C, Fortuna C, Kaufmann M *(Submitted).* Distribution and habitat preferences of short-finned pilot whales *Globicephala macrorhynchus* in Madeira, Portugal. *Wildlife Biology.*

It must be mentioned that publication 1. used basic data (species observed and validation of their identification) collected until 2012 which did not need any complex and time consuming analysis, while publication 2 used data collected until 2011 and analysed during 2012. The remaining publications were only ready to be submitted in 2013.

At least two more publications with data from this project will be submitted in the future and those will include the results from the data that was more time consuming to analyse.

Based on that collected in this project and previous projects two Phd theses were finalised, namely:

2013 – Filipe Alves – Annex D.11- I_ Filipe Alves Phd Thesis

2014 – Ana Dinis – Annex D.11 – II_ Ana Dinis Phd Thesis

Problems encounters and measures to overcome them:

According to the schedule in the proposed timetable this action was expected to be carried out between January 2012 and March 2013. However, in the Progress Report we already mentioned that the delays in the data collection (Action A.5 and A.6) had impact in the end dates of the data analysis (Actions A.7 and A.8) and consequently in the writing of the papers for peer-reviewed journals, and that the papers were expected to be submitted/published only by the end of the project. Therefore, the only problem encountered was the delay in the data collection and subsequent analysis, but with no effects on this Action. As mentioned before it was possible to have these papers published because they included either data collected until 2011(paper 2) or data with minor analysis work (paper 1).

Status of this action is: completed in 31 March 2013.

4.1.20. **Action D.12: Production of a DVD about the project and its results**

Progress of the action:

Despite the financial constraints incurred and reported in the progress report, we managed to proceed with the production of the DVD, which was completed on 26 June 2013.

The preparation and production of the DVD was outsourced to the Open Media Atlantic Company (OMA). The preparation work involved meetings between the project staff and the Open Media Atlantic Company to establish the DVD guidelines and the script. Cameramen from the OMA accompanied the project team in the field (e.g. nautical surveys, offshore surveys, etc.) to collect images for the video.

With this action the project main results and conclusions were presented in an easy and attractive way to the general public and to the target stakeholders. The video is in DVD format with a menu to select between the Portuguese and English versions of the video.

It was decided to joint Action D.12 with Action D.13, since both actions are related to the project results dissemination and complement each other. The DVD was incorporated in the layman report. Two hundred out of the 500 layman report hard copies have the DVD attached to it, which will be distributed free of charge. Besides the hard copies the video is available in both languages to be downloaded from the Project and the MWM websites and visualized in the respective facebook pages.

The video was broadcasted in Madeira TV (RTP Madeira) on the 25 September 2014 at 21:40 with the title "À descoberta do mar" (see 'annex D.12 - III_RTP Madeira day broadcast program_25-09-2014' and 'annex D.12 – III_CMII_project DVD_RTP Madeira broadcast_sample_25-09-2014').

The DVD gives a general perspective of cetaceans in Madeira waters, their conservation issues, explains in simple way Natura 2000 network and presents broadly the project main results.

The DVD is sent in annex together with the hard copy of the layman report as well as a MP4 version in Annexes D.12–I (Portuguese) and D.12 – II (English).

Problems encounters and measures to overcome them:

As explained in the project Progress Report (point 5.1.20 – Action D.12), there were financial/budgetary constrains imposed by the Portuguese Government/Troika to overcome the financial crisis the country was/is facing (as explained in the emails sent to the Commission by Rui Teixeira, dated 24, 29 and 31 May 2012). Fortunately, the efforts done to carry on the action gave results and it was possible during 2013 to contract the services for the production of the DVD.

Status of this action is: completed in 30 June 2013.

4.1.21. **Action D.13: Layman Report**

Progress of the action:

The report was elaborated with particular attention to its target public, the general public and the stakeholders involved in the project. It was used a simple language and many images and graphics to illustrate the more technical aspects covered in the report. We try as much as possible to give a comprehensive coverage of the work done in the project and respect the general guidelines for the layman report.

The Layman report was produced in two languages - Portuguese and English - to broaden the audience and have impact in the tourists visiting the island and at an international level.

500 hard copies of the layman report were produced (Portuguese and English versions integrated in the same booklet), two hundred of those the project DVD attached (as explained in point 5.1.20 - Action D.12).

The layman report is also available in both languages to be downloaded from the Project and the MWM websites and publicized at the respective facebook pages.

The layman report is sent in electronic version Annex D.13–I (English) and D.13–II (Portuguese) and hard copy version.

Problems encounters and measures to overcome them:

No problems were encountered.

Status of this action is: completed in 30 June 2013.

4.1.22. **Action E.1: Project Management**

Progress of the action:

The Project management was carried out by Rui Teixeira (administrative manager), and Ana Nóbrega (administrative assistant) with the supervision of Luís Freitas (Project Manager and biologist). Luís Freitas had an increased involvement (higher than the percentage of time considered in the project application) at the beginning of the project to guaranty that project actions started and to compensate the delay in the contracting of the project staff, namely the administrative manager and biologists. That increased involvement meant that Luís Freitas had to delay other tasks of the Museum at his responsibility, namely the implementation of the new permanent museum exhibits. With the staff contracted and the project underway, Luís Freitas reduced significantly his direct involvement in the project to supervision tasks and decision of the most important project issues and to technical/scientific advice and supervision, as needed.

The Project Management team had the responsibility of all the administrative/bureaucratic/financial procedures necessary to insure the adequate material, administrative and legal conditions so that the actions considered in the project were carried out, namely:

a) Organization and supervision of all the procedures for acquisition of equipments and goods as well as contracting services for the project. As the MWM does not have administrative/financial autonomy all the procedures went through MM administrative services. That meant preparing the procedures from the initial request, follow up of all the bureaucratic steps in MM, up to the delivery of the goods/equipments or services and respective payment.

b) Receive, register, distribute and follow up all the mail regarding the project, as well as, prepared all the necessary administrative documents for the project, namely letters for MM and other external entities with whom the project needed to contact to implement its actions.

c) Manage and control the project budget so that the financial resources are efficiently used to carry out the actions and achieved the project's objectives.

The Management team was also responsible for other tasks that included:

a) Managing and controlling staff worksheets;

b) managing resources used in this project, including, van and vessels;

c) organization of travel and accommodation for the project consultants (Action A.4) and for the staff when they traveled out of Madeira;

d) supervision and follow up of the many actions of the project;

e) all secretarial tasks related to all the project actions, with special emphasis to actions A.4 and actions D;

f) Logistical organization of the project temporary exhibit to tour throughout the Madeira archipelago (Action D.9) namely: negotiation of spaces in different locations for the exhibit display; transport; human resources for assembling and dismantling the exhibit; press releases; coordination with environmental education team, registration and control of the project publicizing material distribution;

g) administrative tasks related to support environmental education initiatives undertaken by the Museum education services for the project CMII;

h) Operational and logistical support of the action A.5 and A.6, conducted by the scientific team, namely fuel supply, authorizations for docking in marinas and ports, vessels and vehicle maintenance, and other aspects of administrative support to the scientific staff under this project;

i) Administrative support in the preparation of reports and other documents (Actions E.2, E.3, E.4, E.10)

j) Support external audit personnel according with the actions E.8.

k) Host the Commission and external team representatives visiting the project. During the project lifespan we had four visits (22-06-2010; 19 e 20-05-2011; 15-03-2012; 31-05-2013), from the external team representative (Sr. João Salgado), one of them together with DG.ENV Commission representatives (Sra. Muriel Druckman and Sra. Miriam Lopez de La Mano). The project manager, together with the remaining management team, presented in each visit the project progresses and setbacks, showed the evidences of the actions as they were carried out and discussed administrative/financial issues in order to manage the project in the most efficient way and make sure rules were being understood and followed. The inputs from these visits were important to clarify in a direct and easy way doubts and options regarding the project management. For that we thank the Commission and external team representatives for their enthusiasm, interest, competence, understanding and openness to our queries and doubts.

Despite some challenges, namely administrative constraints / bureaucratic (contract of staff, goods acquisition) and budgetary constraints, related to the austerity measures adopted by the Portuguese National Government to overcome the financial crisis that the Portugal has been going through in the last years, and on the other hand, from external factors which affected the implementation of the project actions (eg, weather conditions), the administrative / operational / logistical resources necessary were provided by the management team, so that the different actions could be developed as planned and within the project timeframe.

Most durable goods considered in the project or requested in the initial report were purchased and used in the projects´ actions. There were some few durable goods (equipment and software) that were not acquired because they were not needed for the actions and for the achievement of the project objectives, either because other solutions were found or because that equipment/software was purchased by the Museum in the time between the project application and its implementation.

Durable goods not purchased were (see also point 5.1.1 – Action A.1, of this report):

- A DSLR camera
- GPS for DSLR cameras
- 10-24 mm Zoom Lens
- Net Print
- GIS software tools
- Statistics software

There were some challenges with the project field work logistics, namely the research vessels operational constrains, which together with meteorological constrains limited the field work carried out in action A.5. The rigid inflatable boat (RIB) "Roaz" used by the Project for random surveys suffered several malfunctions throughout the project (see below "problems encountered"). All efforts were made to solve the situations that might put at risk the achievement of project goals, especially the ones related with actions A.5. After November 2012 it was not possible to use "Roaz" anymore. Fortunately the necessary data was collected and the boat's decommission did not affect the project seriously. Regarding vessel "Ziphius", it went into the shipyard on April 16th 2013 until 14th June 2013, to carry out repair and maintenance tasks. A final boat refuel happened in order to be able to carry the boat from the shipyard to Machico harbour. This was carried out on 14th June 2013.

Still concerning the boats, we have changed the way fuel costs were attributed to the project, in relation to what was reported in the project mid-report. To simplify the calculations and establish a direct relation with the invoices values it was decided to use only the percentage of navigation time for the project over the total time of navigation (see annex E.1 – XIII). This method is as valid as the one proposed in the mid-report because the average fuel consumptions per hour are expected to be the same for navigation within the project and outside the project. The method considered in the mid report involved calculating average fuel consumptions/hour multiplying by the number of hours navigated for the project over total number of boat navigation time, factoring in the evolution of fuel price over the project period (for each invoice). This new proposed method was applied to both the "Ziphius" and "Roaz" fuel costs attributed to the project. We hope the Commission accepts this change in the calculation of fuel costs attributed to the project. The same principle was used to the van fuel costs attributed to the project, that is, fuel costs multiplied by the percentage of kms travelled for the project. With regard to maintenance costs / repair of the van and vessels "Ziphius" and "Roaz", we kept the imputation criteria based on the percentage of kms used by the van in the project and the boats' navigation hours for the project. As an example it is sent in annex E.1– XII a table with the calculations which it was based the imputation of expenses regarding repair/maintenance of the van and vessels "Ziphius" and "Roaz".

In spite of the financial constraints, and difficulties highlighted in the Progress Report, the production of the DVD happened. It was completed on 26th June 2013. For more information see point 5.1.20 – Action D.12.

From July 2012 onwards, Luís Freitas increased his involvement in the project, mostly for data analysis, technical supervision and preparation of technical documents of the project, and therefore an increase in the percentage of time allocated to the project.

As requested (see point 5.1.21 – E.1 Project Management of the Mid-term report) the contract of the GIS technician services (Adalberto Carvalho) extended for an extra period of time, in order to continue processing of data concerning actions A.7 and A.8 (see points 5.1.7 and 5.1.8 of this report). He initiated his work on the 1st of September 2012 (see point 5.1.21 – E.1 Project Management of the Progress report).

Regarding the personnel costs, the budget adjustments proposed to the Commission in the Progress Report (to include Social Security costs not considered in the original contracted project budget) were ultimately insufficient to cover all direct personnel costs the Municipality supported in this last stretch of the project. For further explanations regarding this issue see "problems encountered".

As requested in your letter (Env E3/MD/MLM/ml ARES (2012) 116213 of 02nd February 2012), we deliver complete documentation on: the timesheets of Ana Dinis (Annex E.1 – V) and Adalberto Carvalho (Annex E.1 – VIII); employment contracts of Ana Dinis (Annex E.1 –

I) and Adalberto Carvalho (Annex E.1 – VI); documents relating to the payment of Ana Dinis Social Security (Annex E.1 –III) and map with the calculations of the payment to Social Security by the Employer -Municipality of Machico (see Annex E.IV, in PDF and Excel format); copies of Ana Dinis payment receipts (Annex E.1 – II); copy of payment of Adalberto Carvalho services fee notes ("recibos verdes electónicos") (Annex E.1 - VII). To be noted that in relation to Adalberto Carvalho, and since his contract is for the provision of services (external consulting), there is no responsibility of Machico Municipality to pay his Social Security costs directly. The cost of Social Security is fully assumed by the service provider (Adalberto Carvalho) and is part of the overall costs of the consultancy paid by the Municipality.

Following the Commission recommendation in letter dated from 27 June 2011 (Env E3/MD/jv ARES (2011) 688893) we send in annex E.1 – XIV the pro rata statements for all the project years so that the costs may be eligible.

According to Commissions request, mentioned above, we send a copy of the following invoices: No. 3 of 22/11/2010 (Tiques e Manias), No. 01/2010 (Ana Cañadas), No. 2010022 of 12/03/2010 (J.S.Vieira Gouveia), No. 398 of 15/12/2010 (Fepdesign) and No. 186 of 26/03/2010 (António Petito Viveiros) and the respective proof of payment (Annex E.1-IX). Regarding "Tiques e Manias" payment of invoice nº 3/2010, there is a discrepancy between the services costs (total invoice value) and the amount paid by the Municipality. As "Tiques e Manias" was in debt to the Tax Services ("Finanças") and Social Security, Machico Municipality was obliged by law to retain a 25% amount without VAT (12,5% for Tax Services and 12,5% for Social Security), which resulted in the payment of a lower amount than stated in the invoice. The retained amount of 4.275€ was subsequently transferred to the Tax Services (Finanças) and Social Security (See transfer proof in Annex E.1 - IX).

Problems encounters and measures to overcome them:

The delays observed in the early months especially with contracting the project staff, equipment purchase, and services (web page design - Action D.1; Notice Board - Action D.2; material for the project - Action D .6; temporary exhibition Natura 2000 - Action D.9), were eventually all overcome with the effort and dedication of the entire team that was part of the project. These delays contributed to the request for the extension of some actions, such as A.5 and A.6. Also the sea conditions (adverse meteorological conditions) was a serious constraint to the field work, namely in action A.5.

The rigid inflatable boat (RIB) "Roaz" used by the Project for random surveys suffered a serious mechanical failure in the inflatable tube (in 2011) due to excessive sun exposure. The inflatable tube started ungluing from the rib's and was considered temporarily unfit for navigation. This issue had some impact on the development of action A.5, because in the third trimester of 2011 the random nautical surveys were carried out only with vessel Ziphius, which is more expensive to operate (more crew and maintenance), slower (which covers less miles per hour) and less flexible to work around animals (important resource for the work of photo-ID work). However, this problem was eventually solved and the inflatable tube was attached again to the hull and the RIB resume service. Unfortunately, in September of 2012 there was another failure in the inflatable tube, this time part of the glued joins opened loosing air. In spite the repair efforts, the boat was considered unfit for service because the inflatable tube could not withstand any more repairs and needed to be replaced. Due to amount of investment and to the financial constrains lived by the public services, there were no funds for such a repair and the boat was decommissioned in late November 2012.

The vessel "Ziphius" also had some mechanical problems, namely, there was a malfunction with the fresh water pump that needed to be replaced. The boat was temporarily out of service (from July to September 2012) waiting for the pump delivery by the supplier, which had to

order it from France. However, and despite these constraints it was possible overall obtain the minimum necessary field data to achieve the project objectives.

We identified an error in the projects´ application budget (direct personnel costs), on the calculations of the amounts/hour for each team member. The social security costs were not considered in the overall individual costs / hour of the project staff. Upon delivery of the progress report, we submitted the necessary adjustments to the European Commission. However the values put forward in that report ended up not covering the whole admissible costs with the project staff according the commission's rules. In those calculations the costs with the 14th month (holiday subsidy) were not considered as its payment was suspended by Law for 2012 and subsequent years. However, the Law was not considered valid by the Constitutional Court (deliberation of 22nd April 2013) and the public institutions were obliged to pay such subsidy in 2013. In that sense we present in this report the new calculations taking in consideration all the eligible project direct personnel costs that the MM paid to be considered in the project final costs. We expect your understanding towards this matter, accepting as such the values submitted. These changes respect the limits established by article 15.2 of the common provisions which allow budget adjustments/transfers between cost categories within the 30.000€ and 10% limits.

Status of this action is: completed in 30 June 2013.

4.1.23. **Action E.2: Inception Report**

Progress of the action:

The Inception Report (Deliverable E.2-I_Inception report) was Submitted in 31 March 2010 and acknowledged by the Commission in letter sent on the 22 June 2010 (Ares 357094). The following project staff have contributed to this report:

Luís Freitas, Rui Teixeira, Ana Nóbrega, Filipe Alves, Cátia Nicolau, Ana Dinis, Cláudia Ribeiro, Adalberto Carvalho e Sílvia Carreira.

Problems encounters and measures to overcome them:

The storm that hit Madeira archipelago last 20 February 2010 has had a major impact in Madeira Island, where this project was based. Although the MWM, its staff and the project staff were not directly affected by the catastrophe, there were however some communication and logistical difficulties which had implications in the overall operation of the institution delaying all internal process, including the preparation and writing up of this report. The request for some extra time to prepare the inception report was submitted to the Commission and the request kindly granted.

Status of this action is: completed in 31 March 2010.

4.1.24. **Action E.3: Mid-term Report (with payment request)**

Progress of the action:

This action was completed with the delivery of the Mid-term Report (Deliverable E.3-I_Mid-term report) and its annexes, in 31 October 2011. The following project staff contributed to the report: Luís Freitas, Rui Teixeira, Ana Nóbrega, Filipe Alves, Cátia Nicolau, Ana Dinis, Cláudia Ribeiro, Adalberto Carvalho e Sílvia Carreira.

Problems encounters and measures to overcome them:

The Madeira Whale Museum permanent exhibits opened in the 2 September 2011. The project Manager and Director of the MWM, Luís Freitas, is the curator of those exhibits and

was fully involved in the months before and in the weeks after the opening in such task. He's incapacity to supervise, revise and contribute for the report forced the request for the postponement of the date of delivery of this report to the end of October 2011.

Status of this action is: completed in 30 October 2011.

4.1.25. **Action E.4: Final Report (with payment request)**

Progress of the action:

This action was completed with the delivery of the present report and its annexes. The initial final report delivery date was 30 September 2013. Unfortunately a sequence of problems and difficulties pushed the delivery date forward, much more than we anticipated and wished. The following project staff contributed to this report: Luís Freitas, Rui Teixeira, Ana Nóbrega, Filipe Alves, Cátia Nicolau, Ana Dinis, Cláudia Ribeiro, Adalberto Carvalho e Sílvia Carreira.

Problems encounters and measures to overcome them:

Delays in data analysis (see explanations in points 4.1.7-Action A.7 and 4.1.8-Action A.8 of this report) contributed to the delay in finishing some of the project "deliverables" (Deliverables A.7-I/A.7-IA and Deliverables A.7-II/A.7-IIA) necessary to deliver with the present report. As a consequence, the contracts of part of the staff ended in the meantime (4 biologists and manager ended their contracts in September 2013) resulting in most of the remaining project management/scientific tasks being assumed by Luís Freitas, the project manager and Museum Director. As an unfortunate coincidence, and due to financial constraints, other museum staff (other areas) did not have their contracts renewed, resulting in more issues/work to be handled by fewer staff. Overall the Museum had their overall staff reduced (specialized staff) in around 30% in short period of time (between September and October). At the same time (end of September 2013) there were municipality elections which resulted in a change of political party and MM team. The change meant a period of adjustment, redefinition of some of the political/management/organization options, and explanation of museum reality and projects to the new team. In December Madeira archipelago was hit by a major sea storm that resulted in damages in the MWM building, serious damages in the museum research vessel "Ziphius" and the unfortunate loss of the vessels captain in an accident at sea.

All these urgent and immediate problems took most of the time and focus of Luís Freitas, leaving very little time to carry on with the analysis and writing up of the report and remain associated documents. One must take in consideration that besides writing up the project reports and unfinished associated documents (e.g. Deliverables A.7-I; A.7-IA; A.7 –II; A.7-IIA), it was necessary for Luís Freitas to carry on other Museum tasks related with its job responsibilities and to cover for the urgent and immediate matters that previously address by other Museum staff that left the institution.

Until December 2013 it was possible to do the remaining data analysis in a slow pace usually after working hours. From January until April the project report writing went further and short technical information documents were prepared to be the basis for the "Portaria" on the whale-watching operation area and respective carrying capacity (see point 5.1.7 –Action A.7 – objective 2). It was also prepared information to be incorporated in the Madeira section of the Portuguese report for the MSFD, namely, the proposal for the creation of a SCI for bottlenose dolphins and cetaceans in Madeira coastal waters (see point 5.1.7 –Action A.7 – objective 1).

From May to September 2014 the focus was put on finishing the Deliverables associated with objective 1 and 2, namely, "Proposal to establish a Site of Community importance (SCI) for

the bottlenose dolphin in Madeira Archipelago waters" (Deliverable A.7 – I/A.7 – IA) and "Proposal of areas of operation for the whale-watching activity and its respective carrying capacity" (Deliverable A.7 – II/A.7 – IIA). In October final report contents and format was finished and checked for overall inconsistencies within the document and with annexes and deliverables.

To complicate matters, the Museum server, where the most updated final report annexes were stored, had a malfunction and only during October it was possible to retrieve them.

The Commission was regularly updated on the delays and developments reported above through direct telephone contact, through email and also in contacts with the external team responsible for the project follow-up.

Status of this action is: completed in 31 October 2014.

4.1.26. **Action E.5: Workshop life projects networking**

Progress of the action:

The workshop LIFE projects networking was held on 6-8 November 2012 at the Madeira Whale Museum Auditorium with a total of 40 participants. There were 8 international invited speakers giving oral presentations, 5 speakers from the project CMII, 1 invited speaker representing the stakeholders from the Madeira whale-watching operators and 2 members representing government. This action had the involvement of all the project staff, either in the organization/logistics of the event and/or in preparing and presenting oral communications.

In order to promote an exchange of knowledge between different LIFE projects, 4 different life projects were invited to participate in the workshop. Unfortunately, in the workshop there were only 3 participations, namely from Projecto LIFE+ *MarPro* (Aveiro/Minho), Project LIFE+ *INDEMARES Golfo de Cádiz* (CIRCE, Spain) and LIFE+ *Ilhéus do Porto Santo* (Madeira). At last moment representatives from LIFE+ INDEMARES project coordenation (Madrid, Spain) canceled their participation in the workshop.

A total of 24 oral presentations were given during the workshop and several discussion sessions happened in order to analyse and compare the project CMII results with experiences from other projets elsewhere.

In Annex E.5 are presented the divulgation poster of the workshop (in English and Portuguese) (Annex E.5-I), an example of an invitation letter for the workshop (in English and Portuguese) (Annex E.5-II), the material/information of the workshop sent to the press (in English and Portuguese) (Annex E.5-III), the news in the printed press about the workshop (Annex E.5-IV), and the photographs of the workshop (Annex E.5-V).

The project workshop also had media coverage on the local television (Annex E.5–VI).

In Deliverable E.5 – I_ *Report on the Technical and LIFE+ networking workshop of Project CETACEOSMADEIRA II* is presented the workshop program, list speakers and their presentations, list of other participants and outcomes of the workshop.

Problems encounters and measures to overcome them:

Due to financial/budgetary and bureaucratic constraints imposed by the Portuguese Government as a reflection of the austerity measures taken to overcome the financial crisis Portugal is going through, there were some difficulties to implement this action. However due to efforts made by the Project Manager and team, as well as, the effort and understanding of the commitment and importance of the full implementation of the project by the MM, it was

possible to put this action underway and carry it out within the project timeframe and to be useful for project relevant actions, such as action A.7 and A.8.

Status of this action is: completed in 30 November 2012

4.1.27. **Action E.6: Monitoring**

Progress of the action:

Monitoring actions took place as planned, with the participation of the entire team. The monitoring meetings were organized by the Administrative Manager (Rui Teixeira) and conducted by the Project Manager (Luís Freitas). These meetings had the participation of all the project staff and a representative from the Museum educational services.These meetings took place every 3 months in order to have a better control and monitoring of the development of actions and resolution / conclusion of pending situations.

In total 13 monitoring meetings were conducted, 4 in 2010, 4 in 2011, 4 in 2012, and 1 in 2013 (Deliverable E.6-I_Overall meetings report).

Problems encounters and measures to overcome them:

No problems were encountered.

Status of this action is: completed in 31 March 2013.

4.1.28. **Action E.7: Training of project staff**

Progress of the action:

The biologist Cátia Nicolau (4) participated in the Seminar: "Bycatch of Cetaceans. Present Scenario and Mitigation measures", organized by the SAFESEA project in Viana do Castelo (Mainland Portugal), January, 2010. The information from this seminar (see AnnexE.7-I_Seminar "Bycatch of Cetaceans. Present Scenario and Mitigation measures") was an important input for Action A.3, given that similar case studies of interactions between cetaceans and fisheries in Azores archipelagos, mainland Portugal and other countries worldwide, were presented.

The biologists Luís Freitas and Filipe Alves participated in the workshop: "Training of Spanish, Algerian and Moroccan researches on cetacean survey analytical techniques" between 3rd and 6th May 2010 at Valsain, Segovia, Spain organized by Alnitak (see Annex E.7-II_Workshop training of Spanish, Algerian and Moroccan researches on cetacean survey analytical techniques: Filipe Alves certificate, and Annex E.7-III_Workshop training of Spanish, Algerian and Moroccan researches on cetacean survey analytical techniques: Luís Freitas certificate).

The biologist Ana Dinis participated in the workshop about the programme Mark, between 6th and 11th June 2010 held in the Colorado State University (see Annex E.7-IV_Workshop Mark).

The biologist Cláudia Ribeiro participated in the workshop: "Introduction to Distance Sampling" workshop between 24th and 27th August 2010 organized by CREEM- University of St. Andrews (see Annex E.7-V_Workshop: "Introduction to Distance Sampling").

The biologist Luís Freitas participated in the workshop: "Introdução à estatistica univariada através da linguagem R", between 25th February and 3rd March 2013 (see Annex E.7-VI_Workshop: "Introdução à estatistica univariada através da linguagem R").

The information gained on these workshops, except the first one, was an important input for actions A.5 and A7.

Problems encounters and measures to overcome them:

During 2011 and due budgets constraints in MM, no staff from the project participated in any course or training initiative important for the project. To compensate for budget limitation lived in 2011 and permit overcome any training limitations of the project personnel, especially on what regards advanced training in statistics and analytical tools relevant for the project, this action was extended until March 2013.

During 2011 and due budgets constraints in MM no staff, specially the biologists, from the project has participated in any course or training initiative important for the project. To compensate for budget limitation lived in 2011 and permit overcome any training limitations of the project personnel, especially on what regards advanced training in statistics and analytical tools relevant for the project, it is our intention to extend this action until December 2012, well in time of that training be used for the good of the project, especially in actions A.7 and A.8.

Status of this action is: completed in 31 March 2013.

4.1.29. **Action E.8: External audit**

Progress of the action:

The external audit was held in August 2013, after all the project expenses were paid (Annex E.8-I_External audit). This action had the involvement of Rui Teixeira and Ana Nóbrega.

Problems encounters and measures to overcome them:

No problems were encountered.

Status of this action is: completed in 31 August 2013.

4.1.30. **Action E.9: After-LIFE Conservation Plan**

Progress of the action:

The after-LIFE conservation plan is the proposal on how the conservation/monitoring efforts should continue after the end of CMII project. This plan is a proposal to be submitted to the Madeira Regional Government, the entity which is responsible for establishing and implementing the conservation policies in Madeira archipelago. Several suggestions are put forward in this document to maintain the consistency of the work done regarding cetaceans conservation in Madeira in the last decade, and establish the guidelines for future actions, management and monitoring. This action was carried out by Luís Freitas with the support of Filipe Alves, Ana Dinis and Cláudia Ribeiro. This document follows the recommendations set by the Commission regarding its contents.

The After-life Conservation plan is presented in Annex E.9-I_After-LIFE Conservation Plan).

Problems encounters and measures to overcome them:

Delays in the data Analysis which in turn resulted in delays in the project final results influenced the date this action ended. Only after the Deliverables resulting from Actions A.7 (Deliverables A.7 – I/ A.7 – IA and A.7 – II/ A.7 – IIA) and A.8 (Deliverable A.8 – I) it was possible to define the After-Life conservation plan. This delay did not result in any costs for the project as it was already financially closed in 30 June 2013.

Status of this action is: completed in 31 October 2014.

4.1.31. **Action E.10: Progress Report**

Progress of the action:

This action was completed with the delivery of the Progress Report (Deliverable E.10-I_Progress report) and its annexes, in 30th September 2012. This report was done with the contribution of the following project staff: Luís Freitas, Rui Teixeira, Ana Nóbrega, Filipe Alves, Cátia Nicolau, Ana Dinis, Cláudia Ribeiro, Adalberto Carvalho e Sílvia Carreira.

Problems encounters and measures to overcome them:

No problems were encountered.

Status of this action is: Completed in 30 September 2012.

4.1.32. **Madeira Whale Museum Educational Services and CMII Project**

Progress of the action:
The MWM Educational services developed several educational activities within the CM II project, namely:

A- Exhibitions and/or complementary activities were held in order to publicise the project CMII, which included:

A.1- Activities to complement the Natura 2000 sites network temporary exhibit (see point 5.1.17 - Action D.9), in order to promote the Project, and to explain the importance of the Natura 2000 Network and the conservation of Cetaceans. These activities were aimed at Madeira and Porto Santo students, and reached a total of 926 students (table 5.1.32.1) (see Annex 5.1.32-I_Exhibitions to publicize the project). This action had the involvement of Sílvia Carreira and Ana Alves with the support, whenever necessary, from the museum permanent exhibits staff.

Table 5.132.1 Places where educational activities were developed *vs* number of students.

Place	Date	No. Students
Machico	20th of May to 3rd June 2011	70
Santana	8th of June to 24th June 2011	0
Porto Moniz	11th of July to 11th September 2011	40
São Vicente	12th of September to 10th October 2011	30
Câmara de Lobos	11th of October to 28th October 2011	65
Santa Cruz	03rd of November 30th November 2011	0
Ponta do Pargo	3nd of December to 30th January 2012	30
Ponta do Sol	1st of February to 23 th February 2012	20
Ribeira Brava	21st of March to 08th April 2012	20
MWM	13th of April to 16th May 2012	261
Madeira Shopping	18th of May to 28th May 2012	70
Porto Santo	15th of November to 7th December 2012	320
Total		**926**

A.2 - MWM – Recordando o Passado, Preparando o Futuro (Remembering the past, Preparing the future)

Designed to explain the role of the MWM in preserving cultural memory associated with whaling as well as publicise the studies and conservation on cetaceans, namely the project CMII (see Annex 5.1.32-I_Exhibitions to publicize the project). This activity had the involvement of Sílvia Carreira and Ana Alves, from the Museum Educational Services, as well as, the biologists from the project.

The exhibition was on display in:

- Maritime terminal – from 01st of November 2012 to 02nd December 2012
- Madeira airport – from 15th of December 2013 to 10th January 2013.

There was an estimated total of 150 000 people visiting this exhibition, mainly tourists due to nature of the two locations.

A.3 - Cachalotes e Margaridas (Sperm whales and daisies)

Designed to explain how the social organization of cetaceans contributes to the protection of calves (see Annex 5.1.32-I_Exhibitions to publicize the project). The exhibition was on display in Madeira Airport from 06th of May 2013 to within the "Festa da Flor" (Flower Festival) 2013. This exhibit contributed to publicise the Project and the Museum.

There was an estimated total of 47 000 people visiting this exhibition, mainly tourists due to nature of the location.

B - Environmental awareness activities at Madeiran schools. The MWM educational service was asked by schools/social centres to give lectures on environmental awareness and conservation. In addition to addressing marine biodiversity and sustainable development, the CMII project was also presented. Up-to-date the following lectures described in table 5.1.32.3 were carried out. See pictures from the 23rd May 2011 activity in 'Annex 5.1.32-II_ Environmental awareness raising projects photographs'.

Table 5.1.32.3 Environmental education activities carried out at schools and social centers.

Date (dd/mm/yy)	Institution	Responsible for the activities	No. Students (age in years)						>65	Teachers
			3-5	6-10	11-12	13-15	16-18	18-65		
18/11/2010	EB1PE Lombo da Guiné	Sílvia Carreira/ Ana Alves	35	30						8
19/01/2011	EBS Machico	Ana Dinis/ Sílvia Carreira					44			2
20/01/2011	EBS Machico	Ana Dinis/ Ana Alves					19			1
24/01/2011	EBS Santana	Sílvia Carreira			22					2
03/02/2011	EBS Machico	Sílvia Carreira			19					2
04/02/2011	Ziphius	Sílvia Carreira	20							2
08/02/2011	MBM - Centro Convívio S.Pedro	Sílvia Carreira							30	1
18/02/2011	EBS Ribeira Brava	Sílvia Carreira					44			2
23/02/2011	EB 23Campanário	Sílvia Carreira								11
04/04/2011	EB1PE do Pedregal	Ana Alves		25						2
17/05/2011	ES Jaime Moniz	Sílvia Carreira					25			1
23/05/2011	EBS Machico	Sílvia Carreira				44				4
02/06/2011	EB1 Gaula	Ana Alves	35	80						2
12/01/2012	EBS Torre	Sílvia Carreira						130		4
26/01/2012	EBS Stª Cruz	Sílvia Carreira				50				2
01/02/2012	EBS Stª Cruz	Sílvia Carreira				50				5
09/03/2012	EB1Caniçal	Sílvia Carreira		22						1
20/03/2012	Santana	Sílvia Carreira			36					2
16/01/2013	CRS Família	Ana Alves							20	2
17/01/2013	EB1Galeão	Ana Alves		20						2
22/01/2013	EB1 Gaula	Ana Alves		63						4
23/01/2013	EB1 Maroços	Ana Alves		23						2
28/01/2013	EB1 Bica Pau/ CAO RBrava	Sílvia Carreira		41				25		11
29/01/2013	CAO S.Vicente / EB1Madalena Mar	Sílvia Carreira		25				18		6
04/02/2013	EB2,3 do Galeão / CAO S.Roque	Ana Alves				23		20		6
06/02/2013	EB1Machico / EB2,3Caniço	Sílvia Carreira		25		45				4
07/02/2013	Centro Música Arte	Ana Alves							10	4
14/02/2013	SociaHabitat	Ana Alves							10	2
25/02/2013	CAO SCruz/ CAO	Ana Alves						45		8

	Camacha									
07/06/2013	Madeira Shoping	Ana Alves		22						2
12/06/2013	Madeira Shoping	Ana Alves		63						6
13/06/2013	Madeira Shoping	Ana Alves		68						6
TOTAL			**1256 students**						**70 Senior citizens**	**119 Teachers**

C- Activities during the summer of 2011. The educational services developed activities related with CMII project (Table 5.1.32.4) with several institutions during summer holidays 2011. The activities consisted of educational games about bottlenose dolphins and short-finned pilot whales, namely weights and lengths games and the decoration of a panel (see Annex 5.1.32-III_Summer activities photographs).

Table 5.1.32.4 – Summer activities developed by the MWM educational services.

Date	**Institution**	**No. Students (age in years)**			
		6-10	**11-12**	**13-15**	**Monitors**
27/07/2011	Vila Mar			8	1
03/08/2011	Centro Nogueira	4	4	8	2
08/08/2011	Centro Convívio SR Faial	4	4	2	2
22/08/2011	Vila Mar			8	1
26/08/2011	Projecto Capacitar			50	4
29/08/2011	Vila Mar			8	1
TOTAL		**100**			**11**

D - Organization of a workshop for teachers - "**Madeira Whale Museum: history, science and education - An approach to the educational community in RAM"**

On October 1st 2011 was held at the MWM auditorium a workshop which was attended by 33 teachers. The course was lectured by Sílvia Carreira, and by the biologist Ana Dinis of the project. Ana Dinis spoke about the CMII project and its importance to RAM (see Annex5.1.32-IV).

E – Publishing of a book for children entitled "Pintarolas e o Futuro do mar – Um contributo para a Rede Natura 2000"

The book resulted from the partnership developed between the library of the EB1/PE Machico School and the MWM – CM II Project. A thousand books were printed and an electronic version of the book is available for download at project's web site (www.cetaceos-madeira.com/downloads) as well as at the Museum web site – (www.museudabaleia.org/downloads).

Copies of the book were distributed to all schools and libraries of the Madeira archipelago (see the book in Annex 5.1.32-VII_Livro Pintarolas contributo RedeNatura2000).

On June 6th 2011 it was held the presentation of the children's (see Annex 5.1.32-V_Children's book presentation photographs) at the EB1/PE Machico school.

The book comprises a compilation of many students' works/tales. The impulse/inspiration of each tale was based on the Natura 2000 network talks given by the teachers of the MWM.

F - Organization of a creative contest *baleiArte* - 3D models of the CMII project target species

The educational services staff together with the assistance of other Museum staff developed three-dimensional styrofoam models of bottlenose dolphins and short-finned pilot whales (target species of the CMII project) in order to stimulate a creative competition between

students in the Madeiran schools and promote the Project CMII, Natura 2000 Network and the awareness towards the conservation of Cetaceans.

Nineteen models were built and made available to the school community. To the first 18 institutions joined the competition it was given a model of a bottlenose dolphin or a tropical pilot whale for them to decorate. The delivery of the models to the schools occurred in October 2012 and the collection of decorated models occurred in April 2013.

The competition was opened not only to schools but also to CAOs (Ocupational centers orientated to people with special learning needs) and social centers work as day centers for elderly people.

While schools were decorating the Styrofoam models, the educational services accompanied them and gave several lectures related with the project and the conservation of marine environment. Those initiatives involved a total of 625 students and teachers.

The jury was composed by Helena Berenguer (Madeira Educational Department representative), Luís Freitas, Patrícia Sumares e Vânia Fernandes. The judge Patrícia Sumares, an artist, decorated one of the models to give visibility to the whole initiative. The whale is called *"…as baleias que cruzavam os oceanos…"* and it is now part of the MWM exhibits (see Annex D.3-III_News and press releases of the project).

Prizes were awarded in two categories: name and decoration. The evaluation of the artworks in the category of decoration was the responsibility of the jury and for the category name voting occurred online through the Facebook page.

The 'Annex 5.1.32-VI_Creative contest baleiArte' includes photographs of the models to decorate (Annex 5.1.32-VI-1.1), the decoration contest rules (Annex 5.1.32-VI-1.2), the project presentation photographs (Annex 5.1.32-VI-1.3), the list of participating schools (Annex 5.1.32-VI-1.4), the photographs of the decoration of the models (Annex 5.1.32-VI-1.5), the photographs of the final works in the awards ceremony (Annex 5.1.32-VI-1.6).

An exhibition from baleiArte was assembled with all the models decorated by the different participants and it was displayed in several locations across Madeira (Table 5.1.32.5), allowing a total estimate of 300 000 visitors.

Table 5.132.5 – Places where baleiArte exhibition was exhibited.

Place	Date
MWM	30th of April to 2nd June 2013
Madeira Shoping	5th of June to 11th June 2013
Museu Casa da Luz	18th to 27th June 2013
Biblioteca Pública Regional	28th of June to 5th August 2013
Pestana Carlton Hotel	28th of June to 5th August 2013
Quinta do Lorde Hotel	28th of June to 5th August 2013
Aeroporto Internacional do Funchal	6th of August to 2nd September 2013

The "baleiArte" contest was a huge success and resulted in great involvement and participation of the community in the initiative, with important publicity for the project CETÁCEOSMADEIRAII.

Problems encounters and measures to overcome them:

No problems were encountered.

Status of this action is: completed in 2 September 2013

5.2 Evaluation

All actions considered in the project application were carried out and the great majority of results per action reached. In spite the necessary adjustments in some activities to deal with unexpected challenges and problems that arose during the project, we can firmly say that all the project results and associated objectives were achieved in a very satisfactory way. The actions were conducted in an efficient way, in general, taking advantage of the resources available.

The administrative/financial management of the project were bound by the Portuguese public services legislation and within the limitations imposed by the measures taken surpass present Portuguese financially difficult situation. Within this framework, the project was based on establishing autonomous teams according to their professional specialization (management/administration; science/conservation; education/ dissemination) under the overall supervision/orientation of the project manager. For each action/activity a coordinator(s) was designated which had the responsibility to take forward and complete the action within the timeframe, limitations and resources of the project. Regular project meetings took place to coordinate related actions logistically, allocate human and material resources and discuss among the whole team problems and solutions to overcome them. Project human resources were allocated as necessary for different tasks taking in consideration knowledge, availability and actions prioritization.

The methodologies applied in the field work (developed in Action A.2 and Action A.3 and applied in actions A.5 and A.6) and analysis were overall adequate and allowed us to answer the questions/objectives of the project in a scientific valid and efficient way.

The only field methodology that did not provided data as we expected was the surveys on offshore waters with observers on board. When the project was applied to LIFE+ funding tuna fishing boats had traditional working pattern based on search of tuna shoals on offshore waters, fishing as many tons as possible/allowed and return to land the catches. However, in the most recent years this working pattern has changed and now most boats work in cooperation using a different working pattern called “Pesca à mancha”. This working pattern takes advantage of the fish behaviour and involves finding a tuna shoal, attracting it underneath the boat (the animals tend to congregate under floating objects) and keeping them there. They will regularly have fishing sessions and when the boat is full another boat comes and replaces it. This way a tuna fishing boat will keep a shoal aggregated underneath and a group fishing boats working in cooperation will control and fish the entire shoal without having to spend time and fuel on sea searches. The implications for our work is that the coverage of offshore waters was less than we anticipated (part of the time observers were on board fishing vessels that stayed over the shoal or in direct navigation between land and shoal). The second short come was related to the difficulty to approach sighted cetaceans to confirm species, especially when the boats were working in a specific fish shoal. These limitations reflected in the results for objective 3, namely a great percentage of unidentified sightings or identification only to the family level. However, this methodology still provided valuable data on cetaceans in offshore waters and on the interactions with the tuna fishing fleet as can be seeing in deliverable A.8-I_Report surveillance cetaceans conservation status Madeira EEZ.

The data analysis also took longer than we anticipated, but unfortunately, that is an unpredictable issue as it depends very much on the data we collect, especially on iterative analysis as can be the spatial modelling.

Although weather constrains conditioned the field work sometimes, it planned field work was mostly carried out and allowed us to collect the necessary data to answer the questions/objectives of the project.

Task	Foreseen in the revised proposal	Achieved	Evaluation
A.1-Project setup	Prepare the project administratively and logistically to carry out the remaining actions	Most of the necessary equipament was purchased; staff and staff contracted	GOOD– the action set the basis for the remaining actions. Its implementation went well, in spite of the administrative limitations explained in this report.
A.2-Tech. Plan Nat. 2000 and WW	-1 technical plan for Natura 2000 marine sites and establishment of ww operation areas and carrying capacity	-1 technical plan for systematic nautical surveys; -1 technical plan for non-systematic surveys -1 technical plan for photo-identification -1 technical plan for whale-watching data collection	VERY GOOD – The necessary methodological set ups to answer different questions were done, which allowed to carry out the action (A.5) field work and the action (A.7) data analysis successfully, and ultimately achieve the project objectives 1 and 2. The choosen methodologies were the more adequate and efficient ones to obtain the data needed for the project.
A.3-Tech. Plan offshore waters surveillance	-1 technical plan on the methodology and field protocol for the surveillance of the conservation status of cetacean species in the offshore waters of Madeira EEZ	-1 technical plan surveillance conservation status of offshore waters	VERY GOOD – The necessary methodological setup was done, which allowed to carry out action (A.6) field work and action (A.8) data analysis successfully. There were however some unforeseen methological and field work limitations, that did not allow us to obtain as much data as initially expected. These limitations were related with the change fishing technique ("mancha") of the tuna fishing boats that affected the search patterns. This meant less nautical miles travelled searching for tuna and more time staying on top of detected shoals of fish. However, it was gathered information that allowed the revision of the conservation status of some cetacean species in Madeira taking in consideration the offshore component.
A.4-technical meetings	-3 Advisory technical meetings for Actions A.2, A.5 and A.7, related with objective 1 and 2 -3 Advisory technical meetings Actions A.3, A.6 and A.8, related with objective 3	-4 Advisory technical meetings for Actions A.2, A.5 and A.7, related with objective 1 and 2 -1 Advisory technical meetings Actions A.3, A.6 and A.8, related with objective 3	GOOD – The meetings allowed the discussion with experts of the best methodological solutions, analysis tools and problems in order to get the best scientific knowledge as possible to address the questions associated with the project objectives. The number of meetings held for each objective was adjusted according to need as explained in point 5.1.4- Action A.4
A.5-Data coll. Nat2000 and WW	- 112 days systematic surveys (SNS) - 80 days of random surveys (RNS) - 30 days field work WW (96 trips)	76 days SNS 77 days RNS ~ 70 days (192 trips) WW with observer in boats 12 days of observation of WW boats from land	VERY GOOD – The sea effort was either near the initially considered in the project application or more, with the exception of SNS. The data collected by the different methodologies was robust and the necessary to address the questions posed by objectives 1 and 2.
6-Data coll. offshore waters surveillance	-160 days of effort at sea on board tuna fishing vessels (4 observers)	- 161 days of effort at sea on board tuna fishing vessels (4 observers)	VERY GOOD – the planed effort was accomplished, allowing us to collect and data for objective 3.
A.7-Data analysis Nat2000 and WW	-1 report of the critical areas for bottlenose dolphin in Madeira to be considered for Natura2000 marine sites; -1 report of the proposed areas for the whale-watching activity and its respective carrying capacity;	-1 report of the critical areas for bottlenose dolphin in Madeira to be considered for Natura2000 marine sites; -1 report of the proposed areas for the whale-watching activity and its respective carrying capacity;	VERY GOOD – These were the project main results and contributed decisively to achieve the project objectives.
A.8-Data analysis offshore waters surveillance	- 1 report on the results related with the surveillance of cetaceans' conservation status in offshore waters of Madeira EEZ	- 1 report on the results related with the surveillance of cetaceans' conservation status in offshore waters of Madeira EEZ	GOOD - This was one of the project main results and contributed decisively to achieve the project objectives.

D.1-Web page	>= 4000 web page visitors	-7211 web page exclusive visitors -Facebook page with > 528 likes	VERY GOOD – We almost double the expected number of visitors to the project web page, increasing the project projection in the society, also reinforced with Facebook not inicially considered in the project proposal
D.2-Notice boards	4 bilingual notice boards, including one in the research vessel Ziphius	4 bilingual notice boards 2 project publicity canvas in the research vessel Ziphius	GOOD – All notice boards were installed in the sites considered originally in the project applications in spite of problems that arouse regarding Porto Santo Harbour. Although it is impossible to measure the notice boards impact it is sure it was seen by thousands of people, locals and tourists, giving an important contribution to publicise the project and LIFE+
D.3- Press conferences	2 press conferences	-2 press conferences -Diverse Media coverage throughout the project period (printed press, internet media, radio, TV)	GOOD – Both programmed press conferences took place with media coverage of local and regional impact, taking the project to the general public. Besides the press conference the project had media coverage throughout its execution period with an important regional impact.
D.4-Worshop WW	1 workshop with the participation of WW operators	1 workshop with the participation of WW operators	GOOD- Athough we did not have all the WW operators present, it was possible to present and discuss with the participants the results of the project relevant for them. The presentation was followed by a very participated discussion afterwards which allowed to clarify some points regarding objective 2 of the project.
D.5-Training course	1 Seminar for the observers and crews of fishing boats	1 Seminar for the fishing boats crews and masters 1 training course for project observers	GOOD- Although it was not possible to have the project observers (for objective 3) hired in time to attend the seminar with fishing boats crews, we held the seminar as considered in the project application and later organised a specific training course for the observers. The aims of the seminar and courses were achieved. This action was very important to establish a trust relationship with the fishermen and explained them how the field work would be done, why should it be done and what for.
D.6-Divulgation Material	10000 leaflets; 5000 stickers; 1000 t-shirts; 1000 sun hats; 1000 calendars; 500 rain coats; 200 posters; 500 sweatshirts; 500 notebooks;	10000 leaflets; 5000 stickers; 1000 t-shirts; 1000 sun hats; 1000 calendars; 1000 bookmarks; 500 rain coats; 200 posters; 500 sweatshirts; 500 notebooks; 25 flags; 25 stickers; 1000 copies of the book “Pintarolas e o futuro do mar – O contibuto da rede natura 2000”	VERY GOOD – All divulgation material was distributed with great publicity impact in different target audiences.
D.7-Conferences Fishing community	4 conferences with the presence of >30 people each	3 conferences, one in Machico, one Caniçal and one Porto Santo with, 15, 80 and 10 attendees respectively. Although the forth conference was organized in “Câmara de Lobos” there were no fishermen attending it.	FAIR – It still is a challenge sometimes to reach specific fishing communities, such as the “Câmara de Lobos”, for practical reasons (crews being at sea) as well as the need to still build stronger trust ties with that community in order to captivate them.

D.8-Public information meetings	2 conferences, one in Machico and another in Porto Santo, with an expected audience of 100 and 50 people respectively	3 conferences, one in Machico, one Caniçal and one Porto Santo with, 15, 80 and 10 attendees respectively. The workshop with the whale-watching operators was also used to disseminate the project results related with objective 1(12 people).	FAIR – From our experience it is not easy to attract the general public in Madeira to conferences. The use of alternative means of communication, such as exhibits has been more successful in attracting the general public and getting the message across.
D.9-Temporary exhibition	Exhibition to be shown in >= 6 places with a total reach of 30 000 people	The exhibition was displayed in 14 places with a total predicted reach of 148 182 people	VERY GOOD – The impact of the temporary exhibition was far greater that we initially anticipated, contributing strongly to divulge the project and Natura 2000 and compensated for the not so successful conferences that were held in parallel.
D.10-Conferences	Attendance and dissemination of results on 3 conferences/ congresses meetings	Attendance at 2 conferences with 2 scientific oral communications and 3 poster communications	FAIR – This action did not go as initially considered in the project application. The financial and administrative constraints felt during the project forced us to reduce the number of conferences at which the project team participated as well as the number of participants. For that reason during the entire project period we only participated in two conferences, one to present preliminary results (1 person present) and another to present the project results at the end of the project with the participation of all the project scientific team.
D.11-Technical publications	>= 2 scientific papers submitted peer-reviewed journals	3 published scientific papers and 2 submitted	VERY GOOD – The targeted number of peer-reviewed papers submitted by the end of the project was achieved and three more papers already published at that time. More papers will be submitted to journals with scientific relevant data obtained and/or analysed during the project.
D.12-DVD	1 DVD	1 DVD	GOOD – Although there were administrative setbacks in this action, it was possible by the end of the project to have the DVD produced. It is difficult to evaluate the impact of the DVD in the general public.
D.13-Layman report	1 layman report	1 layman report	VERY GOOD - The layman report proved to be a good communication instrument, because it forced the team to clearly identify the key points of the project, the key results and transmit them in a simple summarized way. This exercise is a challenge especially when we are dealing with specialized/scientific topics. However, it paid off as it was a good way to communicate the project to Government officials, stakeholders and public in general.
E.1-Project management	Carry out the project administratively and logistically within the budget and following the rules set by law for the public administration and by the project EU co-financing agreement	The project was carried out within the set time frame and budget, with all its activities carried out, expected results obtained and objectives achieved.	GOOD – Overall this action went well, taking in consideration all the administrative and financial challenges the project faced. When necessary action was taken to adapt the project and its activities, within the EU rules, with the aim of achieving the project objectives and retrieving the most knowledge, project dissemination and impact out of the resources available to the project – maximizing efficiency.
E.2-Inception report	1 report	1 report	GOOD – The inception report allow us to identify in the first months the project weaker points, report them and address them in order to keep the actions in track.
E.3-Mid-term report	1 report	1 report	GOOD – The report was delivered with one month delay and accepted by the Commission.

E.4-Final report	1 report	1 report	GOOD - The report was delivered with several months delay. It was a comprehensive exercise to compile, explain and justify the project in its successes and challenges. There were several reasons external to the project that contributed decisively to the delay in finishing this activity. See the activity related point in the report for further explanations.
E.5-Workshop LIFE network	1 workshop 1 report	1 workshop 1 report	GOOD – This action schedule suffered several changes during the project to adapt to different outside circumstances. However, this action proved to be valuable, not only because it allowed to discuss the project results with experts from different backgrounds who gave important contributions, but also to exchange experiences with other LIFE+ projects.
E.6-Monitoring	15 monitoring meetings 1 overall meetings report	13 monitoring meetings 1 overall meetings report	GOOD – delay in contracting staff resulted in the late start of the monitoring meetings action. The meetings scheduled to happen in 2009 did not happen. However, the monitoring meetings were very important to keep track by the whole team of the project developments and setbacks, to discuss the problems and find solutions and to organize and allocate project resources (human and material) as needed for the different actions.
E.7-Training	Training as needed	The project staff participated in 6 courses	VERY GOOD – This action allowed the project staff to acquire new knowledge and know how or improve it, in order the address the technical/scientific issues dealt with in the project, contributing in an important way to achieve the project objectives with quality.
E.8-External Audit	1 audit report	1 audit report	GOOD – Went as expected with the project expenses validated.
E.9-After-LIFE conservation Plan	1 chapter of the final report	1 document	GOOD – The document was prepared as considered in the LIFE + rules.
E.10-Progress report	1 report	1 report	VERY GOOD – The report was delivered on time and accepted by the Commission.
Educational activities		-Activities to complement the Natura 2000 sites network temporary exhibit- reached a 926 students; -temporary exhibit "MWM – Recordando o Passado, Preparando o Futuro (Remembering the past, Preparing the future)" - estimated 150 000 visitors; -temporary exhibit Cachalotes e Margaridas (Sperm whales and daisies) - estimated 47 000 visitors; - Environmental awareness activities at Madeiran schools. - reached a 1256 students, 70 senior citizens and 119 teachers; - Activities during the summer of 2011 - reached a 100 students and 11 teachers; -workshop for teachers - "MWM: history, science and education - An approach to the educational community in RAM" -reached a 33 teachers; -contest *baleiArte* - 3D models of the CMII project target species – involved 18 educational/occupational instituions and 625 students and senior citizens, and had estimated 300 000 visitors.	VERY GOOD – The educational activities were not quantified at the project application. However, the quality of the educational iniciatives related with the project, its impact and outreach far exceeded our expectations.

5.3 Analysis of long-term benefits

The project has generated knowledge and proposals that will contribute directly for Habitats Directive objectives and Natura 2000 network. The most direct contribution is the proposal for the establishment of a pSCI (and in the future a SAC) for bottlenose dolphins and other cetaceans in the inshore waters of Madeira archipelago (expect Selvagens Islands), based on the technical/scientific knowledge gathered by this project and previous projects. Besides the local impact, the establishment of this SAC will contribute to the overall coherence of the Natura2000 network in the Atlantic as it establishes an area linking other SACs for the bottlenose dolphins and other cetaceans in this basin (e.g. Azores, Canaries, Iberian Peninsula and Mediterranean). This is especially relevant for such mobile species as the cetaceans. The implementation of this proposal has been informally accepted by the Madeira Government and one step forward has been taken by the regional authorities by integrating this proposal in the MSFD national report as a measure to be implemented in the near future. The implementation of this proposal will, on the other hand, promote the continuation of the cetacean populations and the related marine environment monitoring, as well as the directly related human activities in Madeira waters, in order to assess human impacts and, afterwards, minimized them, with the goal of maintaining a favourable state of conservation of these populations in Madeira waters. This includes a better understanding of the importance of the Madeira offshore waters for the cetacean populations, based on the knowledge that started being obtained in this project.

The other significant outcome of the project with long-term impact is the implementation of areas of operation and respective carrying capacity for the WW activities in Madeira archipelago coastal waters. The proposal presented by the project sets the technical/scientific basis for the implementation of a management tool considered in the Madeira legislation that governs WW and other marine observation activities. The implementation of areas of operation and corresponding carrying capacity is a tool aiming at the sustainability of the WW activity on the long run, or other words to contribute for the compatibility of the touristic and socioeconomic interest of the activity with the conservation of cetaceans in Madeira archipelago and the wellbeing of the observed animals. Besides establishing maximum limits f trips and boats operating, it protects critical areas for some cetacean species activities and promotes the growth of the activity by spreading it to other areas besides the main centre (Funchal), with local socioeconomic impacts. This management tool also fits well into a future management plan of the SAC, helping regulate the pressure of WW on cetaceans within the SAC and thus contributing for the conservation objectives established for the SAC.

The establishment of a SAC and of areas of operation for WW in Madeira coastal waters will bring social and economic benefits, not only indirect through the contribution to the balance and conservation of the marine ecosystem by minimizing the impact of human activities on cetaceans, but also directly by adding value to economic activities such as WW. The added value can occur in different ways, such as: more publicity of Madeira attracting tourists sensitive to responsible use of nature as a resource, because the WW activity is being develop in a responsible way within a SAC, where the chances of seeing cetaceans with natural undisturbed behaviours increases; spreading the WW activity for areas of lower pressure with local socioeconomic impact, creating more jobs and generating local income; minimized human impacts within the SAC may result in an influx of animals from surrounding areas where the human pressure is higher, with gains for the WW industry which can offer a better and higher value product; the creation/maintenance of skilled jobs and expertise on monitoring and management of marine resources, the generation of new research opportunities and knowledge about cetaceans and the marine environment that can result in added value, either academically or in more simple ways by allowing, for instances, the

improvement of the educational/awareness/informational contents given by the WW operators to their clients or by scientific/educational institutions such as the MWM to their visitors. New business opportunities can arise from the creation of an SAC and take benefit from the publicity and 'good aura' it has, as well as, increase exposure and value for marine activities non related with cetaceans, but taking place within the SAC, like scuba diving.

The direct consequences of this project are the establishment of a SAC for the bottlenose dolphin and other cetaceans in Madeira coastal waters, the establishment of areas of operation and respective carrying capacity and the re-assessment of some cetacean species (the ones for which it was possible go gather enough data) conservation statuses including for the first time an input from the Madeira offshore waters. The long-term quantifiable indicators of the project success should be: 1 – the establishment of the SAC; the implementation of the areas of operation and the respective carrying capacity; 3 – the maintenance of the conservation statuses of the species assessed during the present project.

The knowledge and experience generated by the project will also continue to have an impact on the long run, because it established references parameter values for future comparison and evaluation of the evolution of cetacean conservation statuses in Madeira waters (e.g. within the reporting framework of the HD or the MSFD; see Deliverable A.8_I), because it may bring new research opportunities, and because it allowed an improvement of procedures, monitoring scientific protocols, techniques and training of human resources dealing with the subjects at hand.

Please see Annex E.9 – After-LIFE conservation plan for information regarding the project long-term perspective.

5.4 Dissemination issues

5.4.1 Dissemination: overview per activity

The dissemination activities were already described above in points 5.19 to 5.1.21. The evaluation of these dissemination activities was also carried out in point 5.2.

Care was taken to insure that all activities, presentations, documents, notice boards, facebook page, project web page (see point 5.1.9- Action D.1) and durable goods related, promoted and/or financially supported by the project had the LIFE and Natura 2000 Logo (see annexes A.1-I; D.2-I; D.6-I; D.9-I_II; D.13-I_II; 5.1.32-VII).

The research vessel "Ziphius" used the LIFE Program Flag all the time, even when docked.

A list of dissemination annexes point 10.5 of this report.

5.4.2 Layman's report

The project layman report follows as much as possible the instructions given on what regards its contents, languages and format. However taking in consideration the very technical/specific results/outputs of the project, the final version of the project layman report exceeded the recommended 10 pages. Part of the space was used in graphics for the document to be appealing as well as explaining boxes for the more technical aspects.

It was our great interest to use the layman not only as a communication tool to the general public, but especially to the decision makers, stakeholders and Government officers to facilitate the dissemination and implementation of the project results, namely, related with objective 1 and 2 of the project.

The Project layman report is published in paper version as well as electronic version (PDF), both in Portuguese and English. To increase the impact we joint the DVD together with the layman report in its paper version. For further details, please, see points 5.1.20 – Action D.12 (DVD) and 5.1.21 –Action D.13 (Layman report) of the this report.

The layman report is sent in electronic version, both in Portuguese (see Annex D.13 – I) and in English (see Annex D.13 – II), as well as in paper format (with both languages integrated in one booklet).

5.4.3 After-LIFE Communication plan

N/A

DELIVERABLE PRODUCTS OF THE PROJECT

Name of the Deliverable	Code of the associated action	Deadline	Executed Date	Proposed new deadline
1 technical plan Natura 2000 marine sites and establishment of areas to whale watching and carrying capacity	A.2	30 April 2010	30 June 2010	N/A
1 technical plan on the methodology and field protocol for the surveillance of the conservation status of cetaceans species in off-shore waters of the Madeira EEZ	A.3	30 April 2010	30 June 2010	N/A
1 overall report comprising all the individuals meeting reports	A.4	30 June 2012	30 September 2013	N/A
1 overall report comprising individual reports from each observer per trip;	A.6	31 March 2012	31 December 2012	N/A
1 report of the critical areas for the bottlenose dolphin in Madeira archipelago to be considered for Natura 2000 marine sites	A.7	31 December 2012	10 October 2014	N/A
1 report of the proposed areas for the whale-watching activity and its respective carrying capacity	A.7	31 December 2012	20 October 2014	N/A
1 report on the results related with the surveillance of cetaceans conservation status in off-shore waters of the Madeira EEZ	A.8	31March 2012	30 September 2014	N/A
Leaflets, t-shirts, sun hats, pens, calendars, stickers, light rain-coat, A2 size posters, notebooks, sweatshirts	D.6	30 September 2010	28 December 2010	N/A
2 papers on the results obtained in the project	D.11	Subject to the peer-review process.	31 March 2013	N/A
1 inception report	E.2	01 March 2010	31 March 2010	N/A
Mid-term report (with payment)	E.3	30 September 2011	31 October 2011	N/A
Progress report	E.10	30 September 2012	30 September 2012	N/A
Final report (with payment)	E.4	30 September 2013	31 October 2014	N/A
1 workshop technical report	E.5	30 September 2009	30 November 2012	N/A
1 overall meeting report comprising the summaries of the 15 meetings	E.6	31 March 2013	30 September 2013	N/A

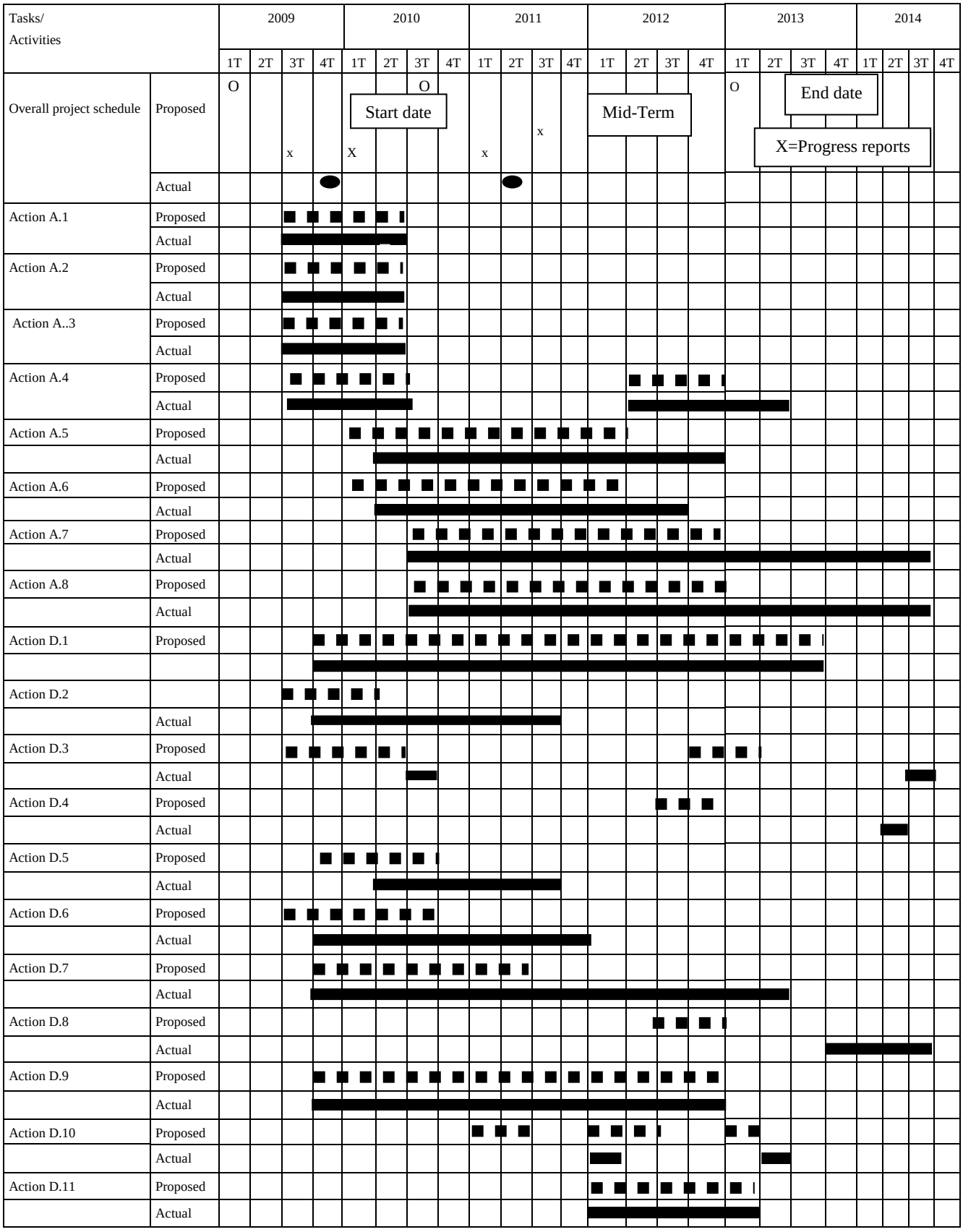
5. MILESTONES OF THE PROJECT

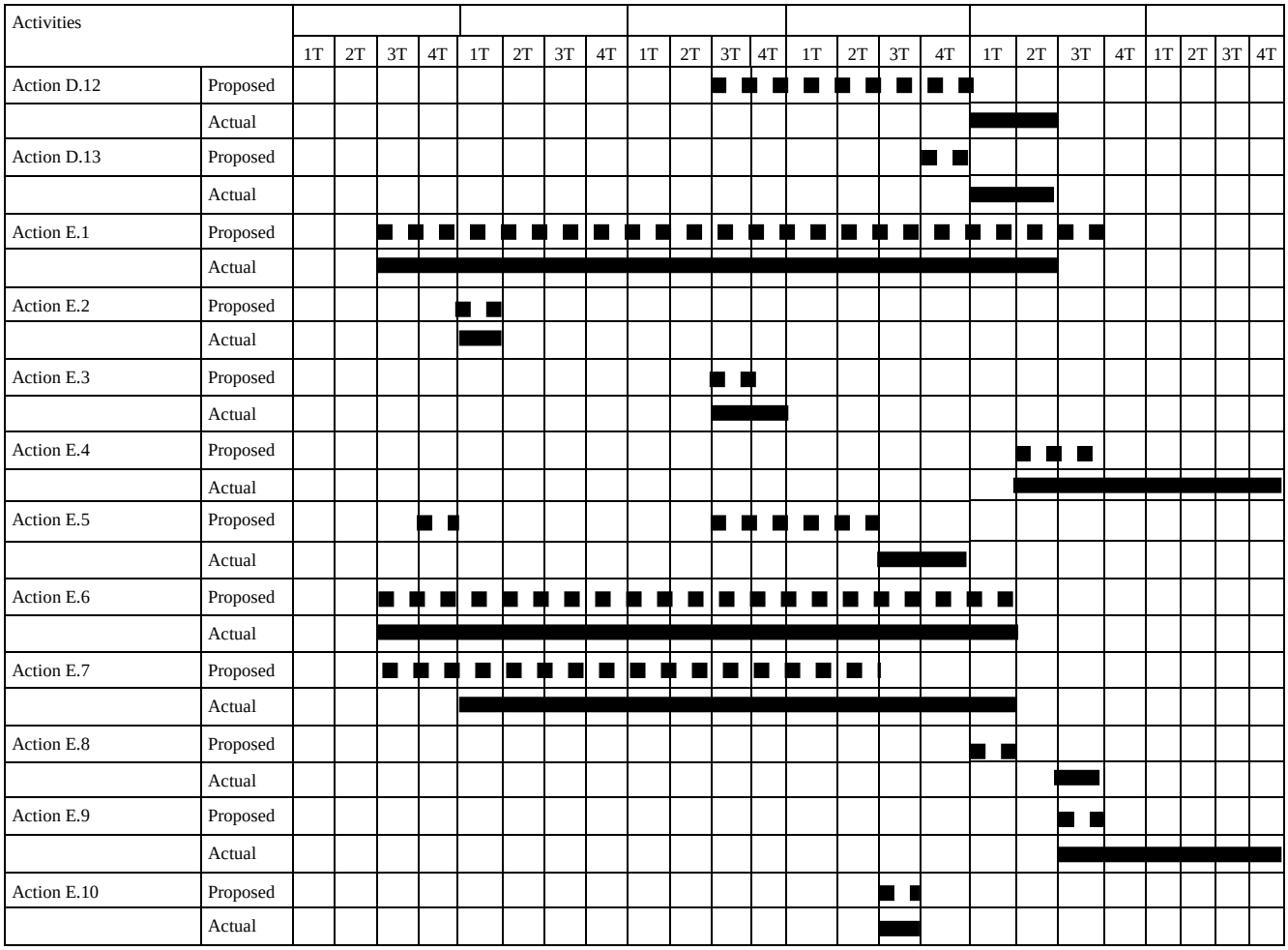
Name of the Milestone	Code of the associated action	Deadline	Executed Deadline	Proposed new deadline
Project set-up	A.1	30 April 2010	31 May 2010	N/A
Technical plan Natura 2000 marine sites and Technical plan for surveillance conservation status	A.2 and A.3	30 April 2010	30 June 2010	N/A
Data collected to establish the Marine Natura 2000 sites and data collected-surveillance conservation status	A.5 and A.6	31 March 2012	31 December 2012	N/A
Technical reports from actions A.7 and A.8	A.7 and A.8	31 December 2012	October 2014	N/A
Displaying notice boards at defined locations	D.2	30 September 2009	30 September 2011	N/A
Production of divulgation material	D.6	30 September 2010	28 December 2010	N/A
DVD	D.12	31 December 2012	30 June 2013	N/A
Layman report	D.13	31 December 2012	30 June 2013	N/A
Inception report	E.2	01 March 2010	31 March 2010	N/A
Mid-term Report (with payment)	E.3	30 September 2011	31 October 2010	N/A
Progress report	E.10	30 September 2012	30 September 2012	N/A
Final report (with payment)	E.4	30 September 2013	31 October 2014	N/A

6. ACTIVITY REPORTS FORESEEN

Type of report	Deadline	Executed
Inception Report	March 2010	March 2010
Mid-term Report with payment request	September 2011	October 2011
Progress Report	September 2012	September 2012
Final Report with payment request	September 2013	October 2014

Planned actions should also be indicated in the Gantt chart used to illustrate progress:




Activities
1T 2T 3T 4T 1T 2T 3T 4T 1T 2T 3T 4T 1T 2T 3T 4T 1T 2T 3T 4T 1T 2T 3T 4T
Action D.12 Proposed
Actual
Action D.13 Proposed
Actual
Action E.1 Proposed
Actual
Action E.2 Proposed
Actual
Action E.3 Proposed
Actual
Action E.4 Proposed
Actual
Action E.5 Proposed
Actual
Action E.6 Proposed
Actual
Action E.7 Proposed
Actual
Action E.8 Proposed
Actual
Action E.9 Proposed
Actual
Action E.10 Proposed
Actual

9. Comments on the financial report

9.1. Costs incurred

Fill in the following table concerning the incurred project costs and comment on each of the cost categories focussing particularly discrepancies compared to the allowed flexibility of 30.000€ and 10% (cf. Article 15.2 in the common provisions)

PROJECT COSTS INCURRED			
Cost category	**Total cost according to the Commission's decision***	**Costs incurred from the start date to 30/06/2013**	**%****
1. **Personnel**	467.244,00 €	506.041,21 €	108,30%
2. **Travel**	39.600,00 €	21.593,64 €	54,53%
3. **External assistance**	94.000,00 €	99.143,36 €	105,47%
4. **Durables: total non-depreciated cost**	44.120,00 €	27.997,49 €	63,46%
- Infrastructure sub-tot.	-	-	-
- Equipment sub-tot.	44.120,00 €	27.997,49 €	63,46%
- Prototypes sub-tot.	-	-	-
6. **Consumables**	39.000,00 €	24.174,03 €	61,98%
7. **Other costs**	59.750,00 €	64.010,87 €	107,13%
8. **Overheads**	51.360,00 €	52.007.00 €	101,26%
SUM TOTAL	**795.074,00€**	**794.967,61 €**	**99,99%**

*) If the Commission has officially approved a budget modification indicate the breakdown of the revised budget
**) Calculate the percentages by budget lines: How many % of the budgeted personnel costs are incurred by dd/mm/yyyy

The overall project expenditure presented in this report is slightly below the project initial budget. There were human and material resources from the MWM, from MM, MG and private companies that were used in many different occasions in the project activities and that are not reflected in the project final accounts. To give a few examples: people from the Museum not involved in the project which helped in transport, assemblage and attendance of the project exhibit and other initiatives; many hours of involvement of the Museum Educational service teachers and other Museum staff in educational initiatives carried out by the project; technical support from the Museum computer technician; transport (closed van) between the different locations of BaleiArte Styrofoam models offered by a local company; work from volunteers at different levels.

Considering only the costs budgeted in the project application and any other eligible costs, the final project expenditure was of **764.967,61 €.**

As expected, there were some fluctuations in the different categories final costs in comparison with the initial application budget. These costs differences reflect adjustments necessary to achieve the project results as well as the natural evolution of costs and needs which are not always possible to predict in the application budget. However, all the changes respect the limits established by article 15.2 of the common provisions which allow budget adjustments/transfers between cost categories within the 30.000€ and 10% limits.

The major budgetary adjustment happened in the category "1. Personnel". The final expenditure in this category was of 506.041,21 €, **+8.3%** (**38.797,21** €) more than initially

considered. This discrepancy was mainly due to the fact that the social security costs (eligible) were not integrated in the approved application budget. To help compensate this initial budgetary mistake it was not necessary to contract a technician for spatial modelling, as that analysis (see point 5.1.7 - action A.7) was carried out by Luís Freitas. The costs with the GIS technician were also considered "External Assistance" costs rather than in personnel taking in consideration the external nature of services provided. With these adjustments it was possible to keep in balance expenditure in the category "Personnel" within the commission rules. The category "1. Personnel" represents the major slice of the project costs due to the nature of the project activities. All of the project actions were labour intensive and depended on people's direct work, such as: campaigns at sea to collect data (Actions A.5; A.6); data analysis (A.7; A.8); technical discussions, preparing technical documents and technical training (A.2; A.3; A.4; A.7; A.8; D.5; D.10; D.11; E.2; E.3; E.4; E.5; E.7; E.9 and E.10); project communication that had the involvement of the project staff at different levels – preparing/updating specific contents for communication products (Actions D.1; D.2; D.3; D.4; D.5; D.6; D.7; D.8; D.9; D.10; D.12; D.13; E.5) and of course management/administrative/accounting support for all actions, but reflected in the project structure in Actions A.1, E.1 and E.6. For further information on who worked on each Action please go to the "Technical Part" of this report where each action work is described.

On what concerns the "3. External Assistance" costs, the initial budgeted value was exceeded in **5.143,36** € **(+5.5%)** due to the need to contract the GIS technician services for a longer period than we anticipated, which included retrieving and processing Physical and oceanographic satellite data which was considered initially a separate service. This issue was referred to in the Progress report and in point 5.1.1 – Action A.1 of this report. There were also adjustments in the values of the different services, but all of them were carried out and were essential for the project actions and to achieve the project results. The services provided by external assistance were important for actions A.2, A.3, A.4, A.5, A.6, A.7, A.8, D.1, D.2, D.6, D.9, D.12 and E.5.

On the other hand, "2. Travel" costs were less **18.006,36** € **(- 45,5%**) than the initially budgeted. This was a consequence from the financial/budgetary constraints experienced by all public services in Portugal the last years. It was necessary to establish priorities and so the presence in all the yearly European Cetacean Society conferences, as planned in the project application (from 2011 to 2013) was not considered as such. However, the project was represented in those conferences when it was relevant – Luís Freitas participated in 2012, promoting the project and presenting the preliminary results, and the whole technical team in 2013 when there were final results to present. It is important to mention that this constrains did not prevent the project from being divulged and objectives of including such an action in the project were achieved. For further information in this issue please see point 5.1.18 – Action D.10.

The final costs with "4. Durables – Equipment" was less **16.122, 51** € (**- 36.5%**) than the initially budgeted. As mentioned in the progress report and in point 5.1.22 – Action E.1, there were some durable goods (equipment and software) that were not purchased as they were not needed for the actions and for the achievement of the project objectives, either because other solutions were found or because that equipment/software was purchased by the MWM in the time between the project application and its implementation. Some of the equipment was important to carry out field work either to collect data (e.g. GPS's; photographic cameras, wind speedometer, lens, video cameras and related accessories; AIS receptors and accessories; binoculars; laptop computers) or for safety and operational purposes (e.g lifejackets; survival suites; protective suites; VHF radio; personal safety beacons; steering hydraulic pump), and was used mainly in actions A.5 and A.6. There were other equipment

with a more broad use in the project actions such as the desktop computers used by the administrative project manager and the biologists.

Regarding the "6. Consumables" category, it was spent less **14.825,97** € (**-36,54%**), mainly because the initial budget for Ziphius vessel fuel consumption was based in the normal diesel cost (fluctuating value according to the market, but presently around 1.4€/litre) rather than the subsided diesel that the vessel is allow to use. (fluctuating value according to the market, but with a subsidised set value, presently around 0.9€/litre). The fuel costs related with the van, "Ziphius" and "Roaz" vessels, were considered in the percentage (van – percentage of km travelled for the project; vessels – percentage of hours navegated for the project) used by the project, 57% , 89% and 94% respectively (See point 5.1.22 – Action E.1 of this report; Annex E.1 – XIII). For further information on this issue please see point 5.1.5 – Action A.5. Most of the costs in this category are related with fuel for the research vessels "Ziphius" and "Roaz" used to carry out sea surveys considered in action A.5 and for the Van used in different actions, such as, logistic support to actions A.4, A.5, A.6, D.4 – D.9, E.1, E.5 and E.7. There were also consumable costs related the project administrative/management tasks, for communication and educational purposes as well as boats operation (e.g. oil, etc), maintenance and repair.

In "7. Other Expenses" the initial budgeted value was exceeded in **4.260,87** € (**+7,13%**). The costs in this category were mainly related with: personnel, vessels, van and equipment insurances used in the different project actions; project's equipment maintenance/repair (used in actions A.5 and A.6); maintenance/repair of vessels "Ziphius" and "Roaz" used in project actions A.5 ; Conferences fees – Actions D.10; fees of training courses relevant for data collection and analysis – Actions A.5 – A.8; project divulgation material production (e.g. T – shirts; leaflets; sun hats; book "Pintarolas e o futuro do Mar") – Action D.6; bibliography – Actions A, D and E; catering costs – some Actions D and E. The increase in this budgetary category was due in part with a slight increase in some costs items (insurances and equipment repairs) considered in the initial application, as well as, with costs not included in the application and that were found to be important for the project dissemination and impact in the public, such as, the publication of hard copies of the book "Pintarolas e o futuro do Mar" as well as the layman report. The maintenance/repair costs related with the van, "Ziphius" and "Roaz" vessels, were considered in the percentage (van – percentage of km travelled for the project; vessels – percentage of hours navegated for the project) used by the project, 57%, 89% and 94% respectively (see annex E.1 – XIII).

The "8. Overheads" final costs were 52.007,00€, **+1,26%** more than considered initially in the application, but within the 7% limit admitted by the rules.

The project only extra income was **26,70€** of interests generated by the bank account (see Annex E.1-X). We also send in annex Annex E.1-XI the project Bank (BANIF) account statement of interest rates.

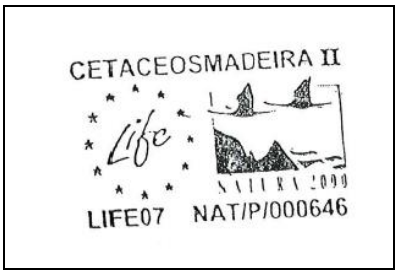
9.2. Accounting system

The project being carried out by the MWM, a department of MM, it is obliged by law to follow accounting system for Municipalities - POCAL (which is the Official Plan of Accounting of Local Government). This accounting system comprises technical considerations, principles and accounting rules, for valuation/measurement values, previsional documents, chart of accounts, the accounting system and internal control, accounts and financial documents and the criteria and specific methods.

The time sheet used by the project is the one established for LIFE+ Program and is available on the LIFE+ website (model_time-sheet1211).

All invoices and receipts have the project identifying stamp with the project name and number (see figure 6.1)

Figure 6.1 – Stamp with the project name and number used in all project invoices and receipts.



9.3. Partnership arrangements (if relevant)

N/A.

9.4. Auditor's report/declaration

The auditor's report is sent in Annex E.8-I_External audit. For further information on this issue see point 5.1.29 – Action E.8.

10. Annexes

10.1. Administrative annexes

- E.1 – I_Employment contracts of Ana Dinis
- E.1 – II_Ccopies of Ana Dinis payment receipts
- E.1 – III_Ana Dinis Social Security payments
- E.1 – IV_Employer -Municipality of Machico Social Security payments.PDF
- E.1 – IV_Employer -Municipality of Machico Social Security payments.XLS
- E.1 – V_Timesheets of Ana Dinis
- E.1 – VI_Employment contracts of Adalberto Carvalho
- E.1 – VII_Copy of payment of Adalberto Carvalho services fee notes
- E.1 – VIII_Timesheets of Adalberto Carvalho
- E.1 – IX_Invoices: No. 3 of 22/11/2010 (Tiques e Manias), No. 01/2010 (Ana Cañadas), No. 2010022 of 12/03 / 010 (J.S.Vieira Gouveia), No. 398 of 15/12/2010 (Fepdesign) and No. 186 of 26/03/2010 (António Petito Viveiros) and the respective proof of payment
- E.1 – X_Project current bank account interest
- E.1 – XI_Project current bank account (BANIF) statement of interest rates
- E.1 – XII_Maintenance/repairs costs of the van and vessels "Ziphius" and "Roaz"
- E.1 – XIII_Fuel consumption tables for vessels "Ziphius" and "Roaz"
- E.1 – XIV_Pro rata statement

10.2. Technical annexes

- A.1 – I_Photographs of Scientific Equipment
- A.4 – I_Workshop with expert on necropsies
- A.5 – I-II_Weather forecast
- A.5 – III_Thesis of Ana Filipa Costa
- A.6 – I_Photographs in tuna fishing boats
- A.6 – II_Video 1 in tuna fishing boats
- A.6 – III_Video 2 in tuna fishing boats
- A.6 – IV_Video 3 in tuna fishing boats
- A.6 – V-VI_Request of AIS data
- A.7 – I_Thesis of Ana Higueras Vera
- A.7 – II_ Example of GAM model result
- A.7 – III_Legislation - Decreto Legislativo Regional nº 15/2013 de 14 Maio
- A.7 – IV_Legislation - Portaria nº 46/2014 de 22 de Abril
- A.8 – I_Thesis of Inês Cunha
- D.1 – I-II_Google analytics & Facebook
- D.2 – I_Locations and pictures of the notice boards
- D.3 – I_News of the first press conference
- D.3 – II_Printed press_News of the second and final press conference
- D.3 – IIA_RTPMadeira TV news_final press conference_06-10-2014
- D.3 – IIB_Radio Zarco news_final press conference_06-10-2014
- D.3 – III_News and press releases of the project
- D.3 - IV_CMII_Radio Zarco news_20-07-2010
- D.3 - V_CMII_Radio Santana news_2011
- D.3 - VI_CMII_Radio Calheta news_04-12-2011

- D.3 - VII_CMII_Noticias_RTPMadeira_17-02-2013
- D.3 - VIII_CMII_ReporterMadeira_RTPM_01-01-2014
- D.3 - IX_CMII_RTP_Verão_Total_22-07-2013
- D.3 - X_Os protectores do oceano - Revista YVI
- D.4 – I-II_Workshop WW
- D.5 – I-II-III_Seminar for observers and crews of fishing boats
- D.5 – IV_Video 1 of the external observers training course
- D.5 – V_Video 2 of the external observers training course
- D.6 – I_Divulgation material (samples of the material produced were sent in previous reports – only images of the produced material in pdf file are sent in the final report) - D.6 – II_ Marchandising CMII
- D.7 – I-III-IV-V_Conference fishing communities
- D.7 – II_Video TV news about first conference fishing community
- D.9 – I_Location and photographs of the different places were the exhibit "Rede Natura 2000" was displayed
- D.9 – II-III_Temporary exhibit_layout and trainer manual_communication plan
- D.10 – I-II-III-IV-V_Conferences
- D.11 – I_Filipe Alves Phd Thesis
- D.11 – II_Ana Dinis Phd Thesis
- D.12 – I_DVD_portuguese_mp4
- D.12 – II_DVD_english_mp4
- D.12 - III_RTP Madeira day broadcast program_25-09-2014
- D.12 – III_CMII_project DVD_RTP Madeira broadcast_sample_25-09-2014
- D.13 – I_Layman report_ENG
- D.13 – II_Layman report_PT
- E.5 – I-II-III-IV-V_Workshop life network
- E.5 – VI_Video TV news about the workshop
- E.7 – I-II-III-IV-V-VI_Training of project staff
- E.8 – I_External audit
- E.9 – I_After-LIFE Conservation Plan
- 5.1.32 – I-II-III-IV-V-VI_MWM Educational Services and the CMII project
- 5.1.32 – VII_Livro Pintarolas contributo RedeNatura2000
- "PROJECT CMII_LIFE07 NAT P 000646_PRESENTATION.pdf"
- "PROJECT CMII_LIFE07 NAT P 000646_PRESENTATION.ppsx"

10.3. Deliverables

- Technical plan for Nature 2000 marine sites and establishment of areas to whalewaching and carrying capacity, comprising 4 documents, namely):
  - A.2 – I_Technical plan for systematic surveys (paper version sent in previous reports – electronic version only in the final report);
  - A.2 – II_Technical plan for non-systematic surveys (paper version sent in previous reports – electronic version only in the final report);
  - A.2 – III_Technical plan for photo-identification (paper version sent in previous reports – electronic version only in the final report);
  - A.2 – IV_Technical plan for data collection whale-watching (paper version sent in previous reports – electronic version only in the final report);

- Technical plan on the methodology and field protocol for the surveillance of the conservation status of cetacean species in offshore waters of the Madeira EEZ, comprising 1 document:
  - A.3 – I_Technical plan surveillance conservation status offshore waters (sent in previous reports – electronic verson only in the final report);
- A.4 – I-II-III-IV_Overall technical meeting reports;
- A.6 – I_Overall observers report;
- A.7 – I_Proposal to establish a Site of Community importance (SCI) for the bottlenose dolphin in Madeira Archipelago waters;
- A.7 – IA_Technical-scientific report to support the proposal of a Site of Community importance (SCI) for the bottlenose dolphin in Madeira Archipelago waters;
- A.7 – II_Proposal of areas of operation for the whale-watching activity and its respective carrying capacity;
- A.7 – IIA_Technical-scientific report to support proposal of areas of operation for the whale-watching activity and its respective carrying capacity;
- A.8 – I_Report surveillance cetaceans conservation status Madeira EEZ;
- D.6 – Divulgation material ((samples of the material produced were sent in previous reports – only images of the produced material in pdf file are sent in the final report – see Annexes D.6_I and D.6_II) ;
- D.11 – I-II_2 scientific papers on the results obtained in the project;
- E.2 – I_Inception report (delivered previously to the Commission);
- E.3 – I_Mid-term report (delivered previously to the Commission);
- E.5 – I_Technical LIFE+ Networking workshop report;
- E.6 – I_Overall meetings report;
- E.10 – I_Progress report (delivered previously to the Commission);

10.4. List of key-words and abbreviations

- AIS - Automatic Identification System
- APRAM – Administração dos Portos da Região Autónoma da Madeira)
- CM – Project CETACEOSMADEIRA (LIFE99 NAT/P/0006432)
- CMII – Project CETACEOSMADEIRA II (LIFE07 NAT/P/000646)
- DRP- Direção Regional de Pescas
- EEZ- Economic Exclusive Zone
- EU- European Union
- GIS - Geographic Information System
- HD – Habitat Directive
- MSFD – Marine Strategy Framework Directive
- IPTM- Instituto Portuário e dos Transportes Marítimos
- MG – Madeira Autonomous Government
- MM – Machico Municipality
- MWM – Madeira Whale Museum
- RAM – Madeira Autonomous Region
- RNS – Random nautical surveys
- SNS - Systematic nautical surveys
- WW – Whalewatching – meaning observation of any cetacean species in the wild

10.5. Dissemination annexes

In electronic format (On one or more CD-ROMs or DVD appropriately labelled and indexed):

All the photographs produced during the project (in high quality, high resolution JPEG/TIFF format or better) – a compilation of project photographs are sent in electronic format in folder named – **CMII – Photographs**. Most of the photographs taken by the project are related with scientific work, namely, photo-id pictures. These are not considered dissemination picture but scientific data, and so not presented in this folder.

All dissemination related products (brochures, scientific articles, guidelines, books, posters, newsletters,…) in PDF format – see the following annexes:

- D.6 – II_ Marchandising CMII;
- D.12 – I_DVD – mp4
- D.13 – I_Layman report_ENG
- D.13 – II_Layman report_PT
- 5.1.32 – VII_Livro Pintarolas contributo RedeNatura2000
- D.11 – I-II_2 scientific papers on the results obtained in the project;

Video (if relevant)
See Project DVD sent together with layman report and annex D.12 – I (mp4 version)

Project Website pages
www.museudabaleia.org/en/science-in-museum/scientific-projects.html
www.museudabaleia.org/pt/science-in-museum/scientific-projects.html

Standard presentation
A presentation was prepared about the project, both in PDF format and powerpoint presentation format. The presentation is a set of images presenting the main actions and results of the project. The two files are sent together with the final report annexes. See annexes "PROJECT CMII_LIFE07 NAT P 000646_PRESENTATION.pdf" and "PROJECT CMII_LIFE07 NAT P 000646_PRESENTATION.ppsx"

Layman's report **(compulsory)** cf. point 5.4.2.
See annexes "D.13 – I_Layman report_ENG" and "D.13 – II_Layman report_PT"

10.6. Financial annexes

We used the timesheet template available in the Life+ toolbox. See Annex E.1 – V and E.1-VIII as examples of the type of timesheet used. For the remaining relevant annexes see **point 10.1 Administrative annexes**.

Auditors report - see annex "E.8 – I_External audit"

10.7. Final indicators tables

Please see file "final indicators table" sent together with financial annexes.

11. Financial report

Statement of expenditure and income: must be signed
External auditor's report using standard format
Beneficiary's certificate

Project consolidated statement of expenditure
Project statement of income (finance plan)
Participant statement of expenditure (to be completed by each partner and by the beneficiary)
Form 1: Personnel costs
Form 2: Travel costs
Form 3: External assistance
Form 4: Infrastructure
Form 4.2: Equipment
Form 4.3: Prototype
Form 5.1: Land purchase
Form 5.2: Land lease
Form 6: Consumables
Form 7: Other costs
Form 8: Overheads