Monk Seal Workshop Minutes

Oceanographic Museum of Monaco - April 12th, 2018

Participants:

Organizational team

- **Raphaël Cuvelier,** Prince Albert II of Monaco Foundation
- **Philippe Mondielli,** Prince Albert II of Monaco Foundation
- **Auriane Pertuisot,** Prince Albert II of Monaco Foundation
- **Luca Mason,** Prince Albert II of Monaco Foundation

Moderator

- **Marie-Aude Sevin,** Marine Programme Manager at IUCN

Experts

- **Panos Dendrinos,** MOm / Hellenic Society for the Study & Protection of the Monk Seal
- **Pablo Fernandez de Larrinoa,** CBD Habitat Foundation
- **Philippe Gaubert,** Institut des Sciences de l'Evolution de Montpellier (ISEM)
- **Joan Gonzalvo,** Tethys Research Institute
- **Cem Orkun Kiraç,** Underwater Research Society – Mediterranean Seal Research Group
- **Constantinos Liarikos,** World Wildlife Fund (WWF) Greece
- **Paulo Oliveira,** Istituto das Florestas e Conservação de Natureza (IFCN)
- **Aliki Panou,** Archipelagos Greece
- **Rosa Pires,** Istituto das Florestas e Conservação de Natureza (IFCN)
- **Luigi Bundone,** Archipelagos Italia
- **Khalil Attia,** Regional Activity Centre for Specially Protected Areas (RAC/SPA)

Donors - foundations

- **Vera Alexandropoulou**, Thalassa Foundation
- **Konstantinos Apodiacos,** Thalassa Foundation
- **Charles Barber,** Switzerland for the Oceans
- **Pierre Carret**, Critical Ecosystem Partnership Fund (CEPF)
- **Paule Gros**, MAVA Foundation
- **David Leforestier,** Sancta Devota Foundation
- **Julien Pfyffer,** Octopus Foundation
- **Karlijn Steinbusch,** Adessium Foundation

Host

- Oceanographic Institute, Foundation Albert I, Prince of Monaco – participation of **Pierre Gilles**

Introduction

The Prince Albert II of Monaco Foundation has a longstanding commitment to monk seal conservation, both as a funder and a catalyst for organisations working in the field to exchange and collaborate through regular meetings. Today's workshop, held in the context of Monaco Ocean Week, represented a new opportunity by bringing together conservation experts from the field with donor foundations. It followed on the Sept. 2017 meeting in Funchal at which monk seal experts gave updates on the current situation and discussed obstacles to and possible actions for further recovery and protection. An intermediate meeting was held in Monaco in March 2018 to prepare common themes.

The main goal today was to learn, with each expert presenting his or her organisation's actions for Mediterranean and Atlantic coast monk seal populations, to generate interest on the part of funders and find synergies among experts and donors in the interest of the monk seal.

The monk seal is one of the last marine mammals left among the top predators, and is on the IUCN's Red List of endangered species. After 30 years of conservation their decline has been stabilised, but only 600-700 individuals remain, and needs remain huge to ensure their continued protection. Today's gathering explored how experts and donor foundations could safeguard monk seal conservation and move it forward.

1. Presentation of the general situation and framework: Atlantic and Mediterranean

Atlantic situation: Pablo Fernandez de Larrinoa (CBD Habitat) The monk seal is well known in the Mediterranean but fewer people know they are also in the Atlantic, where there were once huge colonies. The causes for decline in the Atlantic monk seal population are similar to those in the Mediterranean – commercial harvesting for pelts and oil, habitat destruction and interaction with fisheries.

Atlantic monk seals survived where they found refugee habitats, primarily caves. Two separate, unconnected populations established themselves, one in the Madeira archipelago and the other on Mauritania's Cabo Blanco peninsula, in very different environmental conditions.

Following a massive die-off in 1997, the CMS and UNEP launched the 2000 Action Plan for the Recovery of the Monk Seal in the Eastern Atlantic, committing Portugal, Spain, Morocco and Mauritania. CBD-Habitat coordinates this plan, which involves recovery and reoccupation of the monk seal's ancient distribution area.

Actions include establishing a network of Special Conservation Areas for Monk Seals (SCAMS) from Cabo Blanco to Madeira to allow the future linking of populations, and periodic working-group meetings. These have been very useful and created very close cooperation among the four countries.

Today monk seal habitats are protected by law and national and international conventions. Madeira first declared Desertas Islands a Natural Reserve in 1990 and later established another three. As the main cause of decline was fisheries, Madeira completely banned gillnets in the archipelago, compensating fishermen for changing their gear.

In 1993 in Cabo Blanco, Morocco established a No-Fishing Area out to 12 miles offshore. Protection against illegal industrial fishing has been effective since 2004 thanks to surveillance. In 2001 the Coast of the Seals Reserve was established to protect breeding caves from fishnet entanglements and other interaction with humans.

As part of an EU country, Madeira has a legal framework for MPAs, which is not the case of Mauritania. Cabo Blanco is a participatory reserve, effective but not legally framed. It has to be renewed every 10 years (next in Nov. 2019). Conservationists are pushing for at least 10 more years and preferably permanent status; they are tagging seals to demonstrate the importance of protection.

To better judge the effectiveness of applied measures, permanent monitoring and standardised methodologies exist for the Madeira and Cabo Blanco populations, with 25 and 330 individuals respectively. There is a clear recovery trend in Cabo Blanco, from 100 seals in 1998 to over 300 today; annual births increased from 25 in 2000 to 82 in 2016.

Madeira's figures are from a shorter period (since 2012) but the number of breeding females is increasing, so this is also seen as recovery. The oldest Cabo Blanco seal is 25 years old, that of Madeira 21. Experts have mapped distribution according to age and identified breeding, foraging and resting areas. By mapping foraging areas they have identified feeding strategies and where these overlap with fisheries.

Both populations show a positive trend towards recovery, but they need support for that to continue. Identified threats include fisheries and other human interactions, and limited breeding habitats. Overall, regulated areas and close partnership on permanent surveillance and monitoring have produced good results.

Mediterranean situation: Khalil Attia (**RAC/SPA)**. He applauded the FPA2's initiative uniting experts and funding organisations. RAC/SPA is in charge of coordinating the Mediterranean part of the Barcelona Convention, which includes protection and conservation of endangered species. Attia outlined the main objectives and activities of SPA/RAC's action plan for Mediterranean monk seal conservation, established in 1991.

Activities included identifying critical seal habitats and populations, and training local research and conservation teams around the Med. This culminated in the first regional workshop on monk seal monitoring in 2012, to be followed by a sub-regional one on Samos in Sept. 2018.

SPA/RAC has updated the national monk seal action plan (NAP) for Turkey and prepared NAPs for Cyprus and Egypt. It also developed an action plan for low-density areas of the Med and a region-wide strategy for monk seal conservation throughout the Mediterranean.

The 2014-2019 regional strategy is organised in three groups of countries according to current status of monk seal presence and breeding. Its Integrated Monitoring and Assessment Plan established common indicators on spatial distribution, density and demography. A first assessment of these indicators in 2017 showed uneven distribution of research efforts and a scarcity of systematic surveys from southern Mediterranean countries.

Future RAC/SPA activities for 2018-2019 include:

- Updating the original strategy to describe progress at national and regional levels;
- Identifying difficulties in implementation; guidelines for monitoring; and the current status of the species at national and regional levels;
- Organising a regional meeting on the updated strategy
- Implementing sub-regional pilot monitoring

However, the availability of funds is a big challenge!

2. Conservation actors present current situations, threats, actions, and plans/needs

Rosa Pires (IFCN/Madeira) summarised Madeira's history of monk seal conservation since 1988 when just 8 monk seals were present in the Desertas Islands, which was protected in 1990 and made a reserve in 1995. In 2000 monk seals returned to Madeira itself; the Desertas and Madeira monk seals now number about 40. A conservation plan was launched in 2005 and in 2013 mammal-watching activities were regulated.

The principal threats to the Madeira monk seal population are from human interaction, whether with fishing, tourist activities such as diving and wildlife watching, and inappropriate behaviour towards seals (such as selfies).

An informational video was made to raise awareness of monk seals and how to behave around them. This also aims to prevent adverse incidents that could turn public opinion against the species. While the population has expanded its distribution, and grown, it isn't increasing as expected. Interaction with fishing (especially illegal and traps) hasn't permitted the hoped-for recovery.

The IFCN collaborates closely with CDB-Habitat, coordinator of the LIFE Madeira Monk Seal plan, which includes several projects financed by the EU. Main actions taken include:

- Effective protection of habitats by rangers within the reserve;
- Population monitoring: cameras in the caves; the SOS Monk Seal observation network; GPS tracking; and surveillance of death causes;
- Environmental education and communication, which is very important for informing the public, but also decision-makers, to obtain the laws needed to protect the monk seal.

The main perspectives/needs are:

- To maintain effective protection;
- To maintain monitoring;
- To improve ocean science;
- To minimise identified threats and involve the Madeira community in monk seal conservation.

Philippe Gaubert (IRD/EBD, France) presented the work of the Evolution and Biodiversity Lab (EDB), which pursues two lines of investigation: understanding processes behind biodiversity, and mitigating its decline using a DNA-based approach.

He enumerated threats to the monk seal from a genetic perspective. These are:

- Small numbers;
- Isolated populations;
- Low genetic diversity (one of the lowest of all marine mammals);
- Unanswered questions about population dynamics, such as dispersal patterns, how and when populations collapse, and the relationship between low genetic diversity and survival.

Current actions involve conservation genetics: studying genetic diversity and distribution over time, from archaeological to recent samples, in the hope of establishing an exhaustive picture of the species. The EBD collaborates with the Prince Albert II Foundation and others on this.

Until the recent past Atlantic and Mediterranean populations were not that isolated. We don't yet know what the future impact on survival will be, nor the causes and consequences of low genetic diversity.

Future perspectives that could benefit from funding include:

- The study of the adaptive potential of individuals through genomics.
- Translocations to assess monk seal adaptation with regard to climate change.
- Implementing a standardised genotyping protocol to establish the genetic pedigree of all Mediterranean monk seals.

Turkey (Cem Orkun Kiraç, SAD AFAG) SAD-AFAG is an NGO concentrating solely on conservation and research on the monk seal and its Turkish habitats, covering 8,500 km of coastline. Since 1987 it has completed 25 projects mainly financed by international NGOs, UNDF-GEF and the EU. There are an estimated 100 Turkish monk seals, 61 of which have been individually identified. The main threat is habitat destruction; others are cave disturbance, deaths, decreased fish stocks, marine pollution and maritime traffic.

SAD-AFAG's actions come under three categories: field research, conservation and public awareness and education.

Research involves determining population and distribution, cataloguing of individual seals, processing of sighting data and coastal cave monitoring. As Turkey is a huge country it takes time to collect data without disturbing the animals.

Conservation actions include mitigating fisheries interactions, protection of habitats against coastal development, lobbying the government for regulation, and the rescue and rehabilitation of orphaned seals.

As for public awareness and environmental education, in 2003 SAD-AFAG set up a comprehensive monk seal information and rescue network around the coast. Before the 1980s the threat was die-offs or killings; these have been reduced thanks to the involvement of local conservationists and fishermen.

Local perspectives/needs:

- Enlargement of the monk seal information and rescue network throughout the seas surrounding Turkey;
- Infra-red monitoring cameras for caves in order to identify new individuals and breeding areas, analyse threats, update the distribution range, prioritise important sites and propose solutions to government authorities;
- Protection of habitats against urbanisation and new road construction in pristine coastal areas.

Greece (Luigi Bundone, Archipelagos) Archipelagos has worked on the environment and development since 1991. Its zone of interest covers the central Ionian (Greece), Adriatic Ionian (Montenegro, Croatia, Italy and Albania) and Levantine (Israel and Lebanon) coasts.

Archipelago has produced a database mapping all sightings from 2000-2014, which is now in final review. All numbers for the Mediterranean are estimates, with a large degree of uncertainty; even in

places where the species is considered extinct some sightings can be reported. Other actions for conservation include photographic identification, awareness/education, and the study of diet, habitat availability and habitat use.

The main threats are disturbance, habitat loss, and interaction with fisheries.

Future perspectives/needs are:

- To improve knowledge (through photo ID);
- To protect habitats;
- To better understand seals' actual use of habitats;
- To increase collaboration with the Levantine region.

Greece (Joan Gonzalvo, Tethys) Tethys Research Institute has worked on conservation of marine biodiversity since 1986, primarily on cetaceans. Its Ionian Dolphin Project, which identifies and addresses threats to coastal marine mammals, has included monk seal sightings since 2012. A photo project around Formikula Island in the inner Ionian Sea identified 11 individuals, indicating this could be a relatively important monk seal hotspot.

Threats from both tourists and fishermen are cause for concern. Some 85 percent of fishermen blame monk seals as the main cause of net damage in the area. The Ionian island monk seals are also regularly visited by pleasure boaters, small fishing boats and large, loud tourist boats bringing people to snorkel around monk seal caves; some even chase the seals.

While the Mediterranean monk seal is classified as Endangered on the IUCN Red List, Tethys believes the Ionian monk seal sub-population could be considered Critically Endangered, as it is smaller, more isolated and less genetically diverse than that of the Aegean. It may also have a role to play in recolonising former habitats.

Therefore, conservation action to maintain and secure monk seals' presence in the Ionian Islands should be considered more urgent than elsewhere in the Mediterranean. The planned World Conference on Marine Mammals in Barcelona in December 2019 would be a good framework to dedicate a session to the monk seal.

Mauritania (Pablo Fernandez de Larrinoa, **CBD-Habitat)** CBD-Habitat specialises in conservation of endangered species, focussing on their conflicts with humans. It has been working on monk seal conservation for 18 years, executing over 20 projects, and works closely with all the main monk seal entities under the I-Monk Alliance.

Actions implemented for Mauritania's Cabo Blanco/Coast of the Seals Reserve include:

- Permanent effective protection of the monk seal colony through permanent surveillance of the Reserve;
- Obtaining local and official support through incentives: building an artisanal fish market at Nouadhibou and providing trainings in safety at sea and sustainable fishing;
- Public awareness: creation of a monk seal visitors centre and environmental education in schools using the monk seal as the flagship species;
- Constant monk seal population monitoring, with video cameras in breeding caves, which have enabled identification of all individuals.

Thanks to these measures, the Cabo Blanco monk seal population has grown from 103 in 1998, to 330 in 2017.

Threats to the Cabo Blanco monk seal population are:

- Breeding and refugee habitat limitation, with only three breeding sites and over 100 animals in one cave: high population concentration means high risk;
- High mortality in monk seals' first year due to storms and nets – up to 40 percent;
- Urbanisation: Nouadhibou city has grown to within 6 km of the breeding caves, with over 3,000 fishing pirogues, making it one of the world's most heavily exploited fishing grounds;
- CBD-Habitat's main programme funder, MAVA, is closing, endangering all its actions;
- Working in a military area where no institution is responsible, replacing authorities until the situation is resolved.

Cabo Blanco's local perspectives/needs are:

- To maintain surveillance of the reserve;
- To maintain constant population monitoring;
- To promote breeding in open beaches;
- To reduce juvenile mortality;
- To promote colony expansion and create new populations (working with Hawaii);
- To develop joint projects with other monk seal actors;
- To secure new mid- to long-term funders.

Aliki Panou of Archipelagos asked why Cabo Blanco seals didn't spread from caves to ocean beaches, where hunting stopped decades ago, as they do in the Central Ionian Sea. Fernandez de Larrinoa said they had returned to open beaches after six years of absolute protection, but weren't yet breeding there. These beaches are very exposed to storms and sand erosion. It's a long process to get to breeding, but they must be helped, as this would reduce their vulnerability from overconcentration.

Greece (Constantinos Liarikos, WWF). WWF is running a new strategy globally focusing on how to mitigate the impacts of human interactions with wildlife, especially between fishers and marine wildlife. Place-based conservation measures such as marine protected areas are a key priority. They are organising a big conference in 2019 which they hope will attract young scientists and which will incorporate the work of today's group.

Actions taken for monk seal conservation include:

- Development of an area-based conservation initiative at the monk seal hotspot of Gyaros Islet, taking an ecosystem-based management approach (with funds from FPA2 and MAVA);
- Remote surveillance;
- Measures to manage monk seal-fisher interactions and counter the root causes of deliberate killings, through a co-management approach (previous efforts, which took place during Greece's economic crisis, didn't work). These include small-scale sustainable fisheries projects in five sites around Greece.

Greece's National Strategy and Action Plan (2009-2015) was developed in 2008 but has not been formally adopted by the state. Though relevant, it needs updating.

The main threats to Greece's monk seal population are:

- Habitat deterioration, destruction and fragmentation;
- Deliberate killings;
- Interaction with fisheries (accidental entanglements in fishing gear);
- Potentially limited food availability;
- Stochastic and unusual events.

Needs are:

- Work and planning on an international scale;
- Successful and sustainable examples, at MPA and horizontal intervention levels;
- Increased capacity (financial, technical, soft infrastructure) throughout the monk seal's range.

In answer to Charles Barber's question as to what incentives fishers had to protect monk seals, Liarikos said they had none per se, but that other incentives could be built that benefited all stakeholders. These included development of alternative activities like tourism, opening new fishing zones in exchange for protection, or providing marketing assistance.

Panos Dendrinos commented that the community had been very negative 25 years ago but had evolved thanks to the development of diving tourism, sales of fish to tourist restaurants, and gaining a better image.

Aliki Panou noted that this was also a government problem. Fishermen suffer considerable damage. Archipelagos is testing its own nets in a pilot project where 75 percent of the catch is high-value red mullet, but this doesn't cover all of Greece. If effective conservation allows the monk seal population to increase, there will be problems with Greece's 30,000 fishermen. Something has to be done about this – after all, EU farmers get money for damage from bears, wolves, hail and drought.

Greece (Panos Dendrinos, MoM) MoM has engaged in continuous monk seal conservation activity since 1988. It is a founding member of the I-Monk Alliance and a voting member at the IUCN. MoM engages in scientific research, rescue and rehabilitation, management, public awareness and environmental education.

Research activities include:

- Monitoring Greek monk seal distribution and annual births;
- Locating and mapping pupping areas;
- Studying monk seal genetics, diet, behaviour and life cycles;
- Studying how human activities affect monk seals;
- Studying effects of environmental parameters.

Conservation management activities include:

- Promoting the establishment of MPAs;
- Mitigating negative monk seal-fishery interactions;
- Rescue, rehabilitation and reintroduction of unwell and orphaned monk seals;
- Formulation of a National Monk Seal Conservation Strategy.

MoM also established a national, participatory Rescue and Information Network (RINT) in 1991 to collect sighting information from port and coastal municipal authorities, fishers and citizens via telephone hotline or email. Environmental education is also a key component; Dendrinos has met people in government today who remember MoM's education programs from their school days.

Local needs are:

- To secure funds to enhance the rescue and rehabilitation network;
- To create a dedicated rehabilitation structure (MoM currently works with the Athens zoo);
- To expand MoM's infrared camera monitoring system;
- To enhance international genetic collaboration (working with FPA2);
- To continue education and awareness building on the national level;

- Innovative pilots such as restoration of pupping caves and livestream video for monitoring, education and awareness.

3. Foundation representatives present their organisations, strategy and interest regarding the monk seal

Switzerland for the Oceans (**Charles Barber)** is a one-year-old, all volunteer foundation. Last year it raised funds for the Prince Albert II Foundation to support monk seal conservation. Switzerland for the Oceans views local coastal communities as a vital component of conservation. That includes fishermen, who ultimately are the custodians of the ocean and the monk seal, and are key to preventing illegal actions.

Secondly, the foundation advocates for negotiating at the highest level of government so that enforcement can be delivered. Without both of these, progress may not be possible.

In response to Barber's question as to whether any monk seal actors were not present, Pablo Fernandez de Larrinoa noted that CBD-Habitat was representing all Atlantic monk seal conservation organisations.

Octopus Switzerland (**Julien Pfyffer)** supports marine exploration, and has been trying to select monk seal projects by exploring coastal areas, most recently the Ionian Islands. After noting that fishers, divers, tourists and skippers were all encountering monk seals, it saw opportunities in this area.

Octopus is involved in a pilot programme with MoM, Thalassa and the IUCN to test new things, including how marine archaeology tools can be used in monk seal conservation. It supports MoM's mapping work in the Ionian Islands, testing new equipment such as an autonomous solar camera using a 3G-4G phone connection to feed regular pictures to online servers.

Drone use and picture analysis using artificial intelligence are also being tested. Another project is a local information network using diving centres, NGOs and skippers as local science and awareness correspondents. This network will be tested during the summer to see if it would be possible to scale it up across the Mediterranean.

Fondation Sancta Devota (David Leforestier) is a 25-year-old Monegasque association that now focuses on endangered species. It has partnered with FPA2 for 10 years and specifically on the monk seal for three.

The Critical Ecosystem Partnership Fund (Pierre Carret) CEPF is a joint programme of seven partners: the French Development Agency, Conservation International, the EU, the Global Environment Facility, the Japanese Government, the MacArthur Foundation and World Bank. It supports biodiversity hotspots and has worked in the Mediterranean since 2012.

CEPF is investing $10 million in conservation of Mediterranean biodiversity for the 2017-2022 period to strengthen conservation in non-EU countries such as Turkey and Lebanon. The CEPF held a call for projects last December; others will follow and all those here today are encouraged to present theirs.

Adessium Foundation (Karlijn Steinbusch) is a Dutch family organisation working on the public

interest, people and nature, and social initiatives. Its actions have focussed primarily on circular economy, plastics and the environment, mainly in the North Sea. It is currently shifting its strategy for 2018-2020 to the Mediterranean, launching several projects in the Balearics but also at a regional level, with Oceana and the WWF.

The Thalassa Foundation (**Vera Alexandropoulou)** supports marine conservation and sustainability programmes in the Mediterranean, especially Greece. Monk seal protection is one of their priorities. Thalassa financed MoM's work to map all pupping areas in Greece. Three new breeding areas have been identified; with completion they hope for a complete picture. The goal is to produce and make available a status report together with an integrated action plan. Thalassa welcomes collaboration on this. Another future goal is establishment of an effective management system at the national level.

Pierre Gilles of the **Oceanographic Institute of Monaco** noted the Institute and aquarium offered monk seal content and had 600,000 visitors each year who were potential conduits for its educational outreach and publications. There are many similar institutions around the Mediterranean that can help to spread information on the monk seal.

Euronatur (Paule Gros of MAVA representing) has been involved in monk seal protection both in Mauritania and in Greece, and recently provided 3 years of funding for work in the Adriatic states of Albania, Montenegro and Croatia. Similarly to MoM in Greece, it has focussed on areas with sightings and potential breeding sites.

Euronatur works on enhancing management of existing protected areas using models from terrestrial projects, and on building local NGO capacity. Future planned activities include establishing a road map of all organisations working in the area (for which it invites workshop attendees to get in touch) and boosting communication and public awareness initiatives.

MAVA Foundation for Nature (**Paule Gros)** has been a very active partner and the main funder in monk seal conservation in West Africa, but its last cycle of funding will end in 2022. Gros made a plea for others to step in, as the monk seal conservation region of Morocco/Mauritania is a very difficult geographical area to fund. There is some agreement among donors to continue, but actors must decide on priorities.

MAVA's aim today is to leave behind a funded infrastructure of excited, efficient implementing organisations. Monk seal conservation in the Mediterranean has never been in a better place, and a new MAVA strategy can help limit fisheries' threat to priority species, including the monk seal.

4. Questions and discussion

Experts responded to Raphael Cuvelier's question about the main factors responsible for monk seal recovery.

Panos Dendrinos said the answer was complex but the last decade's efforts had pushed in the right direction. When they started in Greece even local people didn't know there were seals there. Another factor is a general societal movement towards environmental protection, which puts pressure on fishermen. The new generation of fishers had environmental education in school and a better education in general.

Dendrinos gave the example of Kalymnos Island in the Aegean, home to Greece's largest small-scale fishing community. Fishers' attitude towards monk seals today would have been unimaginable in the past. Now seals come into the harbour to sleep, and may be more protected there than elsewhere.

Cem Orkun Kiraç agreed there was no one answer. The Turkish coast has seen 31 years of continuous efforts, which provides an understanding of root causes. To tell small-scale fishers to protect the monk seal is absurd. If your organisation also works on restoring fish stocks, you can engage them by showing stocks increase in no-take zones. This works – as long as there are enough fish for them and the monk seals.

Relations with government are also important: if you don't speak their language you get nothing from them. For the first time ever, in 2008 two ministers requested projects and recommendations, accepted a proposal for regulation regarding caves and supported environmental education.

Pablo Fernandez de Larrinoa said births are higher than mortality thanks to protection of breeding caves, among other appropriate protection measures. We must remain vigilant: though the population is increasing, it is vulnerable to unforeseen events such as the opening of new fisheries.

Luigi Bundone said long-running conservation programmes help a lot, followed by public awareness and fishers' attitudes. Small-scale fishers' attitude has changed completely; they understand that they are an endangered species as well. Now they are both advocates and experts on our coasts. So in the Mediterranean this threat may be decreasing.

Joan Gonzalvo contrasted this with the Ionian situation, which had deteriorated over the past 20 years due to tourism and democratisation of access to the sea. Tourist boats immediately surround researchers when they go to monitor. Thousands of charters, speedboats and people are interfering with the seals. Tethys is trying to collaborate on data collection with the public, but also to raise awareness of their potential impact on conservation efforts.

Rosa Pires affirmed that if Madeira hadn't banned gillnets and conducted environmental education, the species would be extinct. Protected areas are important, but you can't protect the whole zone so you must make people aware and responsible. Surveillance is also necessary. The socio-economic situation may make protection difficult in some areas.

In response to a question regarding the presence of monk seals on the Mediterranean coasts of Morocco and Libya, Khalil Attia said no concrete field results existed but monk seals were probably in Libya. Monitoring is planned to provide a complete picture of the southern and western Mediterranean.

Panos Dendrinos added that Greece and Turkey's monk seal populations were expanding to other countries. They are breeding in Cyprus, which raises questions, as they are in places of intense human activity.

Charles Barber asked what collaboration could accomplish that individual organisations couldn't.

Rosa Pires mentioned knowledge and learning about different ways of running a programme. Madeira used the experience from Mauritania, especially in monitoring. Aliki Panou said collaboration enabled study and monitoring of bigger areas for a better overall picture at a given moment. It also helped with lobbying, to push authorities on MPAs and regulation, and to avoid duplication.

Pablo Fernandez de Larrinoa cited sharing of methodologies, noting that cooperation with Madeira was useful for both parties. His organisation got ideas on participatory monitoring from them, which

it later implemented. Observing the Madeira seal population gave them a much better understanding of their own.

They also shared technical advances, saving time and money. In Mauritania and Morocco they deployed monitoring cameras in all breeding caves. As access was very difficult, CBD-Habitat developed self-cleaning cameras deployable for one year, reducing the need for site visits and causing less disturbance to seals. To enable tracking of seals at sea, and not just in caves, they developed a GPS tagging system for Mauritania, which was extended to Madeira (through LIFE) and later to Greece.

Joan Gonzalvo mentioned unified methodologies, procedures and data collection protocols to allow proper comparative analyses, while Luigi Bundone noted his organisation's efforts had been greatly helped by CBD's experience and input at a time when they were working with inadequate equipment and resources.

5. Future conservation actions and foundation participation

Participants discussed their medium-term vision for monk seals, future needs, and the question of monk seals' potential spread to other regions.

Philippe Gaubert suggested that translocation was not a priority: it is very complex politically and biologically; habitat protection is more important.

Luigi Bundone emphasised citizen science to collect sightings in low-density areas. Expensive technology is for a later stage of higher density. Archipelagos is starting a new campaign in Albania, spending $1,000 for 10 cameras instead of $4,000 for one fancy one. Involvement of all countries is important to better understand monk seals' movements, and whether they are reoccupying old sites. He said MPAs were more urgent in the Med than translocation, as without them monk seals may just die.

Pablo Fernandez de Larrinoa warned that as the Cabo Blanco population is growing, breeding caves will reach capacity and mortality will increase. CBD is trying to create a new population and to get seals to occupy open beaches, with help from the Hawaiian monk seal group. In Hawaii seals move from one island to another to reduce mortality.

Panos Dendrinos remarked that as capacity was reached in Greece females were competing for space. Some were leaving to breed elsewhere, and it was necessary to prepare other countries for them, such as Corsica and Sicily.

Rosa Pires emphasised the importance of educating the public on how to behave towards monk seals, as it was impossible to do physical surveillance all the time.

Aliki Panou noted the need for concentrated, repeated surveys, as previous one-time surveys had been insufficient, not detecting seals where they were known to exist.

Q: Paule Gros asked conservation actors what they saw as the ideal structure under which donors could unite forces to help them at a regional level, given that they were already working together.

A: Luigi Bundone noted that while each actor had good reasons to push their own projects, solo action was limited. Joining forces can also guarantee perennity, unlike a single organisation, which is often dependent on one individual.

Pablo Fernandez de Larrinoa suggested two levels of long-term support were needed: each area population has its own needs, but there are common spheres for action, and support is needed for both. LIFE/EU is asking for joint projects; donors could fund these. Generally, actors would prefer donors to back larger projects over a longer period rather than dispersing funds for short-term projects.

Philippe Mondielli seconded the importance of this two-level approach. We have a common objective and a common system, with shared financial needs; as donors we will have more impact if we back common actions together.

RAC/SPA proposed to facilitate data sharing; the southwestern Mediterranean in particular needs a survey to provide more accurate and rigorous data. It can be made available online through the biodiversity mapping platform MedKey Habitats, financed by MAVA.

Panos Dendrinos said more work was needed to develop this new coordination with donors. We must consider what other funds are available from countries or the EU. We need a working group to share expertise and establish priorities according to the sums available. This will require us to really document things, put a cost on them, and avoid duplicating funding for the same action.

Q: Pierre Carret asked how conservation actors viewed the relationship between their actions and policy. Were they working with other organisations with a more ecosystemic approach? With governments? Was this better at a regional or country-by-country level?

Aliki Panou commented that governments change very often.

Pablo Fernandez de Larrinoa said political priorities were not necessarily the same from region to region; in Mauritania the environment was not a central political concern. Therefore everything must be done so that there are more seals, in more places, to ensure their survival. There are actions that can be done jointly, and individual needs.

Cem Orkun Kiraç noted that while actors had long collaborated, with effective results, they acted locally. Turkey learned from Greek shipping restrictions in the Sporades, applying similar measures in its waters; there had been no accidents since. He pointed out that as a non-EU country Turkey did not benefit from European co-funding.

Luigi Bundone suggested as potential common projects support for reproductive populations, exploration of new areas and researching how to enable the species to return to former habitats. It is not easy to give funders a short-term outlook, which they usually want. Actions around governance and MPAs are longterm, Panos Dendrinos added.

6. Conclusions and next steps

Donors planned to meet among themselves that evening: they realised more structure was needed. They would try to produce a road map to present back to conservation organisations, which would then define common conservation needs.

Participants from both sides recognised the need to engage in a business planning process, identifying what was needed, for what impact, and at what cost. They also evoked the possibility of establishing a common fund for monk seal conservation. A major challenge would be for foundations to establish criteria.

Philippe Mondielli retained challenge and pragmatism as key words for the process, which began in Madeira last year. Today NGOs are a bit clearer on their priorities, and they meet and collaborate effectively – Madeira and Mauritania are one strong example. Now it is donors' turn to do the same.

Their separate discussions should aim to either identify a common project they will fund together, or to create a monk seal fund that conservation organisations will decide how to spend. They could also develop a call for collaborative projects around a common theme.

This next stage will also allow foundations to communicate with and perhaps aggregate other donors who might not dare fund monk seal conservation on their own, but who may be reassured seeing this donor-expert coordination.

Donors will then report back to conservation actors. Continuing collaboration with a well-facilitated process should get the monk seal conservation community where it needs to be.