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# EU Zoos and Science in the 21st Century: engaging the public in nature conservation

## Rendicontazione

### Informazioni relative al progetto

**EUZOOS-XXI**

ID dell'accordo di sovvenzione: 230492

Progetto chiuso

**Data di avvio**

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completamento**

31 Agosto 2012

**Finanziato da**

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**Costo totale**

€ 862 134,00

**Contributo UE**

€ 758 178,00

**Coordinato da**

NORDECONSULT SWEDEN AB



Sweden

Questo progetto è apparso in...

## **Final Report Summary - EUZOOS-XXI (EU zoos and science in the 21st Century: engaging the public in nature conservation)**

### Executive summary:

The main objectives of the EUZOOS-XXI project has been to engage citizens in developing activities and to communicate science to public at European zoos and marine parks of the future, with regards to nature conservation and biodiversity.

The zoos and marine parks play an important role in communicating science to public of all ages, and represent a unique vehicle for the dissemination of important scientific advances and challenges in actual topics of particular interests to European citizens. Additionally, zoos and marine parks represent excellent scenarios for relaxed public debates and participative democracy tools with scientists. The zoos have a high number of visitors representing all different age groups every year and this is a target group which is very important and relevant for educational activities such as scientific communication.

The project focused on four scientific areas which are: invasive alien species control, endangered species protection, ecological connectivity and biodiversity. The EUZOOS-XXI project creates an opportunity to redefine the role of the zoos and marine parks, as an excellent case study. The project included the following tasks:

- (a) gather scientific information on the four scientific areas (invasive alien species, endangered species, ecological connectivity and biodiversity);
- (b) identify existing and develop and produce new educational material primarily to the public and schools (both printed material and educational material in electronic form);
- (c) permit the public to express their views and questions on the science topics at public participation meetings (PPMs) taking place in four different zoos and marine parks in Europe;
- (d) develop and implement four demonstration projects on new ways to communicate science to the public in two zoos and two marine parks based on the input from the PPMs;
- (e) dissemination of information and experiences from the project to relevant stakeholders by the means of

newsletters, conference presentations and targeted dissemination activities via relevant networks.

The partnership consisted of seven partners including one partner from the United States of America).

Nordeconsult Sweden AB has been the coordinator of the project and the partnership also included two zoos (Kolmården from Sweden and Durrell Wildlife from Jersey, United Kingdom) and two marine parks (Zoomarine from Portugal and Zoomarine from Italy). Furthermore, Niabi Zoo from the US was a partner together bringing experiences from the US to the project. Finally, University of Edinburgh was a partner in the project bringing knowledge in public engagement in the environmental and life sciences into the project.

#### Project context and objectives:

The main objectives of the EUZOOS-XXI project are to engage citizens in developing activities and to communicate science to public at European zoos and marine parks of the future, with regards to nature conservation and biodiversity.

Worldwide, the characteristics, standards, and goals of zoos and marine parks have changed immensely over the last 50 years. No longer are zoos or marine parks a 'stamp collection' of pairs of animals of different species. Zoos and marine parks no longer display the 'weird' and 'ferocious' species in small cages to impress visitors. No longer are animals housed in substandard facilities. Today, most captive animals in Europe are healthy, stimulated, reproductively capable, and involved in training programmes. Modern zoos and marine parks in Europe have specific roles in relation to the public and some important areas are: education, entertainment, conservation and research.

The zoos and marine parks play an important role and have been developing valuable know-how in communicating science to public of all ages, and represent a unique vehicle for the dissemination of important scientific advances and challenges in actual topics of particular interests to European citizens. Going to the zoo is always a fun day out for the visitor and provides an unforgettable experience for all - young and old. It is important to realise that a major attraction of going to the zoo is the educational value and the zoos can be considered as the largest non-governmental educational network in Europe where people are educated on conservation and biodiversity. The European zoos have around 130 to 140 million visitors every year and the four participating European zoos and aquariums have around 1.6 million visitors every year. Additionally, zoos and marine parks represent excellent scenarios for relaxed public debates and participative democracy tools with scientists.

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- (b) identify existing and develop and produce new educational material primarily to the public and schools

- (both printed material and educational material in electronic form);
- (c) permit the public to express their views and questions on the science topics at PPMs (PPMs) taking place in four different Zoos and Marine Parks in Europe. In total 115 people from the public were actively involved in the PPMs carried out during the project;
- (d) develop and implement four demonstration projects on new ways to communicate science to the public in two zoos and two marine parks based on the input from the PPMs. The four demonstration projects have a potential target group of 1.6 million people (visitors / year in the four facilities);
- (e) dissemination of information and experiences from the project to relevant stakeholders by the means of newsletters, conference presentations and targeted dissemination activities via relevant networks.

#### Project results:

The EUZOOS-XXI project is a coordination action and not a research project. Nevertheless, a number of results have been generated in the project.

The work in the project has been focussed on two major actions. The first main action has been to identify suitable existing educational material followed by the development of additional educational material (both in printed form and in electronic form) in the four educational themes of the project (invasive alien species, endangered species, ecological connectivity and biodiversity). The following results have been generated:

- A comprehensive list of resources is now available to the general public on biodiversity, endangered species, ecological connectivity, and invasive species, via the EUZOOS-XXI website (see <http://www.euzoos-xxi.org/>  online). These resources include: books, magazines and journals, websites, CD / DVD / videos, activities and events, computer games, performances, animal sound files, organisations, and other resources.
- A comprehensive list of resources is now available to teachers at all educational levels on biodiversity, endangered species, ecological connectivity, and invasive species, via the EUZOOS-XXI website (see <http://www.euzoos-xxi.org/>  online). These resources include: lectures and workshops, laboratory and hands-on activities, science journal articles, classroom aids, quizzes, computer games, hand-held device applications (such as cell phones and iPods), hand-held device games, music and animal sounds, movies and video-clips, career information, performances, field trips and exhibits, informal science resources, and software and technology for teachers.
- A set of 36 classroom activities / units has been developed for science teachers on the topics of biodiversity, endangered species, ecological connectivity, and invasive species. The units are freely available for educators, have a consistent, easy to read format with teaching tips. The units emphasise the use of technology such as iPods, digital cameras, and cell phones. The units describe how the classroom can be prepared for a visit to a zoo or marine park and then use post-visit assignments. The units also provide curricula for integrating nature conservation into art, music, math, and language arts classes.
- A number of digital photos and digital illustrations within the four research areas have been developed as a result of a public competition organised during the project (biological art competition). A number of 33 digital photos and 62 digital illustrations were submitted to the competition and the copyright for these

materials belong to the consortium.

- 'A Squirrel's tale', an original and printed version of a Teacher's Book, was one of the outcomes of this project. 'A Squirrel's tale' is a printed book (also available as a pdf) that has information about the four EUZOOS-XXI themes (endangered species, invasive species, ecological connectivity and biodiversity) and is aimed for a specific target audience - the teaching community of grades 8 and 9.

Designed to be an extra classroom resource of the above themes, this educational book uses the red squirrel as the main character, to demonstrate, in an easy and clear way, the various interactions and factors that influence the conservation of this species throughout Europe. It is available in three languages - English, Portuguese and Italian (5 000 copies in each language).

These books will be handed out free of cost by all partners to the school community and general visitors, throughout the upcoming years.

The Swedish partner Kolmården developed educational material (8 pages electronic material) to be used when school classes visits Kolmården. The material was based on the scientific background document produced in the first reporting period and on material used for the PPMs.

The second main activity has been the involvement of the public in decision-making over the development of conservation education programmes represents a paradigm shift for zoos; arguably one of the most significant components of this European Union (EU)-funded project. We are unaware of any other zoo in Europe where this has been carried out to the same extent.

The involvement of the public took place through PPMs (PPMs) in four different facilities. The PPMs took place at Durrell Wildlife (United Kingdom), Zoomarine (Portugal), Kolmårdens Wildlife Park (Sweden) and Zoomarine (Italy). The PPMs are public consultation workshops - in which particular groups of zoo-visitors and potential zoo-visitors are invited to come and give their opinions on how the way the zoo or marine park could improve the ways scientific messages, are communicated to the public in the Zoos and Marine parks. The results of these workshops was taken forward and at every facility a demonstration project based on the views from the PPMs was implemented during the second part of the project.

The PPMs took place during a weekend (1 - 3 days event) and the number of people attending was between 20 - 60 people. The people were divided into three to four groups under the supervision of a facilitator (meeting moderator). In some the cases the PPMs were followed up by meetings with the participants at a later stage to evaluate the progress of the implementation of demonstration projects. The final output from each PPM were suggestions for a demonstration project that integrate the input from the groups and identifies ways that education, entertainment, research and conservation can be coordinated in a demonstration project held at each zoo and marine park.

The concept of using PPMs is communicated to the zoo-community and can be used as a model for a new way to communicate science in zoos and marine parks. Common observations from all four PPMs were that it was difficult to get the public to attend the PPMs which took place during a weekend. However, a very positive result was that all participants were very motivated during the PPMs and came up with a

number of interesting ideas to communicate science in the zoo and marine parks. Two slightly different approaches were used in the PPMs. At Durrell and Kolmården, four zones were pre-determined as focus areas where the Zoo knew that they wanted some improvements in the future. The zones were pre-determined to secure that the results from the PPM would fit into the overall strategy of the zoo and proposals would therefore secure the management support. On the other hand, during the PPMs at Zoomarine (Portugal) and Zoomarine (Italy), the participants were free to select any part of the marine park and to develop any project. At the end, a voting between different proposals was made between the participants.

A short description of the PPMs follows below:

#### Zoomarine - Italy

The PPM at Zoomarine (Italy) took place during 2 days and gathered 28 participants. The participants were divided into 4 groups.

It was very difficult to get participants to the PPM and Zoomarine had contacted around 300 persons. The participants had different background and were divided into four focus groups. There were 2 facilitators for every group. The groups all developed proposals and the four proposals were:

- Let's eco-connect (ecological connection),
- Zoomare (biodiversity),
- Emys (endangered species),
- Bring me home (invasive alien species).

The winning proposal was 'Bring me back home' which is a game and was implemented inside the park in the summer season 2012.

Some general remarks were that it was very funny to work with people at the PPM and they came up with fantastic ideas. It was noted that everybody voted for their own project except 2 participants. Everybody was happy after the PPM even if their project did not win.

#### Durrell Wildlife

The PPM at Durrell took place during one day and had 19 participants. Four zones had been identified before the meeting as priority zones. The participants were divided into three groups discussing the criteria for prioritising a particular area of the zoo. The participants at the meeting agreed to focus on the reptiles and amphibian house and started to discuss and develop project ideas. Several input and ideas in order to increase the engagement of the public with wildlife conservation were discussed in detail.

Furthermore, Durrell organised a follow-up PPM in May 2011 and had 10 attendees. The second meeting made an evaluation on how well the ideas from the PPM had been developed so far in order to assist Durrell in the implementation of the demonstration project.

In addition, Durrell has decided to organise one PPM every year also after the project duration to get the views of the public.

### Kolmården Zoo

The PPM at Kolmården took place at 26 - 27 March 2011. It was a 2-day event and the PPM gathered 21 participants in the age group of 11-75.

The structure was influenced by the structure from the PPM at Durrell. It focussed on four areas in the zoo which had been selected in beforehand. During the first part of the PPM, the selection criteria were identified and in the area were selected. In the last part of the PPM, proposals for educational improvements in the selected area was developed and discussed by the different groups. The area which had been selected was a today empty island where the future plan is to introduce lemurs. The PPM gave valuable input for educational activities to be carried out in the area.

The demonstration project started to be implemented on 1 May 2012.

### Zoomarine - Portugal

The PPM at Zoomarine took place during 3 days and the event gathered 51 participants and 47 of them stayed during the whole PPM. Zoomarine had experienced the same problem as the other organisers to gather and engage enough people for the event (more than 300 people were contacted).

The project that won was ECOWEB - a naturebook to engage all kinds of public in conservation issues, through a social network. However, due to some setbacks experienced, the original idea was slightly adjusted.

Based on advises from the PPMs, each participating zoo / marine park has implemented one demonstration project. The demonstration projects took place during the second half of the project. The demonstration projects are site-specific to the facilities carrying out the demonstration project. The target group is the visitors to the four European zoos and marine parks in the project. The target group comprises 1.6 million of visitors/year to these facilities.

### Potential impact:

The impact can be divided into two categories which are the direct impact during the project duration and the potential impact after the project duration.

European zoos and aquariums have around 130 to 140 million of visitors every year and the four European facilities have around 1.6 millions of visitors every year (primary target group).

The project has carried out extensive dissemination activities. The project has produced six newsletters which have been distributed to relevant stakeholders. Furthermore, the project has been presented at a number of international conferences and at zoo science communication forums and press releases have

been produced.

The most significant final results from the project are the following:

- The establishment and testing of a model, by using PPMs, to be used by zoos and marine parks, as a method to involve citizens in nature conservation at the facilities. Experiences from two different methodologies are available. The concept of using PPMs has been given lot of attention among other zoos. Furthermore, at least one of the participants (Durrell Wildlife) has decided to carry out one yearly PPM also in the future. In total, 115 people from the public were involved in the PPMs carried out during the project.
- As a result of the PPM, four European facilities (Kolmården Zoo, Durrell Wildlife Trust, Zoomarine (Portugal) and Zoomarine (Italy)) have implemented new and innovative programs to better communicate scientific information relating to biodiversity to the public based on the advises from the PPM. In two cases, the facilities have been approved which will secure a long-lasting effect of the demonstration projects. The primary target group are the zoo visitors at these facilities which are in total around 1.6 million people every year.
- A comprehensive list of resources is available to the general public on biodiversity, endangered species, ecological connectivity and invasive species via the EUZOOS-XXI website. These resources include: books, magazines and journals, websites, CD / DVD / videos, activities and events, computer games, performances, animal sound files and other resources.
- A comprehensive list of resources is available for teachers at all educational levels on biodiversity, endangered species, ecological connectivity and invasive species, via the EUZOOS-XXI website. These resources include: lectures and workshops, laboratory and hands-on activities, science journal articles, classroom aids, quizzes, computer games, hand-held device applications (such as cell phones and iPods), hand-held device games, music and animal sounds, movies and video-clips, performances, field trips and exhibits, informal science resources and software and technology for teachers.
- A teacher's book: 'A squirells tale' has been produced and printed in three different languages (5 000 copies in English, Italian and Portuguese). The book will be distributed to schools, visitors and other relevant stakeholders.
- An exhibition was carried out at Jersey International Airport with the top images from the digital photo competition which was carried out by the project consortium (the exhibition is now showed at Durrell Wildlife). The Jersey airport has between 100 000 and 150 000 passengers every month.
- The project has used social media such as Facebook to disseminate information about the project. So far, 187 people have expressed that they like the Facebook-site.
- Project results will have been presented and disseminated to relevant stakeholders through presentations at meeting and conferences, release of newsletters and through zoo science networks.

- The project has established cooperation between partners with different skills and competencies that never worked together before. It can be expected that this cooperation to some extent will continue in the future.

List of websites: <http://www.EUZOOS-XXI.org> 

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