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by Gil Pereira...

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Guest Editorial

Vol. 13 (2): December 2010

Growing up with monk seals in Madeira

Gil Pereira

Park Ranger, Natural Park of Madeira

When I was a kid, I remember my father, a longshoreman in Funchal, telling us stories about a *Lobo Marinho* (monk seal) that used to swim in the harbour, and sometimes rest on a pebbled beach. If the seal was disturbed by someone, he'd "throw up stones" and escape into the sea. Asked if we could see the seal, my father always told me and my brothers no, because they no longer live around Madeira Island.

In 1997 I became a Park Ranger in Natural Park of Madeira, and started working for the protection of the monk seals. I saw one for the first time in the Desertas Islands, where the seals had found refuge from human persecution after leaving Madeira. Those uninhabited islands south of Madeira were their last hope in the archipelago. At the time our main challenge was to protect the area, because even there life was hardly pleasant for the seals. Interactions with fisheries had become a threat to their survival, the seals being blamed for human mistakes. Some measures had to be taken, and I'm glad they were.



In 1988, the Natural Park of Madeira established a permanent observation station on the Desertas, staffed by rangers and biologists; then, on 23 May 1990, the Desertas Islands Special Protection Area was created. These were the first and most important steps on the road to recovery of the species.

Our work in the Desertas isn't always easy; there are several factors that can make it harder, but I think I can speak for all the staff of the Natural Park when I say that it's a very rewarding experience. One of our rewards has been to see the fruits of our work in protecting this species.

Some years after the conservation measures taken at the Desertas, we began observing monk seal pups on the sea. Then, in the early years of this century, seals began using the open beach at Tabaqueiro to give birth and nurse their young for the first days of their lives.

Nowadays the progress seen is more evident than ever, with monk seals feeling safe enough to return to Madeira itself after an absence after almost 50 years, and where they used to live when the Portuguese explorers first arrived in the XV century. It's no longer unusual to see them in Madeira, and there are areas where it is almost a common occurrence.

Rocking the cradle of my baby daughter, it's now my turn - almost 30 years after my father's stories - to tell her stories about the monk seals. Seals that now live in Madeira again. Someday, I hope to show them to her.

Gil Pereira, November 2010.



International News

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If you can't manage that in these straitened times, we would still like to hear from you. If you have an opinion you would like to air on monk seal conservation generally, or on news items or articles published on this site in particular, please write to us at editor@monachus-guardian.org. And remember, you can also post your comments in 'real time' (following the moderator's OK), on the parallel TMG [news blog](#).

IUCN let down

TMG has learnt that there has been "no" progress on any aspect of implementing the IUCN General Assembly Resolution on the Mediterranean monk seal, overwhelmingly endorsed by delegates at the World Conservation Congress, held in Barcelona in October 2008.

According to the official record, 100% of government delegates voted for the motion and 99.54% of NGOs. Despite those results, no tangible headway has apparently been made to meet its recommendations.

The resolution [4.023 Conservation and Recovery of the Mediterranean Monk Seal *Monachus monachus*, PDF 20KB], calls upon all Mediterranean countries to "maintain and

increase their efforts to aid the recovery" of the species, emphasising the expansion of MPAs and an improvement in management.

The resolution, however, also calls upon the IUCN Director General to: "Stimulate and facilitate collaborative Monk Seal conservation projects among IUCN's Mediterranean

MOTION: CGR4.MOT029					
MOCION:					
Conservation and recovery of the Mediterranean Monk Seal					
Gov. / Gouv. / Gob.			NGO / ONG		
YES OUI / SI	NO NON	ABST	YES OUI / SI	NO NON	ABST
76	0	25	218	1	21
100.00%	0.00%		99.54%	0.46%	
Total: 76			Total: 219		
Approved / Approuvée / Aprobada					

members with the assistance of the Pinniped Specialist Group [PSG] of the Species Survival Commission.”


Despite the media hoopla surrounding the Barcelona event, it appears that no tangible movement has been made in achieving those aims.


A terse communication from PSG Chair Kit Kovacs, who had previously expressed some optimism that progress would be made in enacting the resolution, simply stated that there was “no news” to report.

According to some monk seal specialists, the IUCN PSG is hampered by an absence of contemporary expertise of Mediterranean monk seal issues, with no current conservation or field biology experience of *Monachus monachus* represented within the Group.

The PSG itself stated, in yet another report – the 2008 IUCN Reassessment of the Status of Monk Seals: ‘At this time prospects for the remaining members of the genus *Monachus*, a group of animals that has survived for more than 10 million years, are not good. Only about 1,500 individuals remain in two widely separated species, each of which faces numerous threats. Serious and effective conservation actions are needed if monk seals are to persist in the future.’

Further information

IUCN. 2009. 4.023 Conservation and recovery of the Mediterranean monk seal *Monachus monachus*. Resolution, 4th IUCN World Conservation Congress, Barcelona, 5-14 October 2008: 1-2. [[PDF](#)  20KB]

Lowry, L., D. Aurióles, V. Burkanov, C. Campagna, N. Gales, T. Gelatt, S. Goldsworthy, G.J. Hofmeyr, T. Härkönen, K.M. Kovacs, C. Southwell, D. Thompson, F. Trillmich and A. Aguilar (IUCN Pinniped Specialist Group). 2009. The 2008 IUCN reassessment of the status of monk seals. Poster presentation, in: Workshop “Research, Management, Conservation, and Policy in Monk Seal Recovery: A Global Perspective”, 18th Biennial Conference of the Society for Marine Mammalogy. 10th October 2009, Quebec, Canada. [[PDF](#)  295 KB]

Notes from Nagoya

Perspectives, hopes, resolutions – and, time will tell, broken resolutions – from the UN biodiversity convention meeting in Nagoya, Japan, October 2010:

Ahmed Djoghlaif, executive secretary of the UN Convention on Biological Diversity (CBD), described the meeting in Nagoya, Japan, as a “defining moment” in the history of mankind.


Referring to the target set at the UN World Summit in 2002, he said: “Let’s have the courage to look in the eyes of our children and admit that we have failed, individually and collectively, to fulfil the Johannesburg promise made by 110 heads of state to substantially reduce the rate of loss of biodiversity by 2010.”

[Ten years’ to solve nature crisis, UN meeting hears](#), BBC News, 18 October 2010.

Over 15,000 participants representing the 193 Parties and their partners, the highest number ever recorded for such a meeting, will meet to finalize the negotiation on a new Strategic Plan on biodiversity for the period 2011-2020 with a biodiversity vision for 2050. The adoption of a new protocol on access and benefit sharing will be a key instrument at the service of this new biodiversity vision. The agreement will be submitted to the high-level segment of the

Conference, to be held with the participation of five Heads of State and 130 ministers of the environment.

“In launching the International Year of Biodiversity the United Nations Secretary General stated earlier this year, that business as usual is no longer an option,” said Ahmed Djoghlaif, Executive Secretary of the Convention on Biological Diversity. “The time to act is now and the place to act is here at the Aichi-Nagoya Biodiversity Summit.”

[Convention on Biological Diversity](#). 2010. The Aichi Nagoya Summit on Biodiversity: a new Biodiversity Strategy for the twenty-first century. Press release, Nagoya, Japan, 18 October 2010. [[PDF](#)  156 KB]

‘Shortly before the summit begins, I’ve finally got round to reading the draft declaration that will be discussed by the governments meeting at Nagoya in Japan. It’s 195 pages long. If it were a thesis about the causes and consequences of the decline of the world’s wild species, it would get a fairly high mark. As an action plan for doing something about this decline, it’s a dead loss.

It begins by reminding us of the comprehensive failure of the last big declaration, in 2002. Then the governments agreed to “achieve by 2010 a significant reduction of the current rate of biodiversity loss”. The new declaration begins by saying this hasn’t been met “in full”. Later, it concedes that it hasn’t been met at all [...]

The declaration also suggests a fairly reasonable list of what should, in principle, be done to defend biodiversity. It proposes 20 targets, which include recognising the value of biodiversity in national planning, getting rid of incentives to destroy it, switching to sustainable farming and forestry, protecting coral reefs from climate change, creating more protected areas, giving special help to threatened species and eradicating invasive species. There’s only one problem: the governments agreeing to these measures don’t actually have to do anything.

All these targets, virtuous as they are, are merely “aspirations for achievement at the global level” and a “flexible framework” within which countries decide what they want to do. The governments signing up to them are “invited” to set their own targets, and only for those measures they deign to adopt. There are no sanctions and no specific measures to which particular governments must agree.

Any text which might imply acting on these proposals, even voluntarily, is in square brackets – meaning that it has been contested and might not be adopted. This includes the following, at the beginning of the list of targets:

“Take effective and urgent action towards halting the loss of biodiversity”

[What are the prospects for the Nagoya biodiversity summit?](#) by George Monbiot, The Guardian, 18 October 2010

Monachus Guardian news blog

The Monachus Guardian [news blog](#) continues to deliver breaking news updates between the summer and winter issues of the journal.



If you have monk seal-related news, images or video you would like to submit for publication, please contact the editor@monachus-guardian.org.

Publications Watch

We take the opportunity of alerting our readers to the following publications, on marine biodiversity or broader conservation issues.

Ocean 2012 / nef. 2010. Fish dependence. The increasing reliance of the EU on fish from elsewhere: 1-32. [[PDF](#) 1MB]

“Fish Dependence: The increasing reliance of the EU on fish from elsewhere, shows the extent to which Europeans are importing fish by exporting overfishing. Fish stocks are a renewable resource. According to latest figures from the European Commission, 72 per cent of assessed fish stocks in European waters are overfished.”



Ecologistas en Accion / Ocean 2012. 2010. Placing sustainable artisanal coastal fisheries at the heart of a reformed CFP: 1-2. [[PDF](#) 729 KB]

Common statement by artisanal coastal fishers, international and European NGOs on the necessity of reforming the EU Common Fisheries Policy.

“Our organisations of artisanal coastal fishers and NGOs share a common interest in placing European fisheries on a sustainable footing by supporting the reform of the Common Fisheries Policy (CFP) in ways which ensure the recovery of fish stocks and marine habitats where necessary; the promotion of sustainable fisheries; a just allocation of fishing access based on social and environmental criteria; and an equitable distribution of the benefits derived from these activities.”



EndQuote

Lobster is, of course, the current prize catch in the Bahamas, but in earlier times other species were even more valuable. These fisheries were either totally destroyed – like the monk seal – or reduced to non-commercial levels – like the marine sponge – by over-exploitation.

Most Bahamians are probably unaware that seals once thrived in our waters. In 1707, for example, a traveller reported that “sometimes fishers will catch a hundred in a night.” Each animal produced about 20 gallons of oil, which was exported to plantations in the West Indies to lubricate cotton mills. But by the end of the 19th century, the seal population had been hunted to extinction.

Source: [The Past, Present & Future of Bahamian Fisheries](#), by Larry Smith, Bahama Pundit.



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Greece

Lazarus dies in rehab

Despite intensive care at the [MOM](#) rehabilitation unit on Alonnisos, orphaned monk seal pup 'Lazarus' did not respond to treatment and died on 25 October, 17 days after admission, according to the Greek NGO.

Rescued off the Aegean island of Evia on 8 October 2010 [[Orphaned monk seal pup rescued on Evia](#), TMG News, 13 October 2010], it was believed that the pup had become separated from its mother during stormy weather and in rough seas. When first examined on site, the MOM rescue team estimated 'Lazarus' to be around 10 days old; an initial diagnosis found it to be suffering from hypothermia, dehydration and exhaustion.



Rescue on Evia.



In rehab on Alonnisos.

After receiving first aid, Lazarus was transferred to MOM's rehabilitation unit on Alonnisos - a small prefabricated building, long overdue for replacement. Veterinary care was overseen by Professor Natasa Komninou of the Veterinary School of the University of Thessaloniki.

As has been the case with other exceptionally young monk seals brought into rehabilitation at the MOM unit, Lazarus continued to lose weight despite regular, round-the-clock feedings.

Body temperature and glucose levels also remained unstable, according to staff.

"Experience has shown that the odds of survival are very small in cases where very young pups have been separated from their mothers for several days," Emily Joseph, head of MOM's rehabilitation unit told TMG. "Congruent with blood test results and veterinary examination, Lazarus had already begun the process of starving without his mother's milk; while his nutritional regime sought to maximize caloric intake, there

are limits to how much food a pup's delicate system can properly digest and, unfortunately in this case, the pup was not able to overcome its debility."

The pup, reported MOm, died following a seizure on 25 October. A necropsy performed in Athens confirmed the cause of death as starvation.

Further information

MOm. 2010. Press release. An orphaned Mediterranean monk seal pup found and rescued in Evoia, 11 October 2010. [[PDF](#) 70KB]

Monk seal pupping season in Greece

Already well within the monk seal pupping season in Greece, up until the end of October, 19 newborn pups were recorded by MOm's Rescue and Information Network, and researchers undertaking a field expedition to the island of Gyros.



Newborn pup on an open beach at Gyros island, October 2010.

Considering that pupping in Greece occurs up until mid-December and that, due to lack of funds, no monitoring schemes are currently in place in important pupping areas for the species (such as the National Marine Park of Alonnisos Northern Sporades and the Karpathos - Saria island complex), the current figure is reasonably encouraging. In addition, another interesting fact is that for a third consecutive year, pupping has been recorded in the Gulf of Argosaronikos, a densely populated area not far from Athens.

It has to be mentioned, however, that of the nineteen newborn pups recorded, two were found abandoned and malnourished; despite the intensive efforts of MOm's rescue and rehabilitation staff and colleagues, it was not possible to reverse their health status and they finally succumbed. - Marianna Psaradellis, MOm.

Editor's note

According to MOm's latest [reports](#), 27 births had been recorded by the end of November.

New monk seal stamp issued by the Hellenic Postal Service

In September 2010 the Hellenic Postal Service issued a new and highly aesthetic collection of stamps - its theme, the biodiversity of the Holy Mountain peninsula (Mt. Athos).



The collection presents the rare species of flora and fauna that have survived in this unique area of northern Greece due to its special historical, religious and natural history. The stamps are based on drawings of monk Father Loukas of the Xenofontos Monastery. One of the stamps depicts the Mediterranean monk seal in a picturesque setting.

In 2009 MOm's research team received special permission from the Administration of the Holy Mountain to carry out a preliminary investigation of the suitability of the area as monk seal habitat. The entire coastline of the peninsula was circumnavigated by MOm's research vessel "IFAW-Odyseia" and at least three caves suitable for reproduction and at least another five only for resting were identified. Evidence of recent use was found in two caves and one male seal was observed. It is the first time that reproductive caves of such good quality have been found so far north in the country and further research is required in order to verify their actual use as pupping caves. – Panos Dendrinis, MOm.


Editor's note

For more information on monk seal in the world of stamps, turn to our article [Monk Seal Philately](#), TMG 3(2): 2000.

Life+ Information Communication Project: "Thalassa" Campaign

The European Commission has elected to financially support the LIFE+ Information Communication "Thalassa" project, which was submitted by MOm/Hellenic Society for the Study and Protection of the Monk Seal, in collaboration with WWF-Greece in September 2009. The project is entitled "Thalassa Campaign: Learn, Act, Protect / Awareness, Educational and Participation Campaign for Marine Mammals in Greece". The project started on September 1st 2010 and is planned to run for 40 months. "Thalassa" constitutes the first integrated communication, sensitisation, environmental education, capacity building and advocacy campaign aiming at the preservation and protection on a national scale of all marine mammals living in Greek seas – monk seals, dolphins and whales – most, if not all of which, are endangered or threatened with extinction. The campaign is supported by the relevant competent national authorities and especially by the Hellenic Ministry for the Environment, Energy and Climate Change. "Thalassa" will inform the general public, relevant stakeholders and specific target groups on the persistent negative pressures to all rare, endangered and important marine mammals inhabiting Greek waters and their habitats, due to human related threats. Furthermore, the actions of the campaign will aim at convincing the Greek society to change its current behaviour, so as to directly promote conservation efforts for the preservation of marine mammals, as key and charismatic elements of the Greek marine natural environment. – Vangelis Paravas, MOm.

Editor's note

Information on the rationale, stated targets and budget of Thalassa is available in a publication issued by the EC: **Life+**. 2009. Information and Communication. Projects 2009, European Commission, Environment: 1-14. [[PDF](#)  934 KB]

First comprehensive genetic study of the Mediterranean monk seal in the eastern Mediterranean

The Mediterranean monk seal (*Monachus monachus*) is the most endangered seal in the world and in urgent need of immediate and effective conservation and management measures. One of the key factors hampering recovery of this threatened species is the substantial lack of information on the animals' biology and population status. Due to the recent advances in molecular techniques, the genetic study of endangered species is increasingly being used in shaping conservation strategies. In the case of the Mediterranean monk seal, genetic research has been used successfully

in understanding the genetic status, population structure and demographic trajectory of the monk seal colony at the Cabo Blanco Peninsula. In contrast, however, little is known with respect to the genetic status of the largest remaining population of the species, in the eastern Mediterranean Basin. Assessing genetic variability and understanding population structure of Mediterranean monk seals in Greece were identified as priority actions for the conservation of the species in the recently revised 'National Strategy and Action Plan for the Conservation of the Mediterranean Monk seal in Greece 2009 - 2015.' This plan was developed by MOM/Hellenic Society for the Study and Protection of the Monk seal and has been submitted to the National and European authorities for adoption.

With funding from the U.S. Marine Mammal Commission, researchers from MOM, the Hawaiian Monk Seal Research Program of NOAA and the Hawaii Institute of Marine Biology of the University of Hawaii recently launched a new research initiative to shed light into the "genetic secrets" of the species in the eastern Mediterranean. The general aim of the study is to advance the conservation status of the critically endangered Mediterranean monk seal (*Monachus monachus*) in Greece through the study of its genome. The specific objectives are to develop a research protocol for the genetic study of the species and to conduct a preliminary assessment of the genetic status of the largest population in the eastern Mediterranean Sea, in Greece.

Currently, approximately 100 samples of necropsied Mediterranean monk seals from Greece have been sent to Hawaii and are being analysed at the same molecular laboratory that previously analysed the genetic diversity and status of the Hawaiian monk seal. The project is expected to be completed by the end of 2012. - Alexandros A. Karamanlidis, MOM and Jennifer Schultz, Hawaii Institute of Marine Biology.

EndQuote

Marine Park scepticism

"If you wish to protect endangered species and establish a Maritime Park to do so you have to be serious about regulating the use of the area and policing it. The only such Park in Greece, the Northern Sporades National Maritime Park, established to protect the endangered Mediterranean Monk Seal and other species, is not so regulated or policed.

After a good sail from Ay Efstratios we dropped anchor in the deceptively idyllic landlocked bay of Planitis on the island of Kira Panayia or Pelagos. It is no wonder that the last monk seal seen in the area was 15 years ago considering the far from clean water we found in Planitis and the behaviour of large motor cruisers who open their garage doors and disgorge jet skis to buzz around like a swarm of flies for hours on end disturbing not only the wildlife but everything else in the surrounding area including us. It is a shame that someone has not invented a bloody great fly swat that can eliminate these vermin with one swipe. [...]

The Seal Rescue Centre at Steni Vala on the eastern coast of Alonnisos, a delightful little port and village, with which we

fell in love, is a derelict hut that probably died at the same time as the last monk seal.”

Source: Miggy and Neal Flux, [The Sporades](#), Sail the Dream, 21 July 2010.

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Italy

Monk seals in Italy: an increasing presence

Monk seals continue to be sighted in Italy, the recent focus areas being the island of Marettimo (Egadi islands, west of Sicily) and the Tuscan Archipelago.

Sightings in Marettimo have become quite a “routine” event, monitored through different missions undertaken in spring, summer and fall by members of the [GFM](#) – Gruppo Foca Monaca. Following a short film sequence shot with a mobile phone by two local fishermen at sea in March, the seals were sighted continuously, even in the peak holiday months, by locals, tourists, fishermen, from land and from boats, while tracks were found especially in one well known cave.

GFM involved the Ministry of Environment and the management of the local Marine Protected Area in the issue, as well as local authorities and fishermen. The local community of Marettimo, numbering a few hundred people, and particularly the professional fishermen (they are less than ten), entered an efficient collaboration with GFM.

The association also helped local traders produce T-shirts, stickers and toys, dedicated to the monk seal, which sold like hot cakes among tourists. A RAI television broadcast, featuring interviews with fishermen and the authorities was broadcast in June to spread the news.

The opinion of the GFM president, Emanuele Coppola, is that some monk seal reproductive activity has taken place in recent years in an area, extending also to the nearby islands of Favignana and Levanzo, where other sightings were recently reported. – Luigi Guarrera, Gruppo Foca Monaca.

Editor's note: TMG also carried a report of a photographed monk seal sighting at Portofino, on Italy's Ligurian coast in June 2010: [La foca monaca ritorna a Portofino!](#) Area Marina Protetta di Portofino, TMG News, June 2010.

Do you see anything unusual in this photograph?



Readers are kindly requested to [contact GFM by email](#) if they have any particular observations to share on the monk seal sighting photo above.

Emanuele Coppola and the Gruppo Foca Monaca will present their own perspectives in the next issue of TMG.

Lebanon

Seal sightings in Lebanon

Simon Nadim, Managing Director of the [Pure Tech Diving Facility](#) in Batroun, Lebanon, contacted TMG to report two separate sightings of a Mediterranean monk seal, on the 15.08.2010 and 04.09.2010 respectively.

The encounters both occurred while diving amongst caves in northern Lebanon and were recorded on video. The animal was reported to be at least 2m in length, and evidently in good physical condition.



Given the extreme rarity of the species, and its sensitivity to human disturbance, the exact location of the sightings was kept confidential.

The Mediterranean monk seal has been considered extinct in Lebanon since at least the 1990s, and it is likely that this particular individual originated elsewhere.

It may or may not be coincidence that seal sightings were also [reported along the coast of Israel](#) earlier this year, where the species was also previously considered extinct.

Our thanks to Simon Nadim and Karim Hermes of Pure Tech Diving Facility for sharing this important information and video footage. Pure Tech's [Facebook](#) page.



First sighting on 15.08.2010.



Second sighting on 4.09.2010.

Madeira

Well-known seal dies on Madeira

On 2 June 2010 the seal known as Birisca was found dead in Arco de São Jorge, located in the north of Madeira Island. She was one of the best known seals of the Desertas Islands population, first identified in 1993 when she was already a reproductive female. She was named 'Birisca' because of the presence of two (bi) lines (riscas) on the right shoulder. She measured 2.62 meters, weighed 192 kg, and was estimated to be at least 21 years of age.



Birisca, bearing the two scars that inspired her name.



Operation to remove Birisca's body.

It was with 'Desertinha', who died in 2008, that they became the first females to again use open beaches for pupping and nursing in the Desertas Islands [see [One pup - three "mothers"](#), TMG June 2004].

Although Birisca was not reproducing anymore she contributed to the monk seal population increase in Desertas, giving birth at least 8 times.

The body of the seal was detected by a resident on the night of 2 July. The next day, the Parque Natural da Madeira Service, with the collaboration of the Madeira Whale Museum, the Maritime Police and the city council of Santana, removed the body from the isolated stony beach by sea by boat. Currently the body is stored frozen in the Madeira Whale Museum. It is thought that old age contributed to her death, but a necropsy scheduled for January will hopefully determine a more precise cause of death. – Rosa Pires, Parque Natural da Madeira Service.

Mauritania & Western Sahara

Camera surveillance system at Luc Hoffmann's beach

In June 2010 a new camera surveillance system was installed at Luc Hoffmann's beach. Using tried and tested equipment, the system will cover the entire beach area (circa 500m). Monitoring of the beach has become necessary due to the increasing numbers of monk seals that occupy it; the birth of a pup was also detected last year. The main purpose of this installation is to monitor the area without causing disturbance to the animals, especially during the breeding season.

The camera was hooked-up to the small encampment located on top of cave 3. In June the installation was completed and checked, ready for the upcoming breeding season.

Unfortunately, the surveillance of another female-pup pair at this open beach will have to wait, at least for another year. Heavy groundswell during these last months, together with poor sea conditions last year, have swept all the sand off the shore, which means that the beach has disappeared this year.

Thus not only has no breeding taken place here, but it has been rare to see animals resting on what was once a large beach.

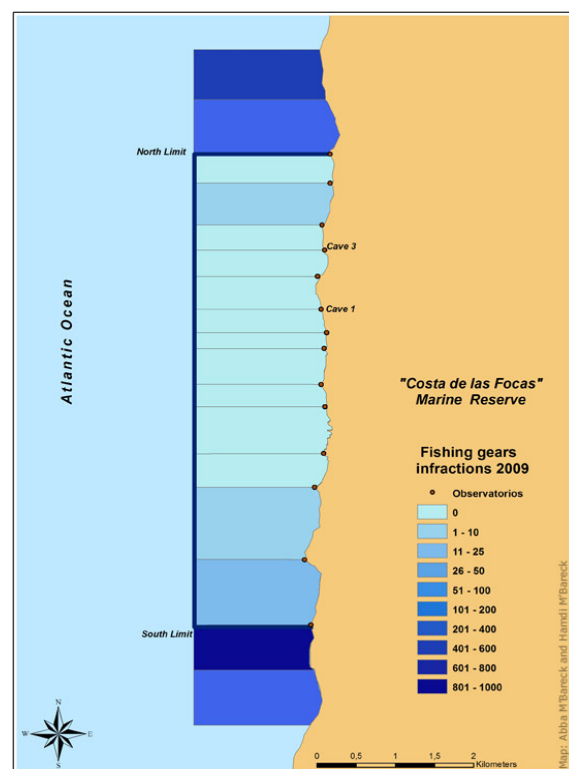
Sea conditions are showing signs of improvement, which means that the sand will start to accumulate again and the beach return. We hope that by next year the beach will again be occupied by seals. – Mercedes Muñoz and Hamdi M'Bareck, CBD-Habitat.

Surveillance of the fishing effort outside the “Costa de las focas” reserve.

Since 2009 a new monitoring effort is being developed north and south of the boundaries of the 'Coast of Seals' reserve. Twice a week, the conservation wardens extend their surveillance 1,5km north and south to collect information about the fishing pressure over the boundaries of the reserve.

When the infractions committed inside are compared with the fishing pressure outside the reserve, we can determinate if the absence of infractions is due to the effectiveness of the surveillance or the lack of fishing pressure in the area during that period.

The map presented here is a compilation of the data taken from last year (2009). In it, the coast is divided into different sections in which the number of detections is reflected in a colour pattern.



Illegal fishing gears detected in and out the reserve 2009

As we can see, most of the fishing effort is concentrated at the external areas closer to the boundaries. This indicates that the fishermen are not only respecting the boundaries of the reserve but that “la costa de las focas” has become an important refuge for the seals to breed without fishing threats. – Abba M'Bareck and Hamdi M'Bareck, CBD-Habitat.

New productivity record

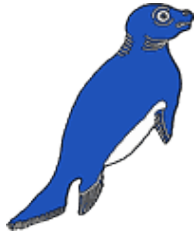
Although still missing one month until the end of the pupping season, to date there have been 55 newborn pups at Cabo Blanco. The birth rate improves upon last year's (51 pups in 2009) and confirms the positive trend when compared with the 24-28 births at the beginning of the last decade.

The peak birth period was October, with 19 newborn pups registered; followed by September with 10.



67% of the births took place in one of the two main breeding caves of the colony. Where neonatal mortality is concerned, it has to be said that 12 dead pups were detected that were less than two months of age, while another 6 disappeared; giving a rate of between 22 and 33%.

The sex-ratio is inclining towards females with 61% of the births versus the 39% for males. The dependability of veteran females and the incorporation of new reproductive ones are ensuring a successful breeding season. We hope that the season's birth record continues to rise until the end of the year, as a positive sign of the recovery of the Cabo Blanco colony. – Miguel Ángel Cedenilla, Anna Varea and Moulaye Haya, CBD-Habitat.



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Turkey

Monk seal pup rescued in Aydıncık, Mersin

A monk seal pup was found on the beach of Aydıncık, a small town west of Mersin, on 5.11.2010 by locals, who reported the incident to Mehmet Sarı, the [SAD-AFAG](#) representative in the region, at around 08:00 hours. The pup was observed closely on and off at the same location throughout the day. It wandered away, disappeared and returned to the beach on several occasions, though no mother could be observed. On 6.11.2010 a SAD-AFAG rescue team arrived at 07:50 to find the pup on the same beach. Its overall health was good, with no signs of dehydration or apparent physical injury.

The pup was estimated to be less than a month old, a physical examination revealing that no teeth had yet erupted. Oral rehydration solution (ORS) was administered twice until noon.



Pup found on the open beach in Aydıncık, Mersin.



Pup transfer to breeding cave area in the cliff cave site.

The SAD-AFAG team decided its priority should be to find the breeding cave and reunite the pup with its mother, rather than taking the animal into care. At the same time, the rescue and rehabilitation centre at Foça and SAD's new rehabilitation centre in Gökova were alerted to prepare and be ready for a possible rehabilitation should the need arise.

By 15:00 it was 31 hours in total since the pup had been found on the beach. The SAD-AFAG team and fishermen discussed the geography of the area, including the locations of sea caves, and made a dive survey along the eastern coast of Aydıncık. With the support of the Coast Guard boat and a zodiac they reached the area from Tasucu. A very suitable cove was found with several crevices, reefs, cliffs and a breeding cave, in which apparent traces of an adult and a pup seal were found. At

16:50, approximately 33 hours after it was first found, the pup was transported to the site, around 1.5nm from Aydıncık, with the help of the Coast Guard zodiac.



Mother seal around the breeding cave near Aydıncık.

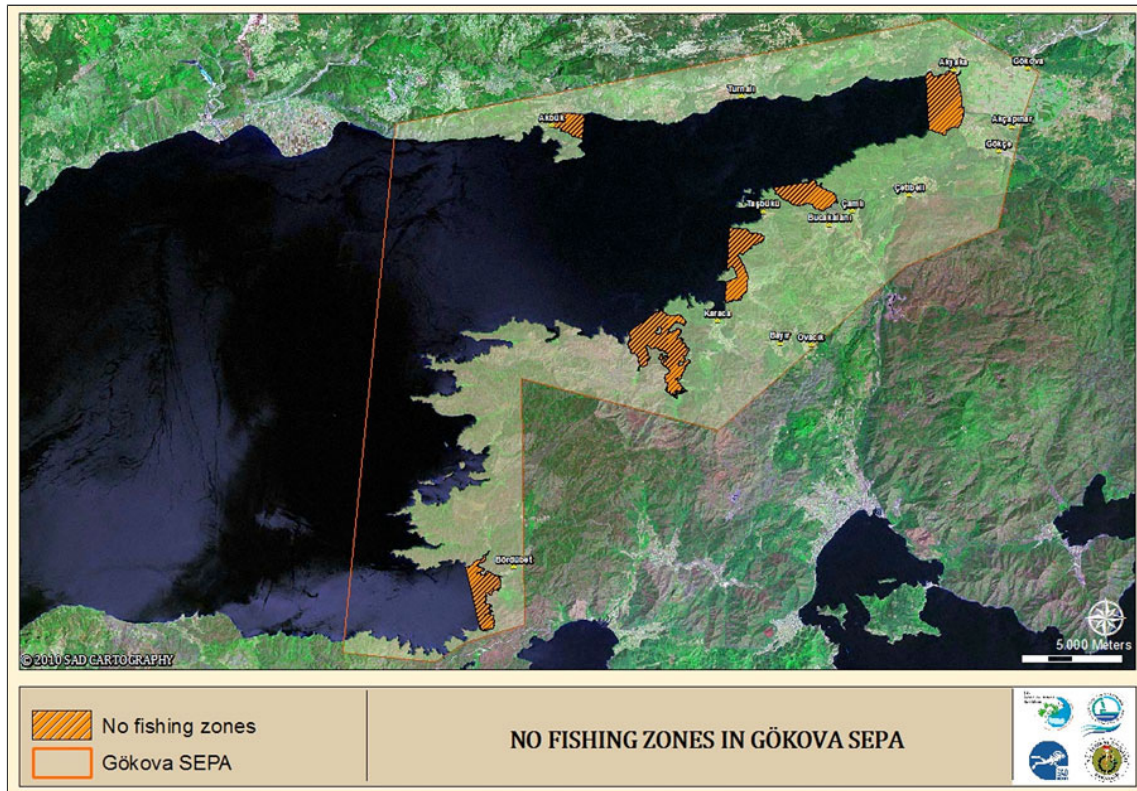


Mother seal searching underwater around the breeding cave near Aydıncık.

The pup remained in the cove, swam and dived smoothly, did not follow the zodiac and entered one of the crevices. The following night, the pup was not observed on Aydıncık's open beach, but observed around the release site by a local line fisherman. In the early morning of the third day, at 05:30 hours, the SAD-AFAG team arrived at the cove, taking favourite lookout points on the cliff. At 06:20 an adult female seal appeared 300 m away from the cove and approached the cave and crevices underwater, swimming calmly but cautiously. She entered the crevice that the pup had entered the previous day, following its release. She investigated other crevices as well and faint cries were heard several times. It was concluded that the pup and mother had reunited. The SAD-AFAG team left the cove area by land and surveyed Aydıncık beach and other nearby coasts. By the end of the third day on 07.11.2010 the pup was not observed again along Aydıncık beach and vicinity. Following the SAD-AFAG team's return to Ankara, the site was put under observation by Mehmet Sarı, an Aydıncık Aqua Products Board member and artisanal fisherman. - Cem O. Kiraç and N. Ozan Veryeri, SAD-AFAG.

New “no fishing zones” in Gökova Bay

As a result of intensive field studies, stakeholder meetings and lobbying activities, six new “no fishing zones” have been agreed and the Ministry of Agriculture and Rural Affairs' (MARA) decision published in the Turkish Official Gazette on July 2010. SAD-AFAG, SAD-EKOG (Ecological Research Group), Assist. Prof. Vahdet Unal of Ege University, Assist. Prof. Mustafa Erdem of Mugla University, MARA, EPASA and the three Fisheries Cooperatives (Akyaka, Akçapınar and Akbük) within Gökova Bay have been working on this issue since January 2009 within the *Gökova Integrated Coastal & Marine Management Planning Project*, funded by BBI Matra and executed jointly by SAD-AFAG and the Rubicon Foundation. Later on in July 2009, SAD-EKOG commenced another project on the monitoring of the marine environment in Gökova Bay including creation of no fishing zones in the area funded by UNDP-GEF/SGP. Both projects reached a successful conclusion with the establishment of six new no take zones in Turkey. The six zones (from north clockwise) are Akbük Bay, Gökova inner Bay, Çamlı Cove, Boncuk Cove & Karaca zone, Okluk Bay and Bördübet Bay (see map).



The No-Fishing Zones (NFZs) entered into force with an announcement in the Official Gazette dated July 10, 2010 following SAD's official application to MARA in May 2010. According to the decision, the NFZs cover 23 km² in total, approximately 7% of 307 km² total marine area of Gökova SEPA. It is important to emphasize that this decision has been developed and implemented with the cooperation and consensus of the three fisheries cooperatives in the region. MARA, as the government body responsible for fisheries, the Environmental Protection Agency for Special Areas (EPASA), the Undersecretariat for Maritime Affairs (UMA) and the Turkish Coast Guard Command and the GEF-funded EPASA/UNDP project entitled "PIMS 3697 Strengthening the Marine and Coastal Protected Area System of Turkey" supported these efforts and SAD's proposals officially during the process.

As a result of controlled fishing activities in Gökova Bay, it is expected that the marine ecosystem will be enhanced via increase of fish stocks and overall recovery of the marine ecosystem. Mediterranean monk seals and other predators are also expected to benefit. In these NFZs located within Gökova SEPA, the majority of which serve as fish spawning and nursery grounds, even the coastal artisanal fishermen (with set nets and long lines) are prohibited to enter. The newly established NFZs will continue to be monitored by the PIMS 3697 project, whose first year baseline studies already commenced at the beginning of October 2010; completion is due by the end of 2013.

However, the biggest challenge is controlling and preventing illegal fishing in the NFZs. Seiners and speargun divers equipped with scuba and u/w lights operating illegally in the area, should be strictly monitored by law enforcement officers or rangers. It is well known that the most significant cause of diminishing stocks of white grouper (*Ephinephelus aeneus*), goldblotch grouper (*E. costae*), dusky grouper (*E. guaza*), sea bream (*Pagrus pagrus*) and dentex (*Dentex dentex*) as well as octopus (*Octopus vulgaris*) – the species with the highest economic revenue for fishermen in Gökova Bay – is illegal speargun fishing, a highly organized and well-equipped activity in the region.



Endangered sandbar shark (*Carcharinus plumbeus*) in Boncuk Cove, Gökova Bay.



A purse-seiner near Tuzla, Gökova Bay.

Restaurants and dealers that market such illegally caught fish also greatly contribute to the continuation of the practice in the area. SAD has been dealing with many illegal incidents and infringement cases and has worked closely with Turkish Coast Guard and Gendarmerie, and also MARA. In Gökova, around ten illegal speargun fishers have been caught while several other illegal purse-seiners and trawlers have been warned away by the Turkish Coast Guard, some of them via the timely reports of artisanal fishermen and SAD staff.

Meanwhile, in a report offering proposals to combat illegal fishing in Gökova, SAD has advised MARA that the most effective controls can be made on land, in ports and restaurants, which would serve to eliminate marketing of illegal catches. – Cem O. Kırac, SAD-AFAG.

2010 monk seal monitoring in Foça SEPA completed

The 2010 “Conservation and Monitoring of the Mediterranean Monk Seal in the Foça SEPA” was completed by SAD-AFAG on 4 November. The monitoring project is a routine study that has been funded by the Environmental Protection Agency for Special Areas (EPASA) since 2008.


The population and sighting frequency of monk seals has decreased in the last decade compared to the 1994-1998 period when the number of seal sightings and number of seal traces inside caves were considerably more frequent, and when even breeding occurred on two occasions. In 2008, the number of seal sightings recorded was 31 and the number of seal traces in the caves 2, while in 2009 the number of seal sightings was 51 and seal traces in the caves zero. In 2010, the number of sightings is 117 (including



AFAG's Erkin Tonguç during a cave check in Hayırsız Island in Foça SEPA.

SAD-AFAG direct observations) and the number of seal traces inside caves 3 (one on Hayırsız Island and the others at the Siren Rocks of Orak Island). However, SAD-AFAG assesses that the increase in sightings and traces in 2010 is not significant compared to the years 2008 and 2009 and still no breeding occurs. Also, a significant number of sightings were made in Foça Harbour in 2010, rather than in the wild habitats of the Foça SEPA. The monk seal's decline and lack of breeding in the Foça SEPA area is believed to be attributable to a number of factors, including an increase in waterborne tourism, disturbance of monk seal habitats including breeding zones by tour boats,

private leisure craft and fishing boats, overfishing and illegal fishing activities, and finally a lack of patrolling and marine surveillance. Although a fast patrol boat is available in the Foça SEPA purchased by EPASA and used by the Foça Municipality since 2008, it has not been active enough to stop or deter illegal fishing. SAD-AFAG had clearly emphasised these threats and management failings in its 2008 and 2009 monitoring reports. The management plan and preventive measures have also been presented in the following publication:

Kıraç, C.O. and H. Güçlüsoy. 2008. Foça and Mediterranean Monk Seal; Conservation and Monitoring of the Mediterranean Monk Seal (*Monachus monachus*) in Foça Special Environment Protection Area. EPASA Publications. December 2008. Ankara. 1-48. [PDF  2.1MB]

Luckily, it is believed that all the existing problems in Foça SEPA are not irreversible, and that monk seals can recover or that even breeding may resume in the future, as long as the Foça SEPA Management Plan is implemented and enforced by the responsible authorities, with active participation and involvement of the relevant stakeholders. – SAD-AFAG.

Gökova management plan now being drafted

Research for the “Gökova Integrated Coastal & Marine Management Planning” project, funded by BBI Matra, was finalized by SAD-AFAG and the Netherlands based Rubicon Foundation as of 31 October 2010. Project Manager Ozan Veryeri organized the project’s field studies, which were composed of ecological and socio-economic components, a threats assessment, and surveys among local stakeholders, including fishermen, the tourism sector, NGOs and local people. Mediterranean monk seals, marine and coastal birds, Posidonia sea grass, fish (including the sandbar shark) and macrobenthic fauna were studied by different teams. The pressure and threats on the marine and coastal ecosystem have been determined. With all the data collected in the field digitized and converted into GIS, the Gökova SEPA ICMM plan is now being drafted. Fisheries management, control of illegal fishing, enlargement of the Gökova SEPA border to incorporate monk seal breeding habitat in the northern sector, the Kadınazmagı river management plan and excursion boat quotas, protection of key coastal areas against development, endangered species monitoring and regulating anchorage of the boats to protect Posidonia sea grass beds are among the major issues that will be handled in the ICMM planning for Gökova SEPA. SAD-AFAG has managed to involve all the relevant stakeholders in the planning process, including local fishing cooperatives. – N. Ozan Veryeri and Cem O. Kıraç, SAD-AFAG.



Aerial view of Sedir Island and vicinity in Gökova SEPA.



Foçinler (Foça inleri= Seal caves) zone along the northern coasts of Gökova SEPA.

“Draft Act on Protection of Nature and Biological Diversity” poses risks to key areas in Turkey

A draft Act on Protection of Nature and Biological Diversity, prepared by the Ministry of Environment and Forest (MoEF) was submitted to the Turkish Grand National Assembly on 25 October 2010 to be debated and developed in the relevant commissions before final approval. The key issue in this act concerns the new decision making process on re-determination of natural SIT areas or nature protection areas having National Park or SEPA status. The act calls for the re-determination to be made by a special commission within the Ministry of Environment instead of the existing independent Protection Councils. The move has sparked considerable opposition by conservationists and their supporters, including nature protection NGOs such as TEMA (Turkish Erosion & Forestation Foundation), Nature Society (Doga Dernegi), SAD (Underwater Research Society), WWF Turkey and the Bird Research Society (KAD) as well as professional bodies such as the Chamber of Architects, Chamber of Landscape Architects, Chamber of Environment Engineers, Chamber of Metallurgical Engineers etc. and several regional Nature Protection groupings from the Black Sea, Aegean, Marmara and Mediterranean regions – altogether around 60 organizations.

Although by name the act implies *conservation of nature and biological diversity*, at least one critical article has caused serious disquiet in conservationist circles – the re-design of the council that will oversee the process of SIT area determination and re-evaluation. Currently this process is run by independent regional protection councils while the draft act proposes that it now be run by a new council composed of 20 representatives within the MoEF, 14 of whose members are appointed state officials and bureaucrats. Another 2 members would come from NGOs, and 4 reserved for academicians, but these too would be appointed by MoEF!

The general impression of the conservation community is that, if enacted, the measures would allow future decisions of SIT areas in the country to be influenced by political or economic pressures. In this case, the Mediterranean monk seal and its largely unspoilt habitats within the designated Important Monk Seal Sites in the country – the majority of which are 1st degree natural SIT areas – will be at risk from revision of status or downgrading. Currently, 1st degree natural SIT area designation strictly prohibits any construction or coastal development, while in 2nd or 3rd degree areas, coastal development is partially allowed; in areas without SIT status, there is no restriction on coastal development. At this stage, opposition by the conservationists to the draft act may have vital importance in determining the fate of key biodiversity areas of Turkey. The views and proposals of the relevant NGOs and scientists were not reflected in the final draft before the act was submitted to the Grand National Assembly. – Cem O. Kiraç and N. Ozan Veryeri, SAD-AFAG.

EndQuote

Malta's other seaborne migrants

Rising sea levels could eliminate already scarce haul-out sites of the Mediterranean monk seal (*Monachus monachus*) (bumerin in Maltese), especially by the flooding of caves that

provide refuge for some groups. The species may be particularly vulnerable as it is reliant on a small number of caves or narrow beaches for breeding, and these could easily be destroyed or rendered unusable by rising sea levels and increased storm frequency.

Source: [Malta's other seaborne migrants](#), Alan Deidun, Times of Malta, 24 January 2010.



Cover Story

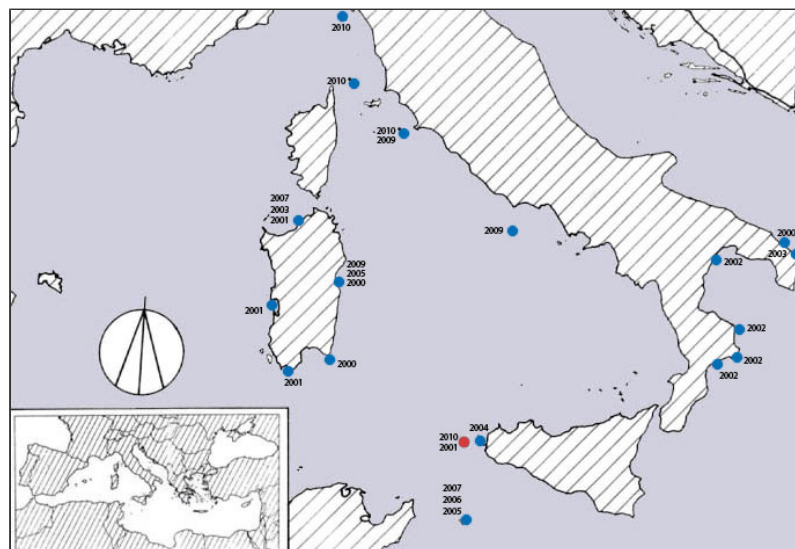
Vol. 13 (2): December 2010

Cave habitats used by Mediterranean monk seals (*Monachus monachus*) in Sardinia

Luigi Bundone

Gruppo Foca Monaca Italia

The Mediterranean monk seal (*Monachus monachus*) is one of the most threatened mammals in the world, and has been classified as critically endangered by IUCN since 1996. The conservation of this species is thus a declared priority for all the countries where it is found.



Recorded sightings of the Mediterranean monk seal along Italian coasts over the last 10 years (GFMI Archive).

Although thought to have been extinct in Italy since the 1980s, sightings have been recorded in most of the areas of its former distribution range. These sporadic sightings show that, even if rare, the species may still occur. A comparison of historical data with present records indicates a certain lack of knowledge regarding the monk seal's habitat use along the Italian coastline.

In the last two decades several specimens have been sighted along the coast of Sardinia, in the Sicilian islands, in Apulia, in Basilicata, in the Tuscan and Pontino archipelago and recently even in Portofino.

All of these recorded sightings were presumed to be of seals originating from areas such as the Mediterranean states of North Africa, or Greece.

This presumption, however, has hampered efforts to carry out proper research on and protection of potential habitats, and after 20 years, the territorial use of Italian coasts by these animals is still unpredictable.

This paper focuses on Sardinia, but similar efforts to improve the study and conservation of the monk seal could be implemented in other areas of the Italian coast.

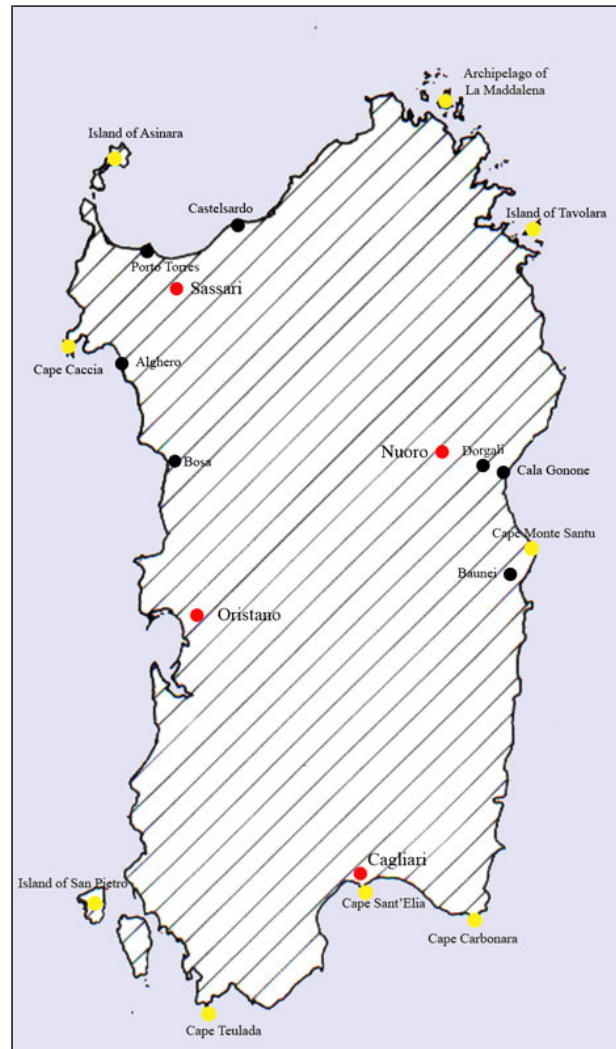
In the past, the Mediterranean monk seal was a common, though not abundant, inhabitant of the Sardinian coast. Seals were frequently observed in many different areas around the island, such as the Maddalena Archipelago, the island of Tavolara and surrounding areas, the Gulf of Orosei, the coast from Arbatax to Cape Carbonara, the Gulf of Cagliari, Cape Teulada, the islands of San Pietro and Sant'Antioco, the island of Mal di Ventre (Oristano), the area around Bosa, the surroundings of Alghero, the island of Asinara and the coast from Castelsardo to Porto Torres (Cetti 1777, Azuni 1802, Casalis 1833, 1834, 1836, 1849, Della Marmora 1839, 1860, Voltan 1899, Valdes & Ebau 1996, Bundone 2005).

Conservation efforts, however, have historically concentrated on only two identified monk seal caves: the Grotta del Bue Marino and the Grotta del Fico (Furreddu 1973b, Bareham & Furreddu 1975, Bundone 2005), both located in the Gulf of Orosei in central-eastern Sardinia.

Even though two studies have been carried out in Sardinia, applying modern procedures to determine the actual and potential habitat availability for the species, the lack of ongoing research has prevented a proper monitoring of these areas. The first of the two studies was conducted by WWF in 1994, along a stretch of coast extending from Cala Gonone to Capo Monte Santu and resulted in the identification and mapping of 27 caves, 8 of which were considered suitable for pupping (WWF 1995, Mo 1998).

Following the sighting of a seal near the island of Cavoli in August 2000, an inventory of monk seal haul-out sites was carried out by ICRAM along the coasts of the Marine Reserve of Capo Carbonara and Cavoli Island in south-eastern Sardinia (Mo 2000), identifying 16 caves (the results have not been published).

Little is known about the habitat use of the seals along the remainder of the coast. Nevertheless, many toponyms and publications (Bundone, 2005) aimed at hunters and



Sardinia (GFM).

travellers in Sardinia, indicate several other caves that have historically been used by monk seals.

The most famous cave known to have been used by seals is undoubtedly the Grotta del Bue Marino (Dorgali), located 4 km south of Cala Gonone, which takes its name from the seal, or 'sea ox' as it was known since ancient times (Furreddu 1973b, 1987, Valdes & Ebau 1996, Bundone 2005). During the first expeditions seal bones were found in the northern fossil branch of the cave, in a chamber called "Sala dei Candelabri" (Furreddu & Maxia 1964, Altara 1995), though further studies of the bones are necessary to allow a correct interpretation of these remains. About 900m along the southern arm of the cave, passing through a partly navigable channel, there is a wide beach called "Spiaggia delle foche" where seals used to haul out (Furreddu & Maxia 1964, Furreddu 1973b, Colomo & Ticca 1984).



Sardinian coast.



A monk seal in the Bue Marino Cave (Dorgali) Sardinia.

A recent study (De Waele et al. 2009) inside the Grotta del Bel Torrente, 0.5km north of the beach of Cala Sisine, has revealed monk seal bones that are 5,000–6,500 years old. Interestingly, this is the first evidence of the use of caves by monk seals in Sardinia before the pressure of human hunters encouraged the species to abandon open beaches. This evidence supports the theory that in ancient times seals probably used open beaches and caves as haul-out and pupping sites, as Johnson and Lavigne have suggested (1999).

Following the southern coast of the Gulf of Orosei, the Grotta del Fico is located in the area of Capo Monte Santu (Baunei), at the end of Serra Lattona. This cave, reachable only by boat, is characterized by two entrances. In the 1970s, under the guidance of Padre Antonio Furreddu, the Gruppo Speleologico Pio XI studied a group of seals that used to come here to give birth to their pups (Furreddu 1972a, 1972b, 1973a, Bareham & Furreddu 1975, Bundone 2005).

The Grotta dei Colombi is located in the Gulf of Cagliari, at the base of the limestone cliff of Cape Sant'Elia. The presence of seals on the Cape was well known in the past (Della Marmora 1939). In his *Itinéraire de l'île de Sardaigne*, Alberto Della Marmora, referring to this cave, wrote: "At the end of the promontory, towards the south, in the calcareous rock, is a natural cave where pigeons live and where sometimes the sleeping seal can be surprised." (Della Marmora 1960).

On the south-western coast of the Island of San Pietro (Carloforte), in the Gulf of Mezzaluna, one finds another 'Grotta del Bue Marino'. It is the main cave of the island, accessible only from the sea and situated at the base of an ignimbrite reef (Furreddu & Maxia 1964, Fadda 1995, 2003, Bartolo & Fadda 1998).

The presence of seals along the coast of Oristano and Bosa was once widely noted

(Della Marmora 1836, 1860), but the only written source referring to caves in this area is Goffredo Casalis's *Dizionario geografico, storico, statistico, commerciale degli stati di S.M. il Re di Sardegna*: "The coastline of Bosa starts at the Cape Columbargiu. Here one finds an opening in the shape of a cave where seals go to rest." (Casalis 1834).

Writing about the area of Alghero, Casalis noted that many seals inhabited the caves of the Capo Caccia Peninsula (Casalis 1833), but the evidence refers only to the Grotta del Nettuno, a wide cave whose entrance lies directly on the water; a siphon connects the internal lake (lake La Marmora) to the sea. From La Marmora Lake, a second siphon allows access to a chamber called the "Ramo della Foca", where the last seals were observed (Muccedda & Pala 1990).

In the chapter entitled *Foche e caccia marina*, part of an extensive work about sports in Sardinia, Giovanni Voltan describes a cave where seals were regularly encountered.

The cave is also known as the Grotta dei Colombi, and is located near Porto Torres.

He stated: "Seals lie on the rocks and little beaches in the [cave's] interior." The presence of seals in this cave, he wrote, "although rare, is not overly exceptional". Interestingly, he reported that seals could be encountered there throughout the year (Voltan 1899). The frequent presence of seals in the area of San Gavino Decollato is also confirmed by Francesco Cetti in *I quadrupedi di Sardegna*.

The island of Tavolara hosts many different caves, some of which were known to be frequented by monk seals. The main cave is the Grotta del Papa, located on the north-eastern coast of the island (Anonymous 1989, Fadda 2003). On the same coast there is yet another Grotta del Bue Marino (Furreddu & Maxia 1964, Bartolo & Fadda 1989, Fadda 1994, 1995).

The Mediterranean monk seal is a species at great risk of extinction. As such, an accurate understanding of the species' historical distribution and habitat availability is indispensable to the implementation of effective protection measures.

Occasional encounters with monk seals in areas where they have previously been considered extinct have been recorded most recently in the Balearic Islands (San Felix 1999, Mayol 2008, Grimalt i Vert 2008, Font & Mayol 2009), in Lebanon [The Monachus Guardian news blog 12th September, 2010], in Israel (Scheinin et al. 2010) and in Syria (Gucu, 2004). Even along the Croatian coast new research and a functional information exchange network have allowed the Grupa Sredozemna Medvjedica[1] to identify and protect the individuals which appear to regularly frequent some areas (Antolovic et al. 2006; Antolovic et al. 2009).



Adult female identified in Kamenjak, Croatia.

During the World Conservation Congress, held by the IUCN in October 2008, Resolution 4.023 concerning the "Conservation and recovery of the Mediterranean monk seal *Monachus monachus*" proposed that: "... all IUCN's members from Mediterranean countries maintain and increase their efforts to aid the recovery of the species", asking "the States of the western Mediterranean, in collaboration with other countries harbouring populations in better condition, to draw up and apply a regional strategy to enable existing or recently extinct populations to recover ..."

Many uncertainties still exist in Italy about monk seal habitat availability despite the regularity of recent monk seal sightings. To simply define these observations as erratic and the individuals concerned as vagrants, does not seem an adequate response when protection of the species and its habitat is an international priority.

Action should be taken to implement surveys, habitat monitoring and environmental education, at least in those areas where monk seal sightings still occur in Italy. This would allow an accurate identification of suitable caves for the species as a starting point for a better protection. As an additional recovery measure, the Gruppo Foca Monaca Italia is supporting cross-country initiatives to create interconnecting protection corridors, that might allow the species to safely expand its habitat and reconnect isolated seal groups.

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[1] Jointly with the Gruppo Foca Monaca Italia



In Focus

Vol. 13 (2): December 2010

Mediterranean monk seal mortality in 2010 in Greece

**Marianna Psaradellis, Vangelis Paravas
and Alexandros A. Karamanlidis**

MOM/Hellenic Society for the Study and Protection of the Monk Seal

In 1991, MOM established the national monk seal Rescue and Information Network (RINT) in order to monitor the overall status of the Mediterranean monk seal population in Greece. Geographically, the Network covers coastal and island Greece in its entirety. Its operation is based on the voluntary participation of more than 2000 members (port police and local authorities, inhabitants of coastal and island communities, fishermen's associations etc.), who provide information on monk seal sightings. The information is received either by mail, e-mail and Internet or by telephone through a 24-hour line that is known throughout the country as the "monk seal hotline". Upon receipt of a sighting report, MOM's expert staff will contact the source directly to evaluate, according to specific, predefined criteria, the validity of the information received. Since its establishment, RINT has been operating continuously, receiving information about live and dead Mediterranean monk seal sightings from throughout the country. Since 1991, MOM's Rescue Team has conducted a total of 115 necropsies. In 84 cases the cause of death could be determined and was related to either accidental entanglement, deliberate killing, or non-human induced death.

The following table summarizes the death causes from 1991 to 2009.

	1991-2005	2005-2009
Accidental deaths	16%	23%
Deliberate killings	39%	27%
Non human induced deaths	45%	50%

Table 1: Causes of death of Mediterranean monk seals in Greece.

In view of the recent spate of deliberate killings of Mediterranean monk seals reported in Greece [[Alarming numbers of dead seals](#), TMG 13(1): June 2010], MOM has carried out a preliminary analysis and assessment and provides to the readers of TMG an updated view for the year 2010. According to current data for this year, MOM received 24 reports of dead monk seal strandings from all over Greece (10 adults, 5 sub-adults, 5 weaners, 1 pup and 3 not identified) (Figure 1). Nine of the dead seals were females, six were males and for nine the gender could not be identified.

22 of these cases were confirmed by local RINT members, while photos were taken of 20 animals, samples were collected from 7, and 4 necropsies were carried out by MOM's expert staff. In the remaining cases the carcasses were either too decomposed or had already been disposed of, thus no necropsies were performed, nor were samples taken. Conclusive evidence found during the necropsies indicated that two of the deaths were non human induced, one was due to deliberate killing and one was due to accidental entanglement. In 6 other cases and despite the fact that no necropsy was performed, a death cause could be deduced using circumstantial evidence (i.e. photos, observations, samples) provided by local veterinarians and port police authorities. This evidence suggested that 4 animals had been killed deliberately and 2 had died accidentally. In the 12 remaining cases cause of death could not be determined due to the advanced state of decomposition. It should be mentioned that in general, death cause determination is very difficult to establish, and although in some cases there might be indications of deliberate killing, the cause of death is recorded as unknown unless there is compelling specific evidence and findings during the necropsy and the resultant sample analysis.

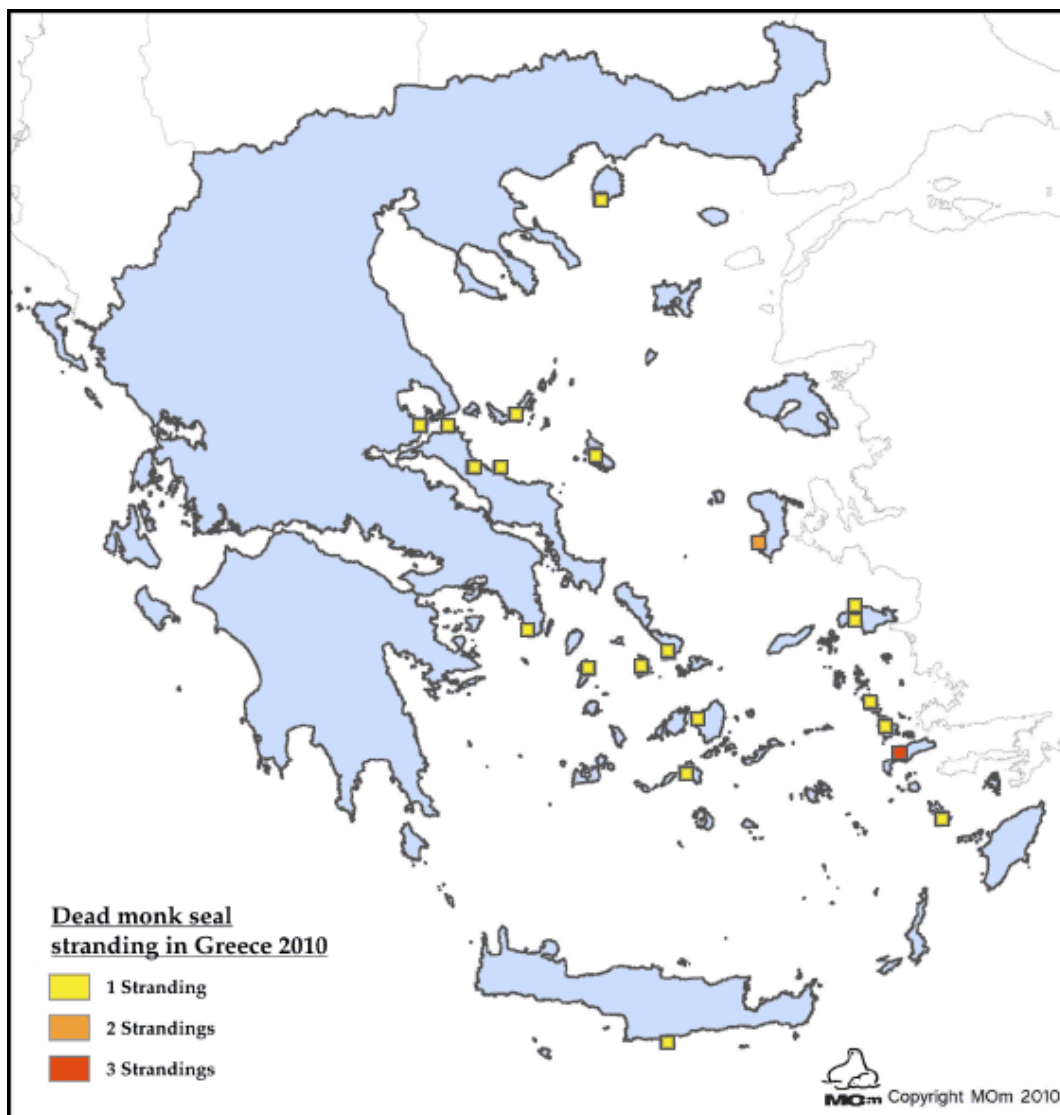


Figure 1: Map of Greece indicating the distribution of dead monk seal strandings in 2010.

A notable case of deliberate killing this year and unique for its severity and importance was the male pup named Markos. The animal was reported to MOM on 27 April 2010 stranded on a beach in northern Evia [[Markos's Case](#), TMG 13(1), June

2010]. It had suffered shotgun wounds to the head and had serious respiratory and vision problems. MOM's Rescue Team performed first aid on site, while further treatment continued at the Veterinary School of Thessaloniki with blood exams, x-rays and administration of antibiotics. The animal was transferred to the MOM rehabilitation centre in Alonnisos, where it stayed for 10 days. It had lost one eye, had serious injuries and a broken jaw that would not permit it to eat or swim. The severity of its injuries proved fatal, and the animal died on 10 May. As a result, and based on the Greek legislation protecting the endangered Mediterranean monk seal, MOM filed a lawsuit, against person or persons unknown for the deliberate killing of young Markos.


Finally, another two deaths from natural causes recorded in 2010 are related to pups that were found orphaned on the islands of Kimolos ['Iakovos'] and Evia ['Lazarus']. Both pups were rescued and admitted for treatment and rehabilitation at the MOM Centre on Alonnisos. Unfortunately, the two pups were extremely malnourished, and died during rehabilitation, raising the total number of confirmed deaths to 24. Detailed analysis of the biological samples of the two pups is still pending, yet preliminary results of the necropsies, carried out by Dr. Geerlag Vanamerongen of the Erasmus University of Rotterdam, indicate that the animals died of starvation.

Based on the above, and on data collected during the whole past operation of the Network, deliberate killings and accidental entanglements in fishing gear affect mostly the adult and sub-adult age classes of the monk seal population in Greece. A temporal analysis of the dataset indicates that mortality rates are highest during winter and spring (i.e. in months February, April and May). Based on RINT reports MOM has estimated that on average 14.8 deaths have been reported annually from 2005 to 2009. The number of dead monk seal strandings recorded in 2010 is the highest since the establishment of the Network. However, these results should be treated with caution because the RINT methodology in terms of effort is not constant and the efficiency of the system increases year by year, as the public and its members become more aware and concerned for the protection of the marine environment and the Mediterranean monk seal.

Despite the lack of proof for an increase of deliberate killing as a major death cause for monk seal populations in Greece, it is a sad fact that such terrible acts are still practiced here. In order to address this situation MOM implemented "MOFI", an EU funded LIFE Nature project, with the specific aim of mitigating negative monk seal - fisheries interactions and putting an end to the deliberate killing of monk seals. Within the framework of "MOFI", MOM in collaboration with WWF-Greece and the Fisheries Research Institute and the support of numerous artisanal fisheries associations, formulated a concrete, specific and feasible Action Plan, providing legislative and technical proposals and measures for the mitigation of these interactions. MOM has forwarded the Action Plan to all relevant Ministries and competent authorities, and is pressing for its formal adoption and implementation.

Further reading

MOM. 2010. [Mediterranean monk seal found seriously injured in Madoudi](#). Press release, Thursday, 29 April 2010.

MOM. 2009. Action Plan for the mitigation of the negative effects of monk seal - fisheries interactions in Greece, Summary Report. MOM, WWF Greece, Fisheries Research Institute, 2009: 1-11. [[PDF](#)  2.9MB]



In Focus

Vol. 13 (2): December 2010

Three monk seal encounters in the Northern Gulf of Evia, Greece

Giovanni Bearzi and Silvia Bonizzoni

[Tethys Research Institute](#) / [OceanCare](#)

In the first three days of a boat-based study focusing on dolphins inhabiting the Northern Gulf of Evia, Greece, we made three sightings of monk seals.

The first seal was having a spectacular lunch at the surface. The animal had what looked like a large octopus in his/her mouth and was forcefully and repeatedly shaking it with the head out of the water, producing splashes that could be seen from far away. As dolphin researchers we have limited knowledge of monk seals, but we speculated that the seal intended to kill the octopus before eating it. We approached at minimum speed up to about 50 m to observe this unusual behaviour, and the seal did not appear disturbed. The seal finished the lunch, gazed at us, then moved away and disappeared from sight. This encounter took place on October 5th off the rocky coast between Arkitsa and Livanates.



Monk seal sighted between Arkitsa and Livanates (Northern Gulf of Evia, Greece) on October 5th, 2010.



Monk seal sighted near the island of Gaidaros (Northern Gulf of Evia, Greece) on October 6th, 2010.

A second encounter occurred on the following day near the island of Gaidaros in the Gulf of Atalantis, about 12 km south-east of the first sighting. This animal appeared slightly different from the first one based on photographic evidence, but such evidence was considered inconclusive. The seal was observed for about an hour engaging in food search in a shallow murky bay, not far from a fish farm and an old loading platform. He/she performed dives approximately 4-6 min long, followed by ventilation sequences of approximately 30 sec. At the surface the seal was swimming calmly, staring at us from time to time. The animal did not seem wary of our

motionless boat, and never came closer than 30-50 m. We thought this was a wise behaviour, considering that monk seals are sometimes seen as vermin and shot (a recent case was reported in the Northern Gulf of Evia, see: <http://www.monachus-guardian.org/mguard25/2521covsto.htm>).

Our third encounter occurred on October 9th near the small island of Strongyli, about 22 km west of the place where we encountered the first seal. This animal was seen for a short time on a wavy sea and we could not manage to take photos. The seal performed a few surfacings in an area that was being intensively fished by a number of purse seiners, not far from boats setting and hauling their nets.

We have been studying coastal dolphins in various parts of Greece for two decades, totalling 116,000 km of navigation effort, but over the years we had precious few encounters with monk seals: namely 12 sightings between 1991 and 2010, all in the Inner Ionian Sea Archipelago. Three encounters in the Northern Gulf of Evia in three days gave us the first impression of a high density of monk seals. But maybe it was just a matter of chance and we can't even tell whether our encounters were with the same individual. Subsequent navigation effort in search of dolphins throughout the Gulf in October 2010, totalling 1,343 km, did not yield more sightings of this critically endangered marine mammal.



Perspectives

Vol. 13 (2): December 2010

A new healthcare facility for Hawaiian monk seals in Kona, Hawaii

Jeff Boehm

Executive Director, [The Marine Mammal Center](#), Sausalito, CA

With less than 1,200 Hawaiian monk seals left in existence, it is particularly alarming that there is currently no facility in Hawaii suitable for long-term care and rehabilitation of these endangered marine mammals when they are sick or injured.

Given that their population has declined at a rate of 4% per year for the past decade, time is running out. With this critical situation in mind, [The Marine Mammal Center](#) based in Sausalito, California, has set its sights on building a new healthcare facility for Hawaiian monk seals at Keahole Point, Kona, Hawaii.

For the last decade, The Marine Mammal Center has worked closely with the National Marine Fisheries Service and nonprofit organizations to provide medical assistance to monk seals, often flying out its teams of veterinarians, veterinary technicians and trained volunteers to provide hands-on medical care in temporary, make-shift facilities in Hawaii.



For an endangered species found only in Hawaii, it is vital that the most endangered pinniped in the U.S. receive permanent, year-round help with a facility solely dedicated to monk seals that is at the ready to respond 24 hours a day.

For the past 35 years, The Marine Mammal Center has grown to know the value and necessity of a hospital dedicated to the medical care of sick and injured marine mammals. In 2009 its newly remodelled hospital in Sausalito, California allowed for the care of more than 1,700 animals, many of which would have died had there not been a specialized medical facility, staff, and volunteers to tend to these animals.

It is with this spirit that The Marine Mammal Center and the Hawaii Wildlife Fund, collaborative organizations with the National Marine Fisheries Service of NOAA, launched a \$2 million campaign to build a facility for Hawaiian monk seals in Kona on the Big Island on land that is planned to be leased from the Natural Energy Laboratory of Hawaii Authority (NELHA). Such a hospital will provide emergency medical care to sick and injured monk seals, and support NOAA Fisheries Service efforts to improve the survival of juvenile seals from the Northwestern Hawaiian Islands, where currently only 1-in-5 seal pups survive to adulthood.

The site is still in the design process, but so far the planned facility on the NELHA site will provide four separate pools and holding capacity for up to nine animals. Highlights include:

- Two large fibreglass pools 12' x 15' [approx. 3.5 x 4.5m] set in-ground, each surrounded by a dry haul out area of 28' x 36' [8.5 x 11m].
- Two small fibreglass neonate pools 6' x 6' [2 x 2m] set in-ground, each surrounded by a dry haul and work area of approximately 20' x 20' [6 x 6m].
- A large engineered semi-open tent-like structure 60' x 120' [18 x 37m] will cover all four pools; this will provide shade and quarantine.
- Solid barriers to prevent lines of sight and noise will be installed to prevent the animals from being habituated to people.
- Saltwater for the pools is provided by the energy lab and is pumped in much like a utility.
- The facility will re-circulate pool water in a semi-closed system, using pumps and filtration equipment to remove animal waste. A pump house and life support equipment area is adjacent to the pools.
- In phase I, before permanent buildings are completed, modular buildings will be brought on site for food preparation, office and laboratory. Permanent buildings next to the pools include a laboratory for the processing of biological and water samples, a food preparation room for the cold storage and breakout of fish, and offices to accommodate on-site staff and colleagues.

Currently, about 150 Hawaiian monk seals are in the main Hawaiian Islands, and about 1,000 are in the Northwestern Hawaiian Islands. Due to food limitation, shark predation, and ocean trash entanglements, the monk seals in the Northwestern Hawaiian Islands are having a harder time than their counterparts in the main Islands. However, the seals in the Main Islands are also increasingly victims of ocean trash and other negative human interactions, such as gunshots and harassment.

Although The Marine Mammal Center is responsible for rescuing marine mammals along more than 600 miles of coastline in California, it cares about all types of marine

mammals, and has always been willing to help provide care for species around the world. In addition to the Hawaiian monk seal, the Center has applied its knowledge to the recovery efforts of other endangered and threatened species including Steller sea lions, Guadalupe fur seals, Southern sea otters, Northern fur seals, Hooker sea lions in the Auckland Islands, and Mediterranean monk seals.

Founded in 1975, The Marine Mammal Center has cared for more than 16,000 animals. The Center has also helped to enhance marine mammal medical care and facilities, and has made significant contributions to marine mammal medicine, animal husbandry protocols, and scientific research worldwide.

Because the Center works with a number of marine mammal species, the staff has been able to apply its medical knowledge and resources toward the conservation of the Hawaiian monk seal. The Kona site for the new urgent healthcare facility was picked with accessibility in mind. The area is only 10 minutes from the Kona Airport, which makes transport of both humans and seals to the hospital simple and efficient. In addition, the area already has the necessary basic infrastructure and permits in place that would expedite facility construction and subsequent opening and operation.

A hospital in Kona could serve many significant purposes in addition to its primary goal of helping save the Hawaiian monk seal from extinction. Such a facility would inspire environmental stewardship for the monk seals and the ocean, and it would also be a place to train local residents to help at the hospital, as well as encourage Hawaiian youth to consider veterinary medicine and marine science career options.

For a species that has been in existence for millions of years, there is no time to waste. Sadly, more monk seals are dying each year than are being born and now, more than ever, every seal matters! This is a once in a lifetime opportunity to seize the moment and literally save this spectacular creature from extinction.

Further information

<http://www.marinemammalcenter.org/about-us/organization-information/awareness-campaigns/save-the-hawaiian-monk-seal.html>



Letters to the Editor

Vol. 13 (2): December 2010

Domoic acid threat to monk seals

I saw some info today (on PBS), regarding domoic acid. Research blames pollution from river runoff. This can apparently cause systemic brain deterioration in monk seals (?) Can you please explain in somewhat more detail?

- *Carroll Dorrill.*

✓ **Editor's reply:** Dr. Frances Gulland, Director of Veterinary Science at The Marine Mammal Center, was actually referring to the domoic acid impact on sea lions in this particular case. The acid is produced by toxic algae and accumulates in sea lion prey. The Marine Mammal Center states that: "Exposures to the biotoxin results in brain damage to sea lions, causing them to become lethargic, disoriented, and have seizures that sometimes result in death."

The MMC is also involved in treatment of orphaned Hawaiian monk seals - the possible source of the confusion in this case. We are unaware of toxic algae being a recognised threat to the Hawaiian monk seal, although a toxic "red tide" caused by a dinoflagellate bloom was blamed for wiping out two thirds of the Mediterranean monk seal population at Cap Blanc (Mauritania/Western Sahara) in 1997.

For further information, see:

http://www.pbs.org/wgbh/nova/transcripts/3517_ocean911.html

<http://www.marinemammalcenter.org/science/top-research-projects/domoic-acid-toxicity.html>

Genetic scepticism

Re. [First comprehensive genetic study of the Mediterranean monk seal in the eastern Mediterranean](#), TMG news blog, 17 July 2010.

The Hellenic Society for the Study & Protection of the Monk Seal (MOM) has been in existence how long - since 1988 or something. Makes you wonder what they have been doing during those 20 years if, as Alexandros Karamanlidis asserts, conservation is being hampered by a "substantial lack of information on the animals' biology". Quite apart from that, are we really supposed to believe genetic studies will have any bearing whatever on the main threats to the species? - shooting by fishermen, drowning in nets, loss of habitat? If the clock is ticking on the survival of the species, why not spend the money and effort on something demonstrably useful?

- *J.J. Wilcox, U.K.*

TMG shouldn't really be reporting these fallacies as though they were the gospel scientific truth. This expensive exercise will not end up helping one single seal, or prevent one single death. If it's for scientific curiosity, OK, admit it, but don't pretend it's got anything to do with conservation.

- *David Mitchell*, USA.

✓ **Editor's reply:** We thank the readers above for their contribution. TMG was established back in 1998 partly in the hope that free and open debate would help improve conservation of the critically endangered Mediterranean and Hawaiian monk seals.

Although we seek to publish as diverse a range of views as possible, we emphasise that the opinions expressed by outside contributors do not necessarily reflect those of The Monachus Guardian.

If you have an opinion you would like to air on monk seal conservation generally, or on news items or articles published on this site in particular, please write to us at editor@monachus-guardian.org. And remember, you can also post your comments in 'real time' (well, following the moderator's OK), on the [news blog](#).

The editor reserves the right to edit letters for the sake of clarity and space



Recent Publications

Vol. 13 (2): December 2010

In Print

- **Bograd, S.J., B.A. Block, D.P. Costa and B.J Godley.** 2010. Biologging technologies: new tools for conservation. Introduction. *Endangered Species Research* 10:1-7. [[PDF](#) 160 KB]
- **Coll, M., C. Piroddi, J. Steenbeek, K. Kaschner, F. Ben Rais Lasram et al.** 2010. The biodiversity of the Mediterranean sea: Estimates, patterns, and threats. *PLoS ONE* 5(8): 1-36. [[PDF](#) 1.9 MB]
- **Johanos, T.C, B.L. Becker, J.D. Baker, T.J. Ragen, W.G. Gilmartin and T. Gerrodette.** 2010. Impacts of sex ratio reduction on male aggression in the critically endangered Hawaiian monk seal *Monachus schauinslandi*. *Endangered Species Research* 11:123-132 [[PDF](#) 672 KB]
- **Klinger, W.** 2010. Note sulla presenza storica della Foca monaca nell'Adriatico. *La Ricerca* n. 57, giugno 2010: 6-10. [[PDF](#) 680 KB]
- **Piché, J., S.J. Iverson, F.A. Parrish and R. Dollar.** 2010. Characterization of forage fish and invertebrates in the Northwestern Hawaiian Islands using fatty acid signatures: species and ecological groups. *Marine Ecology Progress Series* 418:1-15. [[PDF](#) 830 KB]

Reports

- **Gobush, K.S.** 2010. Shark predation on Hawaiian monk seals: Workshop II & Post-Workshop Developments, November 5-6, 2008. U.S. Dept. of Commerce, NOAA Technical Memorandum NOAA-TM-NMFS-PIFSC-21, 43 p. + appendices. [[PDF](#) 3.7 MB]

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