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by Trisha Kehaulani Watson

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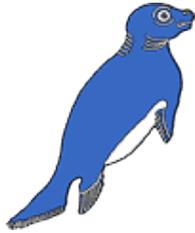
Cover Story: Tracking Artemis



In Focus I: Historic beach birth at Cabo Blanco



Perspectives I: Tackling the conflict between seals and fisheries in Greece



Guest Editorial

Vol. 12 (2): November 2009

Monk seals and fisheries need attention, education and cooperation

by Trisha Kehaulani Watson

I love monk seals. I have seen them and been around them.

Conversely, my dad, a lifelong fisherman, is not a fan.

Our conversations about monk seals are truly a microcosm of tensions that exist throughout Hawai`i over the monk seal. I believe it was these tensions that led to the brutal shooting of a monk seal on Kaua`i [see [Killings on Kauai](#), this issue].

Fishing is a huge part of life here in Hawai`i, and our fisheries are in trouble. We all need to do something about it, because so many families in Hawai`i depend on these fisheries. We all have an interest in making sure we have fish in our ocean, so we can continue to have fish on our tables. We also need to make sure this industry survives and thrives. We need to realize how much sportsmen contribute to the economy and to conservation efforts.

I do not believe the Hawaiian monk seals are to blame for the decreasing fisheries. They are so few in the main Hawaiian islands, can any fisherman honestly tell me that they really believe this animal is the reason for declining catches?

The Hawaiian monk seal has been here for hundreds of years. It is native. It has primarily lived way up in the Northwestern Hawaiian Islands, away from people. It is as much a part of our islands as the shark, whale, or nene.

I think the declining fisheries have been the result of three things: 1) poor management practices that allowed commercial fishing to overfish critical fishing nurseries, 2) the introduction of invasive species that critically hurt our ocean environments, and 3) increased non-sustainable fishing practices by people who are not from here.

As a conservationist, I feel like we have done a terrible job of listening to the community. We forget that there is a vast amount of knowledge in the community with the people who live off the land. I feel like the tragedy of this monk seal shooting is a result of our failure to communicate.



The fishing community and conservation community need to come together or fisheries will continue to decline and monk seals will continue to be in danger. The "slap on the wrist" that monk seal shooter received will not deter anyone from doing the same again.

There also needs to be education and dialogue, for both sides. There needs to be the realization that fisherman who live off the ocean would never do anything to harm the ocean – they live off of it. They understood the concept of sustainability long before it was the sexy term de jour. No hunter or fisherman worth his (or her) salt take fish that are too small or females, because they know repopulation depends on those animals being out there. There should be laws in place to severely punish those who do engage in non-sustainable practices. And the fishermen themselves should help draft those laws.

Conservation groups need to stop treating hunters and fisherman like the enemies.

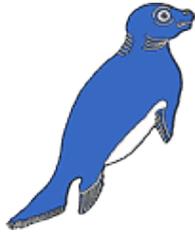
If resources continue to decline, there will have to be some very hard conversations and some very tough decisions made. These are conversations that we need to start having now. And we need better education and communication if we are going to be able to make the best decisions for the well-being of our entire community.

Above all else, there needs to be trust.

It is not okay to kill monk seals, but it's not okay to continue to keep the fisherman out in the cold either.

Trisha Kehaulani Watson, October 2009.

Trisha Kehaulani Watson was born and raised in Manoa. She is a graduate of Punahou School. She has a J.D. and Ph.D. (American Studies) from the University of Hawai'i, Manoa. She is Native Hawaiian.



International News

Vol. 12 (2): November 2009

Quebec workshop establishes Med-Pacific links, but will action ever follow?

Some 50 scientists and researchers from different corners of the world met in Quebec, Canada, on 10 October 2009 to attend a workshop on Hawaiian and Mediterranean monk seals.

While workshops themselves have never been in particularly short supply where monk seals are concerned, this one showed some distinction from the rest in attempting to forge closer working ties between managers and researchers working in both widely-separated domains of the genus, the Hawaiian archipelago, and the Mediterranean and Atlantic.



In the organisational lead-up to the workshop, there was also a palpable sense among some that such measures were long overdue, given increasing anxiety over the fate of the two species and the threats they face. The Hawaiian monk seal, declining by 4% per year, is posing massive challenges to managers and scientists, both in the NWHI and the Main Hawaiian Islands. For the first time, those involved in protection of the species, be that in habitat protection or in public outreach, are beginning to realise that the fate of *Monachus schauinslandi* may well be determined on their watch.

Likewise in the Mediterranean, where despite important strides in conservation in several countries, monk seal conservation is still beset by chronic lack of funding, limited public outreach, and a poor track record both in establishing and managing protected areas. Despite some PR-driven articles in the popular press apparently masquerading as journalism, managers are also facing local hostility to protection measures in several marine protected areas.

The workshop, “Research, Management Conservation, and Policy in Monk Seal Recovery: A Global Perspective”, was held as an adjunct to the 18th biennial World Marine Mammal Science Conference.

Prior to attending the meeting, Kit Kovacs, chair of IUCN Pinniped Specialist Group, expressed the hope that the Workshop would “develop working plans to address the problems faced by these two species.” IUCN and its PSG is under pressure to demonstrate forward movement in the conservation of the Mediterranean monk seal, particularly after the IUCN General Assembly voted overwhelmingly in favour of a resolution calling for “urgent action” on behalf of the species in October 2008. Measures detailed in the resolution included efforts to extend and improve the management of protected areas, while facilitating collaborative conservation projects with the assistance of the PSG and the Species Survival Commission [see [IUCN](#)

[resolution calls for monk seal action](#), TMG 11(2): 2008 and [IUCN World Congress votes overwhelmingly for monk seal action](#), TMG 12(1): June 2009].

In recent press statements announcing the publication of a Red List assessment of endangered European mammals, IUCN again reiterated that its “IUCN World Conservation Congress, held in Barcelona last October, called for international action to preserve their [monk seal] natural habitats.”

Those concerns were echoed by the PSG in Quebec, with a presentation stating that as part of a 2008 IUCN reassessment of the status of the world’s land and marine mammals the Group had concluded “that the conservation status of monk seals had not improved between 1996 and 2008.”

It went on to note that: “1) Caribbean monk seals were extinct; 2) Mediterranean monk seals remain critically endangered and current demographic trends do not indicate recovery; for the few populations from which information is available, numbers suggest either stabilization or decline; and 3) the condition of the Hawaiian monk seal has deteriorated, and because of their continued decline in numbers, they have now been listed as critically endangered.”

The PSG concluded by saying that: “Serious and effective conservation actions are needed if monk seals are to persist in the future.”

The PSG is now said to be considering expanding Mediterranean monk seal representation within the Group to take in specialists working practically on monk seal conservation issues in the field, both in the Mediterranean and the Atlantic.

As has so often been the case with conference resolutions and action plans focusing on the monk seal however, it remains to be seen what, if any, practical measures will actually see the light of day. Watch this space.

Posters presented during the workshop are listed in our [Recent Publications](#) section, and are available for download.

Workshop conclusions and recommendations will be published here, when available.

Who are our seals? Istanbul workshop presentations online

Several presentations made at the February 2009 workshop in Istanbul, ‘Who are our seals?’ have been released by the authors and organisers.

The workshop, held as an adjunct to the 23rd Annual Conference of the European Cetacean Society, focused on the feasibility of using photo identification techniques in estimating monk seal population numbers [see [Who are our seals?](#) TMG 12 (1): June 2009].

The presentations can be downloaded via the [Recent Publications](#) section.

i-monk Alliance holds second meeting in Gököva Bay, Turkey

The [International Monk Seal Conservation Alliance](#) (known by its abbreviation, i-monk) held its second regular meeting in Gököva Bay, Turkey on 11-12 June 2009. Gököva Bay is the site of an integrated coastal zone management plan being implemented by i-monk Alliance member SAD-AFAG in association with Turkey’s Environment Protection Agency for Special Areas (EPASA).

Formally established last year, the i-monk Alliance aims to strengthen ties between monk seal conservation and research projects from the Eastern Mediterranean to the Atlantic, developing common strategies in conservation policy and operational protocols [see [International Alliance takes shape in Madeira](#), TMG 11 (2): November 2008]. Founding and current members are [CBD-Habitat](#) (Fundación para la Conservación de la Biodiversidad y su Hábitat) of Spain, [IFAW](#) (International Fund for Animal Welfare), [MOM](#) (The Hellenic Society for the Study and Protection of the Monk Seal) of Greece, [The Monachus Guardian](#) (an international journal and website dedicated to monk seals and their threatened habitats), the [Parque Natural da Madeira](#) of Portugal, and [SAD-AFAG](#) (Underwater Research Society / Mediterranean Seal Research Group) of Turkey.



i-monk Alliance participants at Gököva Bay.

The Gököva Bay meeting ended with participants agreeing a range of measures to enhance international coordination, design common operational protocols, develop joint projects, and improve public outreach and lobbying.

Several measures were subsequently enacted during the summer, including the launch of an embryonic website at www.i-monk.org, as well as an internet forum, allowing Alliance members to communicate, debate and exchange documents on a range of scientific and policy issues.

On the policy front, the Alliance has recently released a common statement on the translocation and reintroduction of Mediterranean monk seals, delineating the scientific conditions under which such actions might be considered warranted. The statement was released publicly for the first time in October, at the World Marine Mammal Science Conference monk seal workshop in Quebec [see related news item, [above](#)].

Further information

i-monk Alliance. 2009. Common statement on a possible translocation/ reintroduction plan for the Mediterranean monk seal. International Monk Seal Conservation Alliance: 1-2. [\[PDF\]](#) 150KB

Monachus Guardian in Spanish

Thanks to the support of the Government of the Balearic Islands, the November 2008 issue of The Monachus Guardian has now been published in Spanish.

If you have Spanish-language friends or colleagues who you think might be interested in the publication, please let them know.



The Spanish translation can be accessed at www.monachus-guardian.org/spanish or through the TMG portal www.monachus-guardian.org.

Monachus Guardian news blog

For those few who missed the announcement in our last issue, The Monachus Guardian is now also publishing a [news blog](#), specifically designed to deliver breaking news updates between the summer and winter issues of the journal.



Those using news reader software may also subscribe to the blog's RSS feed.

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 and broader conservation issues.

Temple, H.J. and A. Cuttelod. (Compilers). 2009. The Status and Distribution of Mediterranean Mammals. IUCN, Gland, Switzerland and Cambridge, UK: 1-32. [[PDF](#) 2.7 MB]

“The latest assessment of Mediterranean mammals shows that one in six is threatened with extinction at a regional level, according to the IUCN Red List of Threatened Species.

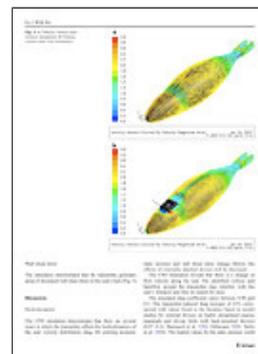
The study, which assesses the status of 320 mammals in the region, except whales and dolphins, finds three percent are Critically Endangered, five percent are Endangered and eight percent are Vulnerable.

The Mediterranean Monk Seal (*Monachus monachus*) and the Iberian Lynx (*Lynx pardinus*) are both Critically Endangered. The IUCN World Conservation Congress, held in Barcelona last October, called for international action to preserve their natural habitats.”



Hazekamp, A.A.H., R. Mayer and N. Osinga. 2009. Flow simulation along a seal: the impact of an external device. European Journal of Wildlife Research Published online: 30 June 2009. doi:10.1007/s10344-009-0293-0. [[Abstract](#)]

Of potential interest to monk seal rehabilitation and research programmes in the Mediterranean and Hawaii, this publication claims to demonstrate measurable impacts on a seal's swimming ability when fitted with back-mounted devices such as satellite transmitters and bio-logging tags: "The results of this study demonstrate that external devices can change the hydrodynamics of the seal, which is expected to alter the seal's physiology and behaviour and its use of the ecosystem. Long-term attachment may have adverse effects on the animal's welfare."



EndQuote

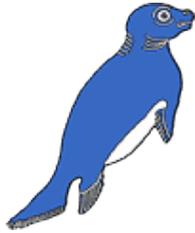
Toxic chemicals leaching from sea-dumped plastics

Scientists have identified a new source of chemical pollution released by the huge amounts of plastic rubbish found floating in the oceans of the world. A study has found that as plastics break down in the sea they release potentially toxic substances not found in nature and which could affect the growth and development of marine organisms.

Until now it was thought that plastic rubbish is relatively stable chemically and, apart from being unsightly, its principle threat to living creatures came from its ability to choke or strangle any animals that either got caught in it or ingested it thinking it was food.

But the latest research suggests that plastic is also a source of dissolved substances that can easily become widely dispersed in the marine environment. Many of these chemicals are believed to be toxic to humans and animals, the scientists said. [...]

Source: [Scientists uncover new ocean threat from plastics](#), Steve Connor, Science Editor, The Independent, 20 August 2009.



Hawaiian News

Vol. 12 (2): November 2009

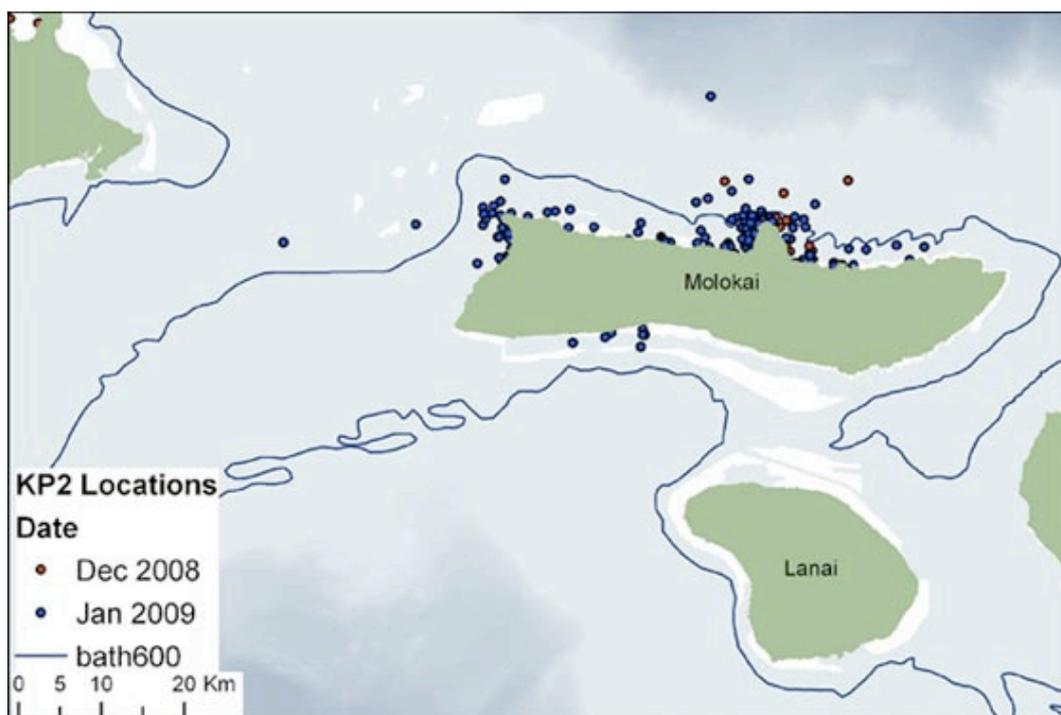
Short-lived freedom for KP2

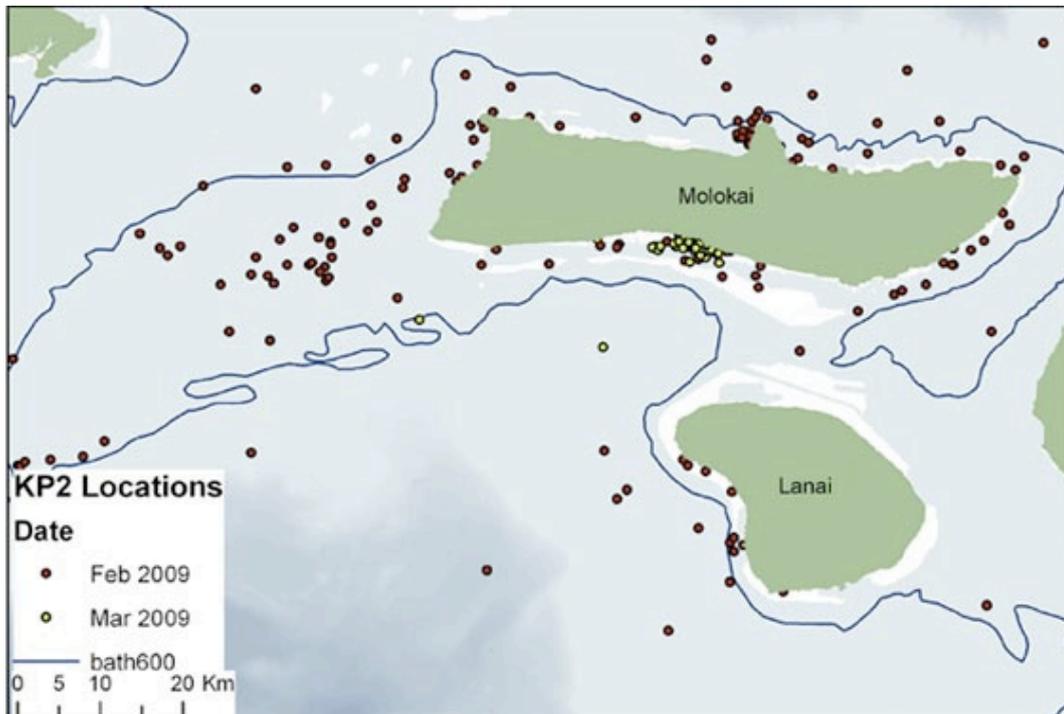
Though initially showing promising signs of readapting successfully to the wild, orphaned pup KP2's post-release behaviour subsequently proved an increasing source of concern to NOAA seal managers.

The pup, abandoned by his mother on a Kauai beach, underwent a lengthy 7 month rehabilitation process last year at the Kewalo Research Facility in Honolulu, in collaboration with the Marine Mammal Center [see [Freedom at last for KP2](#), TMG 12 (1): 2009]. He was released in December 2008 in a remote area on the island of Molokai.

According to NOAA's Marine Mammal Response Network Coordinator, David Schofield, for two months after his release, satellite tracking indicated that KP2 was exhibiting normal seal behaviour and an ability to thrive in the wild, exploring the north and west shores of Molokai.

After discovering Kaunakakai Wharf in early March, however, the rehabilitated seal began interacting with people on a regular basis, swimming with them, climbing onto their boats and boogie-boards, and even allowing young children to ride him. He quickly became, to quote one newspaper, "Molokai's biggest celebrity".





KP2 satellite tracks. Courtesy: NOAA Fisheries Pacific Islands Region

While acknowledging that KP2 had become an ambassador for his species by endearing himself to the local community, managers warned that the interactions could not continue, both for the seal's and his human playmates' sakes.

Human interactions were not only reinforcing such behaviour to the detriment of his readaption to the wild, but – as in the case of Turkish orphaned seal 'Badem' – were also posing risks of serious injury to those who insisted on playing and swimming with the seal [see [Hawaiian Press Watch](#), below]. NOAA experts warned that those risks were likely to increase exponentially as the seal grew towards sexual maturity. On several occasions, managers warned that KP2 might even end up accidentally killing a swimmer by holding them underwater during play.



KP2 at Kaunakakai Pier.

"We've had experiences before where a 300-pound animal is just looking to play and then starts holding people underwater for too long," says Wende Goo, a spokesperson for the National Oceanic and Atmospheric Administration. "And with how much KP2 likes being around people, we think he's bound to get to that point."



KP2 frolicking with local boogie boarders.

NOAA managers first attempted to solve the problem by disturbing the seal just enough that it might leave the Wharf, but to little effect. Then in June 2009, they relocated KP2 to wilder habitat 40 miles away, but within two days he had found his way back – in time, said one newspaper, "to swim with the neighborhood kids before sunset".

As the interactions continued, and concerns over safety intensified, managers were considering other, more drastic actions. These were said to include a relocation – like R042, another problem seal with a taste for human playmates – to distant Nihoa in the North Western Hawaiian Islands; or even for him to be taken into captivity and put on public display in an aquarium.

Such rumblings, however, were causing indignation among locals, who argued that the famous seal should stay exactly where he was.

The Wall Street Journal quoted Darrin Abell, owner of the local Paddlers' Inn restaurant, as warning: "If they ship KP2 off the island, it might get ugly here. There'd be an uproar."

"He is one of the toughest challenges in my career," confessed David Schofield. "People dream of swimming with wild animals, but I can tell you it will end badly both for people and the seal."

In an effort to forestall such an eventuality, KP2 was captured by NOAA staff early on 16 October and airlifted to Oahu. There he was put into temporary confinement at Waikiki Aquarium, to undergo a thorough medical examination before being translocated to a more remote area that would hopefully foster his wild behaviour; the favourite site reportedly being Ka`ula Rock near Niihau. Those hopes, however, were dashed when it was found that an eye ailment that KP2 had been treated for as a pup in rehabilitation had worsened dramatically [see [Freedom at last for KP2](#), TMG 12 (1): 2009].

While the seal had apparently been released with 10-20% vision loss, veterinarians are now reporting that the seal is suffering from cataracts in both eyes, one already having progressed over 80-90% of the lens. In a bleak prognosis, they stated that KP2 is likely to be completely blind within about six months, deeming him "unreleasable".

NOAA scientists have suggested that the disease might be attributable to poor nutrition, the pup having been deprived of vital nutrients contained in mother's milk, there being no artificial formula that can approximate it. However, similar problems have not been observed in rehabilitation cases involving the Mediterranean monk seal. During KP2's rehabilitation, which took place at the Kawalo Research Facility in Honolulu, it was theorised that the pup's early eye problems might have been attributable to environmental factors, including bright reflected sunlight and the artificial seawater used at the facility. The pup's eye ailments improved substantially after he was moved to a shoreline pen at Marine Corps Base Hawaii in Kaneohe Bay.

While KP2 remained in quarantine at Waikiki Aquarium, officials were trying to find a facility that would be able to care for him on permanent basis. In the meantime, Molokai residents, outraged that KP2 had been taken from them, flew to Oahu and staged a demonstration outside the aquarium.

Further information

NOAA. 2009. Pacific Islands Region Marine Mammal Response Network Activity Update, Volume 11, January – April 2009: [\[PDF\]](#) 4.3MB]

NOAA. [Marine Mammal Response, Pacific Islands Regional Office](#), NOAA Fisheries.

MonkSealMania.blogspot.com: [KP2](#).

Schofield, D., G. Levine, F. Gulland and C. Littnan. 2009. The first rehabilitation and release of an abandoned endangered Hawaiian monk seal (*Monachus schauinslandi*) pup in the Main Hawaiian islands. 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. [\[PDF\]](#) 552KB]

The Monachus Guardian: [News Blog](#).

Video

Youtube. [KP2: the friendly seal](#). MoxNews.com.

Youtube. [Mac and KP2](#).

Killings on Kauai

A 78-year-old inhabitant of Kauai began a 90-day prison term at the Federal Detention Center on Oahu on 25 September, after pleading guilty to killing a pregnant Hawaiian monk seal in May.

According to a plea agreement entered before Judge Barry M. Kurren, Charles Vidinha “knew it was a Hawaiian monk seal at the time he fired his rifle at her” on May 21 at Pilaa Beach on Kauai’s North Shore – a violation of the U.S. Endangered Species Act.

NOAA Fisheries Pacific Islands Regional Office (PIRO) staff were responsible for veterinary pathology in the case. In a subsequent statement, PIRO declared that the “necropsy revealed the seal [code-named RK06] was carrying a near term, male monk seal pup. This female has had five pups in the past and was pregnant with her sixth. This female was an important breeding female and a huge loss for the main Hawaiian Islands monk seal population.”



RK06 with one of her pups.

Additional details gleaned from court records indicate that Vidinha shot four rounds at the seal using a Browning 22-calibre rifle.

Federal prosecutors characterized Vidinha as being essentially destitute and living out of a car, making imposition of a fine or restitution inappropriate to his circumstances. Although the sentence received condemnation for its perceived leniency, prosecutors agreed to the 90 day sentence because they could not prove that Vidinha intentionally killed the monk seal. Vidinha had claimed that he was trying to scare the animal away from the beach, with two out of the four shots fired striking the seal.

Had the accused refused the plea bargain, and the case gone to trial, Vidinha would have faced up to one year in prison and a \$50,000 dollar fine.

While the act of killing the seal shocked many, to others it was also an unwelcome reflection of underlying hostility towards the species in some quarters.

The death at Pilaa beach came within a month of another killing on Kauai – that of a five-year old subadult male (RK19); in this case also, the cause of death was found to be bullet wounds.

A traditional Hawaiian ceremony was held on Poipu beach on 18 June in honour of the dead seals, with ashes of one of the animals being scattered from an outrigger canoe, and the ceremonial blessing being



A sleeping RK19.

conducted by Kauai cultural practitioner Kumu Sabra Kauka.

“The ceremony was held to provide some closure for the local community who have been shocked by these events,” said PIRO, which helped organize the event, “and to give a well-respected Hawaiian cultural practitioner an opportunity to state publicly that such behavior towards Hawaii’s native animals is not acceptable. Kauka was quoted as stating that the monk seals are the ‘Kamaaina’ of the sea and it is all of our responsibility to protect and recover them.”



Ceremonial blessing at Poipu.

Admitting that “animosity toward the Hawaiian monk seal at the local community level is high on Kauai, Molokai, and parts of the Big Island,” PIRO is keen to respond through public outreach initiatives, and community liaison with leaders and cultural practitioners. Among the priorities is to “dispel misperceptions about the monk seal, including the belief among some that monk seals are non-native animals and should be treated as “invasive species”.

Feds respond to ‘Critical Habitat’ petition

On 12 June 2009, NOAA Fisheries responded favourably to a petition lodged by three environmental groups that it revise the current critical habitat designation for the monk seal in the Northwestern Hawaiian Islands (NWHI) and designate additional habitat for the species among the Main Hawaiian Islands (MHI).

The three groups, KAHEA, the Center for Biological Diversity and The Ocean Conservancy, had filed their petition in July last year, setting in motion a 12-month review and comment period [[Monk seal may gain ‘Critical Habitat’ on main Hawaiian Islands](#), TMG 11 (2): November 2008]. This culminated in the NMFS finding published in the Federal Register on 12 June 2009, in which the agency announces that it intends to proceed with a revision of critical habitat and provides details on the ongoing revision process.

The revision, the first in 21 years for the Hawaiian monk seal, is likely to significantly expand areas of protection for the species. The NMFS finding lists a range of habitat considered essential to the conservation of the monk seal. These are: (1) sandy beaches preferred by monk seals for pupping and nursing; (2) marine areas less than 20 m depth adjacent to pupping and nursing beaches where young pups learn to forage; (3) marine areas approximately 20 - 200 m depth in the MHI, and approximately 20–500 m depth in the NWHI, preferred by juvenile and adult monk seals for foraging; (4) low levels of unnatural disturbance; and (5) high prey quantity and quality.

In its finding, NMFS indicates that the former atomic test site of Johnston Atoll is also likely to benefit from the rule changes, and provides a brief history of monk seal sightings there over the years, as well as a list of individuals translocated by the agency to Johnston as a result of various management decisions.

NMFS stresses that the proposed rule changes will not affect fishing, surfing, or public beach access, but will restrict federally funded actions that require federal permits, such as federally-permitted fisheries, dredging, military activities or coastal development; these would have to undergo review to ensure they pose no ill-effects to seal or seal habitat.

The next stage in the process, says NMFS, will be publication of a proposed rule describing the revision of monk seal critical habitat, followed by a public comment period and public meetings.

The three organisations who petitioned the government applauded the NMFS decision: “We cannot afford the extinction of a creature so sacred in Hawaiian culture and endemic to these islands,” said Marti Townsend, programme director for KAHEA. “And we cannot expect to save the seals without meaningfully protecting critical habitat.”

Further information

NOAA/NMFS. Hawaiian monk seal 12-month finding, Federal Register / Vol.74, No.112 / Friday June 12, 2009 [[PDF](#) 75KB].

NOAA/NMFS/PIRO. [Critical Habitat page](#).

Monk seal monitoring in the Northwestern Hawaiian Islands

The August 2009 Research Bulletin of NOAA’s Pacific Islands Fisheries Science Center, reveals that PIFSC scientists established a number of summer field camps in the Northwestern Hawaiian Islands to collect population data on the endangered Hawaiian monk seal.

Camps were set-up at all six major Hawaiian monk seal breeding locations, including French Frigate Shoals (FFS), Laysan Island, Lisianski Island, Pearl and Hermes Reef and Kure Atoll.

According to the Bulletin: “By mid-June, at least 85 monk seal pups had been born in the Northwestern Hawaiian Islands – 16 at FFS, 26 at Laysan, 15 at Lisianski, 11 at Pearl and Hermes, 6 at Midway, and 11 at Kure. In addition, at least 13 pups had been born in the main Hawaiian Islands – 3 on Ni’ihau, 4 on Kauai, 4 on Molokai, and one each on Oahu and Maui. A majority of the pups tagged in 2008 had been sighted as yearlings at Lisianski Island and thus are known to have survived the winter. So far, the proportion of yearlings re-sighted at other sites had been substantially lower, with the potential to increase as the season progresses.”

Further information

NOAA. 2009. [Field Staff Monitor Monk Seal Population in Northwestern Hawaiian Islands](#). Quarterly Research Bulletin / August 2009. NOAA Pacific Islands Fisheries Science Center.

Spatial Bibliography

Researchers, scientists and managers now have a high-tech tool available for spatially and textually searching an extensive collection of scientific literature on the Northwestern Hawaiian Islands and Papahañaumokuakea Marine National Monument. The PMNM Information Management System Spatial Bibliography combines a mapping tool with a data base of some 3800 scientific articles currently. The mapping tool has 10 kilometre overlays of the entire Northwestern Hawaiian Islands which are referenced by location names.

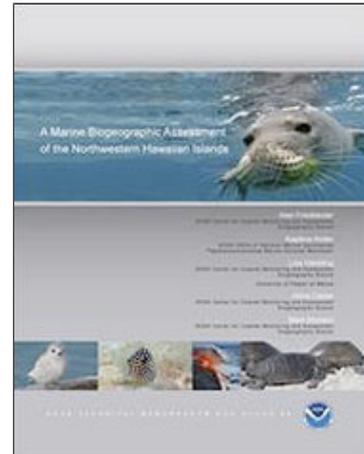
Kaylene Keller, the Monument’s GIS Specialist and David Graham, Senior Programmer/Program Manager for Data Integration Group led the team that developed the spatial bibliography product. He says researchers, students and managers can, “...search by location and topic to answer permitting questions and to answer management questions. So for example, how many articles do we have

related to monk seals in the NWHI for the last 30 years? We can answer that question very easily and managers and scientists can do that themselves through a web application rather than have to get a couple of computer people together to go out and run the query.” Currently one Data Integration Group team member is assigned to inputting and tracking new articles for the spatial bibliography. The Monument’s spatial bibliography is available for public use and can be accessed at <http://www.pmnmims.org> and more information is available from kaylene.keller@noaa.gov. – Papahānaumokuākea Marine National Monument.

Hawaiian Publications watch

Friedlander, A., K. Keller, L. Wedding, A. Clarke, M. Monaco (eds.). 2009. A Marine Biogeographic Assessment of the Northwestern Hawaiian Islands. NOAA Technical Memorandum NOS NCCOS 84. Prepared by NCCOS’s Biogeography Branch in cooperation with the Office of National Marine Sanctuaries Papahānaumokuākea Marine National Monument. Silver Spring, MD.: 1-363. [Download Page](#).

This new NOAA report offers an in-depth look at the marine life and ecosystems of the Northwestern Hawaiian Islands. Chapter 6 includes an assessment of marine protected species in the NWHI, including the Hawaiian monk seal.



The Pacific Islands Regional Office of NOAA Fisheries (NOAA/NMFS/PIRO) has issued a number of updated **‘FAQ’ brochures** on the Hawaiian monk seal, aimed at fishermen, beach-goers and the general public. Partly in recognition of hostility towards the conservation of the species in certain sectors of society, the brochures focus on the Main Hawaiian Islands, an area witnessing a gradual increase in seal numbers. We list the brochures below, along with a few brief extracts:

NOAA. 2009. FAQ: Population and location of the Hawaiian monk seal, August 2009. [\[PDF\]](#) 359KB]



Q: Are there more Hawaiian monk seals in the MHI [Main Hawaiian Islands] today than there were in recent the past?

A: Yes. This is because the population is growing naturally. The number of monk seals that are born in the MHI has increased since the mid-1990s. In 2006 and 2007 there were 12 and 13 pups born, respectively, within the MHI. It is possible that Hawaiian monk seals are beginning to settle back in the MHI, where they once lived a long time ago.[...] There is a misconception that monk seals have been increasing in the MHI because they are being brought over or traveling on their own from the NWHI. No federal agencies or private organizations have transferred monk seals to the MHI since 1995. During that year, 21 male monk seals, and no females, were relocated from the NWHI and released off of the Big Island of Hawaii. Since their release, only six of these seals have been recently observed and reported. Research has also shown that the monk seals rarely migrate from the NWHI to the MHI.

NOAA. 2009. FAQ: Diet of the Hawaiian monk seal, August 2009. [[PDF](#)  189KB]

Q: Are monk seals eating our fish and decreasing fish stocks?

A: It is unlikely that the small number of seals that live in the main Hawaiian Islands would have a great impact on the local fish populations. There are only around 80-100 seals and each seal eats a variety of prey including squid, octopus, eels, crustaceans, and fish.

NOAA. 2009. FAQ: How to prevent seals from getting your fish and bait, August 2009. [[PDF](#)  293KB]

One would assume that feeding a seal, or letting it have your old bait and scraps, would keep it satisfied and uninterested in the fish in your net or on your hook - but this is not the case. A seal that has been fed will actually seek out humans because it will learn to associate humans with food and, as a result, become conditioned to not hunt on its own. A seal known as RO42 displayed this conditioning response after being fed by spear fishers as a pup. When she got older, she began biting divers, whom she saw as a source for food, and became a public safety hazard. Eventually this seal had to be relocated away from the main Hawaiian Islands.

NOAA. 2009. Fact Sheet: Top threats to the Hawaiian monk seal in the Main Hawaiian Islands, August 2009.

[[PDF](#)  506KB]

A small and potentially growing number of monk seals reside and are born in the main Hawaiian Islands (MHI). Fewer than 100 seals have been sighted here. However, despite the small increase of animals in the MHI, the total population across their entire range is in decline. Although more research is needed to fully understand all threats to monk seals it is known that in the Northwestern Hawaiian Islands (NWHI), they face the lack of food, entanglement in marine debris, and shark attacks. More research is needed to understand the impacts in the NWHI. Seals do not appear to lack food in the MHI, yet face additional threats, including: Human Disturbance, Infectious Disease, Fishery Interactions, and Habitat Loss.

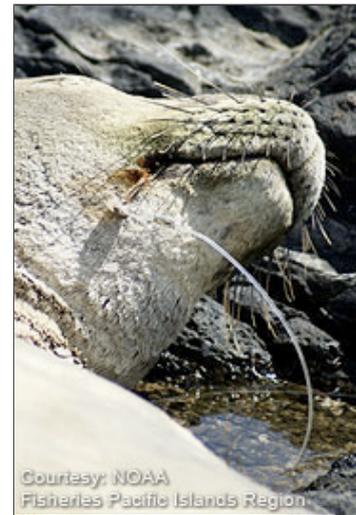
NOAA. 2009. Pacific Islands Region Marine Mammal Response Network Activity Update, Volume 11, January – April 2009: [[PDF](#)  4.3MB]

NOAA also published in summer the most recent issue of the Marine Mammal Response Network Activity Update – a newsletter focusing on marine mammal rescue, monitoring, monk seal pupping around the Main Hawaiian Islands, as well as efforts to limit human-seal interactions.

The January-April 2009 issue carries news of the post release movements of KP2, the orphaned Hawaiian monk seal [see [Freedom at last for KP2](#), TMG 12(1): 2009] that underwent lengthy rehabilitation last year with the assistance of the Marine Mammal Center; the relocation of problem seal RO42 to Nihoa in the North Western Hawaiian Islands; and efforts to capture, treat and dehook a number of seals caught on barbed fishing hooks.

“R042 has provided monk seal managers with a wide array of management challenges,” notes the Update, “from stealing fish, to trying to surf, and even trying to sleep in someone’s tent. After two years of management mitigation, four relocations within the main Hawaiian Islands, and countless media and outreach efforts it was determined that it was in the best interest of public safety and the welfare of the seal that she be relocated to Nihoa. Nihoa is the island at the base of the NWHI chain and is 280 miles (450 km) northwest of Honolulu.”

The decision to relocate came as last resort, according to NOAA: “This is the first time a MHI monk seal has been relocated to the NWHI. While this was likely a successful venture, the action of moving a seal from an environment where it was thriving to a resource poor environment was not the usual management approach, however, it was her only option. R042’s story teaches us that it will take all of us to keep seals wild. It’s better and safer for humans, the seals, and for the recovery of the population.”



Courtesy: NOAA
Fisheries Pacific Islands Region
Seal R040, caught on a barbed hook. The seal was later safely dehooked by NOAA staff.

News Watch

Sealed fate

Molokai residents say a federal agency should not have removed a Hawaiian monk seal without their consent

Molokai residents flew to Oahu to protest a federal agency's removal of a nearly blind Hawaiian monk seal from waters off Kaunakakai.

The residents, who held signs yesterday in front of the Waikiki Aquarium where the seal was taken, said the National Oceanic and Atmospheric Administration removed the seal known as "KP2" without consulting the Molokai community.

They also said the seal should have been treated for cataracts months ago.

"The kids loved that seal," said Molokai resident Karen Holt. "There was no opportunity to say goodbye. Nothing."

Keiko Bonk, the Hawaii program director for the Marine Conservation Biology Institute's monk seal campaign, said there needs to be more communication between the community and NOAA seal recovery officials. [...]

[NOAA biologist David] Schofield said the community was informed that the seal would be removed before the end of October.

Schofield said the animal had vision loss of 10 percent to 20 percent when he was released, but seals are able to function in the wild because they also have other sensors.

He said the seal was examined a couple of times this year but it was only after he was brought to Honolulu that officials found the animal had 80 percent vision loss.

He said establishing a sanctuary for KP2 on Molokai would be too expensive at this time and federal officials have been talking to Sea Life Park officials about accepting KP2.

[Sealed fate](#), Honolulu Star Bulletin, 22 October 2009.

Tons of fishing debris hauled in

Trash cleaned from remote reefs to be burned for energy

PEARL HARBOR — Some 80,000 pounds [36,000 Kg.] of derelict fishing debris that was removed from reefs in the Northwestern Hawaiian Islands during a monthlong collection expedition will be turned into electric power.

A crew from the National Oceanic and Atmospheric Administration ship Oscar Elton Sette unloaded the massive pile of nets, ropes and floats yesterday, claiming one of the biggest hauls collected by a single ship since 2005. [...]

Weather and the rotating current in the Pacific send a constant stream of debris to the Hawaiian Islands, said Ray Boland, research biologist and dive supervisor. Debris collects in the North Pacific Gyre and is dumped near the Hawai'i archipelago as it passes by.

"The way our currents run in the ocean and the way our atolls are set up, Hawai'i is a perfect spot for debris collection," said Boland, whose realization of the problem in 1996 initiated the collection program. "We're like a gigantic comb filter for the ocean, and as the currents and gyre go it just packs up on us."

Boland said he discovered the problem while working with Hawaiian monk seals, which were increasingly getting entangled in free-floating fish nets in the area. He and three other divers went on a seven-day trip and retrieved 1,000 pounds of derelict fishing gear. [...]

[Tons of fishing debris hauled in](#), Honolulu Advertiser, 2 October, 2009

Outrage at lenient sentence

[Convicted seal killer Charles] Vidinha's 90 day sentence and \$25 "special assessment" has outraged many on Kaua'i for its leniency as evidenced by comments on news stories in local and Honolulu newspapers.

Many think Vidinha's reported excuse - that "he intended to scare the seal away from the beach, not to kill it" according to his attorney federal public defender Alexander Silvert - is silly and are even more outraged that it was offered considering that monk seals can be spooked back into the ocean just by walking up to one.

[Seal killer worked for Pflueger; job gave access to crime scene](#). Got Windmills? October 2, 2009



Trash that washed up on shore clutters a seal's resting spot. The Northwestern Hawaiian Islands are right in the path of the ocean's trash flow.

Kauai man sent to jail for killing endangered monk seal

[...] In Federal Court today, 78-year old Charles Vidinha admitted to killing the pregnant monk seal, but said it was an accident.

"Essentially he was simply down on the beach setting up a camp for Memorial Day weekend for people who were coming over from Oahu, and was setting up fish traps and fish nets and he was simply trying to scare the seal off the beach. He had his rifle, which he uses for pig hunting, and was trying to shoot from his hip from 75 feet away to scare the seal back into the water and didn't even know he hit it," said Alexander Silvert, First Asst. Federal Defender.

According to court documents, Vidinha fired four 0.22-caliber rounds at the seal.

Two of the bullets hit and killed her. [...]

[Kauai man sent to jail for killing endangered monk seal](#), KHON2, 25 September 2009.

This baby seal is a people person

Hawaii's KP2 made his name loving humans, but his ardor is getting growing pup deported

KAUNAKAKAI, Hawaii — For months now, a baby monk seal named KP2 has been the biggest celebrity on the island of Molokai.

Since the animal arrived at Kaunakakai Wharf in February, several children from the island have made a habit of swimming with him. Area paddlers and boogie boarders have shared laughs watching him climb into or onto their boats and boards. One resident was so comfortable with KP2 that he put his golden retriever in the water with the seal and documented it in a YouTube video. [...]

But now that KP2 calls Molokai home, he is likely to be sent away any day now. That's because the 17-month-old pup is maturing. His weight, now 175 pounds, has more than doubled since spring, and he has begun playfully grabbing swimmers from behind with his flippers.

Seal experts worry that KP2 risks loving people to death. "We've had experiences before where a 300-pound animal is just looking to play and then starts holding people underwater for too long. And with how much KP2 likes being around people, we think he's bound to get to that point," says Wende Goo, a spokesperson for the National Oceanic and Atmospheric Administration. [...]

When NOAA first realized KP2 was playing with people at the wharf, the agency moved him 40 miles away. But just two days later, KP2 was at the wharf again.

To some residents, that meant he belonged in Molokai. "If they take him away one more time and he comes back, I don't think this community will let NOAA take him again," says Walter Ritte, executive director of the Hawaiian Learning Center, a nonprofit outfit that teaches local children about Hawaii's ecology.

[This Baby Seal Is a People Person, And That Makes Him Dangerous](#), Wall Street Journal, 15 September, 2009

Slain monk seals remembered

PO'IPU, Kaua'i — Holding a strand of limu kala, a seaweed signifying forgiveness, Sabra Kauka asked people at a ceremony yesterday for two slain Hawaiian monk seals to educate others about the endangered animals.

"They are the kama'aina to the kai," Kauka said. "They come to land to rest, but the rest of the time their lives are in the sea. This is their home," the teacher and kumu hula said as the ocean sparkled behind her at Po'ipu Beach Park.

About 100 people gathered to mourn the killings of two monk seals on Kaua'i in the past two months. Kauka took the ashes of the animals into the ocean on a canoe to close the event. [...]

The teenage female RK-06, found dead at Pila'a on May 21, was popularly known as Miloli'i Mom, Olry said.

She was the "devoted mother" of five pups and was pregnant with a sixth when shot, Olry said.

NOAA Fisheries Service law enforcement officers are investigating both deaths as violations of the federal Endangered Species Act. Depending on circumstances, a conviction could lead to fines of \$50,000 or more and up to a year in jail.

The two deliberate seal killings are believed to be the first in Hawai'i since the 1980s.

[Slain monk seals remembered](#), Honolulu Advertiser, 19 June, 2009

Monk seal reward nearly quadruples

LIHU'E — An outpouring of compassion from the community regarding the recent slayings of two monk seals has driven the reward offered for information leading to arrests and convictions from \$3,000 to nearly \$11,000 in the past week.

"I've been tremendously surprised and grateful by the response," said Steve Benjamin, membership coordinator and Web site administrator for Surfrider Foundation Kaua'i — the nonprofit organization offering the hefty sum.

News of the slayings spread quickly, and individuals from as far as Texas, Maryland and Michigan sent donations to drive up the monetary reward in hopes that someone will provide information pertaining to the deaths.

In fact, non-residents have consisted of 25 to 30 percent of the funds which have been received, according to Benjamin.

"We hope this will provide enough incentive and give people an indication of how serious, not just Hawai'i, but the whole world feels about the preservation of the monk seal," Benjamin said. [...]

[Monk seal reward nearly quadruples](#), The Garden Island 14 June 2009.

The Too-Friendly Seal

Life is good for KP2, a young male Hawaiian monk seal who calls Kaunakakai Wharf his home. Wherever people are, KP2 is sure to be found, whether it's diving with laughing children or grabbing onto an outrigger for a ride. Some find his behavior

annoying, but most are endeared by this bright-eyed, playful creature who prefers human company to hanging out with fellow seals. [...]

The [NOAA] team also tried repeatedly to discourage the seal from making the area his home, but with no luck. Finally, on Friday, June 12, NOAA transported him back to Kalaupapa hoping he would socialize with other young seals and “stay wild.” However, in just two days, KP2 had made his way back to the wharf in time to swim with the neighborhood kids before sunset. [...]

NOAA biologist David Schofield worries that when KP2 reaches sexual maturity, he will become not only larger and bolder, but may become aggressive. Because of this, he continues to ask Molokai residents to keep their distance.

Some are arguing that NOAA created the situation when it rescued the seal. They do not think it is fair they should have to stay out of the water to avoid the seal.

But many have also come to love the seal or appreciate the education he has afforded the children and community.

“These kids never would have been ever been able to know a monk seal otherwise,” said one monk seal volunteer.

“I think interacting with the seal is good for people,” said wharf resident Robert Wilt, known as Stretch. He suggests NOAA use KP2 as a “poster boy” – a mascot for the effort to protect Hawaiian monk seals. [...]

[The Too-Friendly Seal](#), The Molokai Dispatch, 30 June, 2009

Feds investigate death of monk seal on Kauai

Witnesses report hearing apparent gunshots, seeing mammal wash up on shore

Federal authorities are investigating the death of an endangered Hawaiian monk seal that witnesses said they believed was shot as it lounged on a beach on the North Shore of Kaua'i yesterday.

The National Oceanic & Atmospheric Administration's Fisheries Service confirmed last night that it retrieved the carcass of a monk seal yesterday. But spokeswoman Wende Goo said the cause of death won't be determined until a necropsy is performed.

Goo said the dead seal was a female, but declined further comment.

This is the second monk seal found dead on a Kaua'i beach in the past month. On April 19, a 4-year-old male seal was discovered dead, and Goo said that case remains under investigation. [...]

[Feds investigate death of monk seal on Kauai](#), The Honolulu Advertiser, May 22, 2009

~ Additional News Watch items are carried on our [TMG Wordpress blog](#) ~

EndQuote

Baby Seals: The Silent Killer

The Wall Street Journal picked up the story of the adolescent seal that seems to prefer human company to that of other seals, running it on their front page last week. Their headline? “This Baby Seal Is a People Person, And That Makes Him Dangerous.”

Since when are seals considered people? Sure, some might say KP2 comes close, but the headline makes KP2 sound more like a psycho-killer than a playful, young animal. The story goes on to highlight reports that KP2 has held swimmers under the water, and says “KP2 risks loving people to death.” “This Baby Seal Is a People Person” also notes that actor William Shatner was “assaulted” by a similar seal, known as RO42.

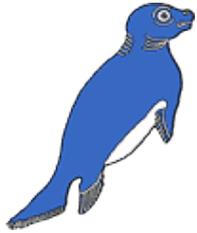
It’s no wonder Gawker.com, a parody news website based in New York City, had fun with the story. Their headline humorously reads, “Baby Seals: The Silent Killer.” The story cuts right to the point: “The innocent civilians of the Hawaiian islands are being stalked by a bloodthirsty baby seal, which circles a lagoon plotting how to kill humans twice: First, with cuteness; then, with drowning.”

Source: [Too-Friendly Seal Now Famous](#), Molokai Dispatch, 23 September 2009.

KP2 lifestyle changes at Waikiki Aquarium

“I got up at 5 am and left to go to the aquarium with my friend [sic] Jen. While there, she had to drain the pool, clean the pool, fill the pool and then we had to feed KP2- the seal- He has now progressed to eating dead fish- previously we had to only feed him live fish, which he tried to catche [sic] and then kill.. the dead fish is an improvement, as while he is in captivity the trainers will be feeding him dead fish- so we were glad to see him swtich [sic] over. It was fun to spend 6 hours with a seal, he is so engaging. At one point we had to give him a little board to play with and he loved it.”

Source: [More Seal Work](#), Liz Living Life in Hawaii blog, 2 November 2009.



Mediterranean News

Vol. 12 (2): November 2009

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Croatia

Another appearance at Kamenjak

Tilen Genov, a representative of [Morigenos](#), a Slovenian NGO dedicated to marine mammal research and conservation, has reported another confirmed monk seal observation at cape Kamenjak (near Pula) in Croatia.

The sighting, by Bostjan Zvanut, took place on 31 October 2009 at 13:30, the animal swimming approximately 50-100m from shore.



Although previously considered extinct in the Adriatic, sporadic sightings of the Mediterranean monk seal in Croatia are becoming more common. Two other photographed sightings also occurred at cape Kamenjak earlier this year [see [Comeback sightings](#), TMG 12 (1): June 2009].

Greece

Orphaned, newborn monk seal rescued at Kefalonia

An orphaned newborn monk seal was found stranded by local residents late in the afternoon of Wednesday the 14th of October, at Assos beach on Kefalonia, in the Ionian Sea. [MOM's](#) Rescue team travelled immediately to the area and examined the 10-day old female pup, who remained abandoned at the beach, having lost her mother following severe storms.

The animal was found to be dehydrated and had visible superficial injuries, probably due to storm waves on the rocky coast.



Orphaned monk seal Nefeli.

The young seal was named “Nefeli” by local residents and volunteers, who found her helpless and stood guard overnight until MOM’s team arrived. MOM’s specialists provided first aid to Nefeli and, assisted by the Port Police officers of Fiskardo, prepared the pup for her immediate transfer to MOM’s Rescue and Rehabilitation Centre at Steni Vala, Alonissos, within the National Marine Park of Alonnisos, Northern Sporades.

Upon her arrival and the completion of the first veterinary tests, MOM’s staff, in collaboration with the Veterinary School of the University of Thessaloniki, introduced Nefeli to an intensive veterinary therapy and rehabilitation programme. The first critical phase includes the gradual provision of fish porridge, as there is still no substitute for mother’s milk for the Mediterranean monk seal.

The treatment and rehabilitation programme generally lasts approximately 5 months and, if completed successfully, the animal will be released in healthy condition back to its natural environment. The rescue, treatment and rehabilitation procedures all follow strict international protocols. The entire process is long and demanding both for Nefeli and the people involved, with veterinary tests, continuous treatment, round-the-clock feedings and hard physical work.

MOM would like to thank the Port Police Authority of Fiskardo and all the local supporters for their valuable contribution in the effort to rescue the newborn monk seal pup.

If you would like to support Nefeli’s rescue and treatment programme, please visit MOM’s website www.mom.gr. – Emily Joseph and Marianna Psaradellis, MOM.

Nefeli update: 20 November 2009

The staff of Mom’s Rehabilitation Centre in Alonnisos are pleased to report a successful first month for Nefeli. Though weak and underweight upon arrival, she has responded well to the centre’s nutrition protocols: her current diet of tuna “soup” has resulted in a steady weight gain and a current weight of 21 kilos. The arrival of nearly all of her teeth heralds a gradual change from soup to solid, de-boned tuna fillets and, eventually, other species of fish. Though the weight gain is encouraging, her latest round of blood tests were even more so, revealing that the animal is indeed healthy and doing well under the established protocols.



Emily Joseph with Nefeli.

The first Mediterranean monk seal to arrive from the Ionian side of Greece, she has proved to be surprisingly strong for her size. She is an agile swimmer, who, even in her first days at the centre, would remain submerged for minutes at a time. She is also an adept huntress, catching fish even in her first encounters. Her pool is maintained with a rotating stock of enrichment activities including a toy designed for seal play, frozen octopus, and small schools of live fish. Nefeli now has access to the pool all day and will eventually have night access as well.

Moulting is progressing rapidly for the little seal: her stomach and chest have completely shed the lanugo coat and now the hairs on the back of her head, shoulders, and along her spine are changing over.

If all goes well, Nefeli will be ready to return to her natural environment in a few short months. She will be fitted with both a satellite tracking device and a flipper tag to aid in future identification. We hope that this time the world will prove a safer place for monk seals. – Emily Joseph, MOm.

Mother keeps watch over dead pup on Skopelos

Personnel of the National Marine Park of Alonissos, Northern Sporades ([NMPANS](#)), recorded an unusual monk seal behavioural observation during a routine check of caves on the island of Skopelos on 1 October 2009.

Although Skopelos lies outside the boundaries of the Park, its seal caves have traditionally been checked as part of the monitoring process of the area.

Nearing a cave on the island, which cannot be entered by boat because of a rock overhang, the biologist of the NMPANS, Vassilis Kouroutos, reported that he detected a smell of decay.

“Then very close to the beach of the cave, about 4 or 5 meters away, I saw something floating, and immediately recognised it as a dead pup. But then suddenly we also saw the mother inside the cave, so we thought we’d better leave to avoid disturbing her.

We returned about half an hour later, thinking that the mother would have left the cave by then. However, we could no longer see the pup anywhere inside the cave. We began searching around, but the pup was nowhere. Eventually we saw something floating under a kind of rock, to the right of the cave. And at the same time we heard the mother vocalising. So again we left the cave, since we didn’t want to disturb the mother.

Then from outside I spotted a hole in the cave that I could reach from the shore, and where I could watch what was happening inside. I stayed there for about three quarters of an hour. The mother was continually around the pup; with her nose, was always trying to hide the pup and was looking after it as though it was alive. It seems as though the mother must have been looking after it like this since its death, days before [its estimated birth date, 26 September]. In all the years that I have worked with seals, this is the first time that I have ever seen something like that. Although the mother could detect our presence inside the cave, she made no attempt to escape and come back later; no, she was always staying there, close to her pup, trying to hide it.



The female seal, keeping watch over her dead pup.

For us it was very difficult to retrieve the pup under those conditions; and so we said that we would return the next day and try again, hoping the mother would have left the cave by then.

We alerted MOm, who would be responsible for the necropsy, but the following day there were very strong winds from the south side, making entry to the cave very difficult. Because of the weather, I doubt if we shall find either the mother or the pup there anymore.”

Low pup productivity in the National Marine Park of Alonissos, Northern Sporades – November 2009

Monitoring activities throughout the wider Marine Park area, carried out by the scientific team of the [NMPANS](#) Management Body, indicate a decrease in pup productivity during the 2009 breeding period.

This year, surveys showed a degradation of the monk seal shelters at Piperi island, the Park's core zone, due to unexpectedly high sea levels reducing the size of cave beaches suitable for pup birthing and nursing.

Conversely, monk seal shelters on the S.E. coast of Skopelos, due to their morphology and structure, did not seem to be affected by the higher sea level and therefore retained their significant suitability as important monk seal breeding sites.

Until the middle of November 2009, five newborn pups – one of which was found dead (see news item above) – and six adult monk seals were observed in the wider area of the NMPANS.

The first pup was born at Piperi on 20 September, the only birth witnessed so far this year in the core zone of the Park, and the last on 10 October at Skopelos island.

During the 2009 breeding period, out of a total of 11 monk seals (newborn and adults), 3 were observed in Piperi and the rest (8) in Skopelos. This demonstrates once again the importance of the monk seal shelters located along the S.E. coast of Skopelos, which is still not part of the NMPANS protected area, despite the fact that it is included in the Natura 2000 Network. Bearing in mind that human disturbance (boat traffic, fishing, tourism etc) in these monk seal shelters is relatively high compared to those at Piperi, where human access is limited, this suggests that if monk seals have to choose between avoidance of human disturbance vs. shelter suitability their choice would be the latter – a network of breeding shelters safe from adverse weather conditions.

Until now (middle of November) the four pups are in excellent health, nursed and looked after by their mothers. In the case of the pup found dead, it was not possible to determine the cause of death. – Management Body of the National Marine Park of Alonissos Northern Sporades.

Seal School on Alonissos

MOM's information centre in Patitiri, Alonissos, in the National Marine Park of the Northern Sporades, is happy to report another successful year of its Seal School. The eleven-week interdisciplinary programme continues to grow each year, welcoming Greek tourists, local children, and visitors to its nightly programmes. Every night has a different theme, including two environmental lessons per week, one craft night, one night of group games, one night of games to help review school skills (grammar, maths, geography, etc), one volunteer-led night, and one "wild card" night (yoga, music, creative writing, juggling, etc).

New activities this year included a first-aid class, a fish dissection night, in-house recycling of the centre's waste-paper, an exhibition on the impact of litter on the ocean environment, and a student-written and produced theatre. Social and emotional

learning workshops were also introduced with the intention of helping children learn to establish positive relationships and handle challenging situations constructively. Ever popular are the monthly reading contests (which logged nearly 1,000 books); the “I Matter” programme, where the children make a weekly commitment to an environmental action such as conserving electricity; and the use of the centre’s computer for educational games.

Though the programme is not without its challenges, such as the cat who stole the hotdog from our solar oven or the occasional finger-paint stain on the centre’s white curtains, Seal School continues to grow thanks to the help of a wonderful team of volunteers and the enthusiasm of our students. We hope that participants leave with a sense of stewardship for the earth and its creatures and that they will go on to become responsible global citizens. – Emily Joseph, MOm.

Interns at the Marine Mammal Center

Last April, MOm biologists Marianna Psaradellis and Emily Joseph travelled to Sausalito, California for a one-month internship at The Marine Mammal Center. The Center, a highly respected marine mammal hospital, treats hundreds of harbour seals, elephant seals, fur seals, sea lions, and other marine life each year.

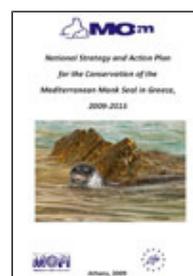
Marianna, the new head of MOm’s rescue programme and Emily, who manages the rehabilitation centre in Alonnisos, gained many skills to help them in their new roles. In addition to helping volunteer crews with daily feeding and care of the animals, the girls were able to shadow the veterinary team, follow education programmes, take part in necropsies, learn the basic processes of biochemical analysis, and participate in a myriad of other activities at the Center. This year, the Center took in a record number of patients (1,500 so far this year) and the busy pace ensured that the girls were able to assist with and learn about an eclectic array of marine mammal diseases and blights.

The MOm biologists were also proud to serve as ambassadors for *Monachus monachus*, discussing the Monachus genus with several Hawaiian counterparts and sharing their experiences with volunteers and staff at the Center. “The Greeks” would like to extend their most sincere gratitude to all of the wonderful people at The Marine Mammal Center who made them feel at home and who passed on a wealth of knowledge and experience that can be put to great use for the critically endangered Mediterranean monk seal. – Emily Joseph and Marianna Psaradellis, MOm.

Monk seal conservation strategy launched in Greece

MOm (the Hellenic Society for the Study and Protection of the Monk Seal) has announced the publication of a national conservation strategy for the species to be implemented between 2009 and 2015.

Prepared by marine mammalogist Giuseppe Notarbaratolo di Sciara in association with MOm’s own researchers, the Strategy has now been submitted to the Greek authorities and the European Commission, in the hope that its various recommendations will be officially adopted and implemented.



“The plan contains one aim, four objectives and a series of actions for the next five years,” Notarbartolo di Sciara told the Italian press agency, ANSA [[New rescue plan for](#)

[rare seals](#)]. “It has been designed for Greece, which is home to the largest population of this species, but the strategy is being drawn up in a way that would allow its export to all Mediterranean countries.”

Further information

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](#)  2.9 MB]

Notarbartolo di Sciara, G., S. Adamantopoulou, E. Androukaki, P. Dendrinis, A.A. Karamanlidis, V. Paravas and S. Kotomatas. 2009. National strategy and action plan for the conservation of the Mediterranean monk seal in Greece, 2009 - 2015. Report on evaluating the past and structuring the future. Publication prepared as part of the LIFE Nature Project: MOFI: Monk Seal and Fisheries: Mitigating the conflict in Greek Seas. Hellenic Society for the Study and Protection of the Mediterranean monk seal (MOM), Athens. 1-70. [[PDF](#)  3.4 MB]

EndQuote

A haven for wildlife and eco-conscious travelers

National Marine Park of Alonissos protects both rare species and fish stocks

Home to the Mediterranean monk seal (*Monachus monachus*), the waters around the island of Alonissos, in the Northern Sporades archipelago, have become a refuge for considerable fish populations, thanks to strict monitoring and a good relationship with local fishermen.

“Aegean fish stocks are low and we are all to blame,” says Vangelis, a former fisherman. “But here, thanks to the National Marine Park, we still have fish.”

A maritime paradise covering 2,220 square kilometers, the park covers not only Alonissos but six smaller islets (Peristera, Kyra Panagia, Psathoura, Piperi, Skantzoura and Youra) along with 22 rocky islets. [...]

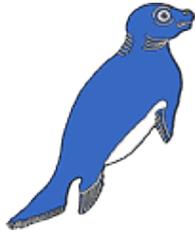
The main achievement is that it has won the support of locals who realize its value in attracting visitors to Alonissos while protecting the environment.

[A haven for wildlife and eco-conscious travelers](#), AthensPlus, No. 56, July 10, 2009.

Zakynthos fire

National Intelligence Service officers are in Zakynthos to investigate the cause of a forest fire last Sunday that left more than 50 bathers trapped on Dafni Beach, where they were rescued by the coast guard. Police on the island suspect that the fire was a case of arson and is likely to have been linked to a dispute between some locals and the organization that manages a national marine park on Zakynthos.

[Zakynthos fire](#), Kathimerini, July 29, 2009



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Madeira

Young seal chooses busy Funchal as home

A juvenile monk seal is residing around the capital city of Madeira – Funchal.

Ever since May, the [PNM Service](#) has been receiving sightings reports of a young seal in different areas around Funchal, mainly in the beach complexes and the marina. Because of this the Madeira people have taken to calling the seal “Marina”.

Most of the reports describe “Marina” as resting on the sea, though on two occasions it was observed sleeping in the sea under a catamaran, and in other two other instances, resting on an artificial platform for bathers. But there are also sightings of the seal playing with a boy, and hunting inside the marina. Though on most occasions the seal was observed alone, it was also observed with an adult, probably its mother.



Monk seal 'Marina' (bottom right).

The observations were made by lifeguards, sailors and the general public. Some of the sightings were also made by PNMS staff. The question that most people ask is an obvious one: why has this seal chosen to stay in Madeira’s most heavily-populated area? And the probable answer is:

1. Even here, there are small sites on land with low human pressure where the seal can rest.
2. The seal can find food in the area without great effort, such as inside of the marina.
3. The seal has not suffered any bad experience with humans.

Indeed, the public reaction so far has been mainly one of surprise, and concern for the animal. Maybe humans and seals can finally live together. – Rosa Pires, Parque Natural da Madeira Service.

Seal deal with diving centres

With the welcome return of the species to Madeira island, monk seals have started using areas used by humans for recreational purposes, in one case, a cave that is also a favourite of scuba divers. In fact visits through the entranceway to this particular cave are on the programmes of several Madeiran diving centres.

The entrance is 10m deep, the cave 35m long and 15m wide. At the far end of the cave it is possible to ascend to an air filled chamber. This is the area used by the monk seals to breathe.

The use of this cave by both seals and scuba divers has resulted in some scuba divers being bitten and disturbance to the seals themselves. Considering these factors and wishing to minimise any negative impacts both to monk seals or diving activity, the Parque Natural da Madeira Service met with all stakeholders involved with the aim of establishing a cave use code. This occurred on 8 June at the headquarters of Garajau Nature Reserve, where the 7 diving centres using the cave were represented.

In forming the use code, it was established that dive visits to the cave should not exceed one per day and should always be accompanied by a guide, responsible for guiding the group, which should not exceed 6 persons (including guides). If any seal is found to be in the cave at the time, the distance to the animal should be maintained; use of flashlights should be kept to the minimum possible; camera flashes should not be used, and the visitors should withdraw from the cave. – Rosa Pires, Parque Natural da Madeira Service.

How big a fish can a monk seal eat?

Well this is a question that only came about after an extraordinary sighting from the sailing boat charter “Gavião” in Madeira. On 24 June an adult male monk seal named “Esbranquiçado” was observed eating a huge ray (around 2m wide).

It was not possible to tell if the ray was debilitated or perhaps even dead before the encounter with the monk seal; nor was it possible to tell how much of the ray was eaten by “Esbranquiçado”. However, this is the first report of such a big “meal” for Mediterranean monk seals. – Rosa Pires, Parque Natural da Madeira Service.



Courtesy: Rob Bekker / <http://www.robbekker.com>

Oil leak simulation in Madeira includes monk seal habitat protection

On 5 July, the Madeiran Navy organized an exercise to train an oil spill response team through the deployment of equipment and resources at the local level. This exercise, named “Mero 09” took place at the Marine Garajau Nature Reserve and also involved personnel from Parque Natural da Madeira Service (“Mero” means Grouper, a fish that is the emblem of the Nature Reserve). The operation was also supported by the “Galp Marine”, a ship of the European Maritime Safety Agency. The exercise simulated a

collision between two ships and a subsequent oil spill.

The exercise's main objective was to develop a local oil spill response contingency planning capability, involving all stakeholders affected either directly or indirectly by such an accident. Response scenarios which took place at the Nature Reserve included offshore recovery and shoreline cleanup.



An inflatable boom being positioned at a simulated monk seal cave.

In the offshore recovery scenario, monk seal protection became a focus of efforts, with participants being trained on how to safeguard from oil contamination one monk seal cave with inflatable barriers. This operation has assumed extreme importance since oil tankers regularly sail through Madeiran waters. In 1994 an oil spill occurred on the Madeiran island of Porto Santo, although it did not have negative impacts on neighbouring monk seal habitat at the Desertas Islands.

Drafting a 'protocol for co-ordinated action in emergencies', such as an oil spill, is one of the recommendations of the Action Plan for the Recovery of the Mediterranean Monk Seal in the Eastern Atlantic, defined under the Bonn Convention (Working Group of the Mediterranean Monk Seal in the Eastern Atlantic, 2005). – Rosa Pires, Parque Natural da Madeira Service.

Desertas Islands in focus

Wild Wonders of Europe photographer Nuno Sá has been on assignment in Madeira's Desertas Islands, building up a photographic dossier of the nature reserve's outstanding landscape as well as its fauna and flora, both on land and underwater.



Exceptionally, Nuno also received permission from the Parque Natural da Madeira Service to dive with and photograph the monk seals of the Desertas in their natural habitat. "In the end the seals approached me – it was absolutely amazing!" reports Nuno.

Nuno Sá's blog and some of his photos from the Desertas, can be found on the [Wild Wonders website](#).

Mauritania & Western Sahara

Towards a 50-pup annual birth rate

There are still two months to go until the end of the year but 48 pups have already been born in the Coast of the Seals so far in 2009 – the same number as occurred in 2006, when a baby boom dramatically increased pup production levels at the colony (see [Notable increase of newborn pups at Cabo Blanco in 2006](#), The Monachus Guardian 9 (2): November 2006). We still expect several more births this season, so we hope to exceed this year the level of 50 births.



The breeding season began in May and the maximum number of births until now has taken place in August and September with 13 births each.

Where pup mortality is concerned, only 10 pups have died or disappeared to date, representing a Pup Mortality Rate of 21% of the total number of births, the lowest level recorded at present in this colony. Nevertheless, the season has not ended and many pups have not moulted yet, so this rate may change in the next months.

Also, a new group of young females were identified this year as reproductive individuals, increasing the reproductive potential of the colony. – Moulaye O.Haye, Miguel A. Cedenilla and Hamdi M'Barek, CBD-Habitat Foundation.

A successful pup reintroduction

In the early morning of 21 September a guard of the Coast of the Seals Reserve, while on his daily inspection, discovered a pup alive and alone on a beach south of the breeding caves.

Stormy conditions during the previous days must have swept the pup out of the breeding cave into the open sea. The current, together with the animal's disorientation, carried the newborn seal to the first large open beach south of the cliffy area that forms the coast.



Reunited.

It was a male pup, only 1-3 days of age, still with the umbilical cord complete. The seal had not previously been detected or identified by [CBD-Habitat Foundation](#) technicians.

Considering the age of the pup, and that the afternoon before, a reproductive female had been observed crying insistently and going in and out of one of the main reproductive caves – a common behaviour of a mother seeking its pup – we acted immediately to reunite the two.

The pup was taken to the encampment, where it was physically examined to ensure that it was in good health and well hydrated. It was measured and tagged (Temple Tag) in both rear flippers, and was given the identification number P479. Two CBD-Habitat technicians then carried the pup into the cave where the female had been observed the day before. With great care, the pup was introduced via a lateral access, without disturbing the seals that were occupying the cave. It was then freed on one side of the inner beach, and left to acclimatise itself to its surroundings in the hope that its own behavioural instincts would take over. A few minutes later it began to move to the centre of the beach, crossing other seals and, soon afterwards, went to the water of the interior tunnel, where it joined a mother-pup pair. The trio came out onto the beach; the female then returned to the water leaving both pups resting together on the sand. They remained like this until dawn.

The following morning the pup was detected close to an adult female showing signs of mutual acceptance. The female, probably its mother, was identified two days later as a known reproductive female and it could be confirmed that it was nursing the pup. An interesting point was to see later on that another female was nursing it as well. Today, the pup is one and a half months of age, near to moult and in perfect condition thanks to these two females that are raising it together. - Miguel A. Cedenilla and Moulaye Haye, CBD-Habitat Foundation.

Collapse in a breeding cave

At 22:37 on 3 August, the Coast of Seals Reserve surveillance team, which occupies the encampment located over the main monk seal breeding cave, sensed an earth tremor, which did not last long.

When on the following morning the TV monitoring system was switched on, what was assumed to have been an earthquake the day before was actually revealed to be an enormous collapse in the inner left side of cave 1, mainly in the flooded tunnel that extends to the inner beach. Fortunately, the entrance to the cave was not blocked and seals could enter and exit without difficulty.



Before and after the collapse.

Five pups were inside the cave at the time of the collapse, although fortunately all were observed to be unharmed in the days that followed. It cannot be confirmed if adults were in the area at that time or if they had been affected by the collapse.

Now, more than two months after the incident, seals still use the cave as they did before, and have given birth to many pups there since the collapse. However, we are observing erosion and sedimentary changes to the beach inside the cave. The narrow entrance and posterior wider tunnel had the effect of making waves lose energy after

passing through the entrance, depositing sand on the beach. Now, with the collapse narrowing the tunnel, waves seem to enter with more force towards one side of the beach, causing a higher erosion there. At the opposite point, the part of the beach protected now by the collapse is accumulating more sand, being more protected from sea conditions. As expected, seals now prefer to rest behind the rocks of the collapse, probably because of the milder wave action there.

A special monitoring protocol for the evolution of the beach has been established in order to detect the trends in its further erosion and sedimentation dynamic. - Hamdi O. M'Barek and Mercedes Muñoz, CBD-Habitat Foundation.

Difficult birth

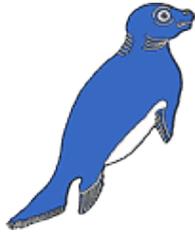
On 12 August 2009, a well known reproductive female at Cabo Blanco began showing signs of giving birth. Following standard practice, CBD-Habitat staff began recording the event. After a few minutes, the technician observed that the back flippers of the pup were emerging first.



The traumatic birth lasted much longer than usual (31 minutes), but finally a male pup emerged, apparently in good shape. Fortunately, two months later, both mother and pup are fine and healthy.

This is the first time that this type of birth has been recorded in Cabo Blanco.

The edited video, presented here, shows the complete sequence. - Mercedes Muñoz and Moulaye O. Haye, CBD-Habitat Foundation.



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Turkey

Monk seals monitored at Karaburun Peninsula

[SAD-AFAG](#) has been monitoring both the Mediterranean monk seal and its habitats along the coasts of the Karaburun Peninsula since June 2009, as part of the conservation and monitoring project funded by the Turkish Ministry of Environment and Forestry.

N. Ozan Veryeri, project coordinator and SAD-AFAG Karaburun representative, is executing field studies with the assistance of a team formed by Dr. Nuray Güven Veryeri, Cem O. Kırac, Elanur Yılmaz, Suna Tüzün and Erkin Tonguç. According to initial results of the research, it was found that Karaburun Peninsula coasts and important monk seal caves are still being used by the species despite anthropogenic factors and human activities still prevailing in the area. There are 3 caves which are actually and potentially important for breeding and resting.

During the project implementation, traces of monk seals were detected, and individuals physically observed, by the research team as well as local people and fishermen. Moreover, along with monk seals, Posidonia meadows and other important marine flora and fauna have been identified and documented.



© SAD-AFAG / N.O. Veryeri

A view inside Ayıbalığı cave near Mordogan. SAD-AFAG researchers observed a juvenile seal inside the cave in autumn 2009.



© SAD-AFAG / C.O. Kırac

Crowds of local tourists swimming around the rocky shore just a few hundreds metres away from the Ayıbalığı breeding cave.

In October 2009, it was learnt that a passenger and roll-on-roll-off ferryboat port is to be constructed on Arslan Cape near Karaburun town centre in monk seal habitat. Subsequently, the Environmental Impact Assessment (EIA) company requested SAD-AFAG's opinion on the investment and its possible impact on the monk seal. After

reviewing the project, SAD-AFAG emphasised the importance of habitat in and around Arslan Cape and proposed port construction in the already existing Saip fishing harbour, a couple of kilometres south of Karaburun town, in order to avoid destroying the pristine habitat area around Arslan Cape. – N. Ozan Veryeri, SAD-AFAG.

Foça Mediterranean monk seal conservation and monitoring project in 2009

SAD-AFAG continued its monitoring activities on monk seals in the Foça SEPA with the continued approval and financial aid of EPASA (Environment Protection Agency for Special Areas) in 2009. The main monitoring activities included the collection of monk seal sightings and checking the previously identified monk seal caves (n=6) in the area. The monitoring was conducted between 31 July and 6 November 2009. As a result 63 monk seal sightings were collected out of 193 interviews among local people, fishermen and tourists. Though monk seal caves were visited 7 times each, none bore any sign of monk seal presence. The obvious decline of the monk seal population in the area had been attributed to increased marine traffic, human activities along the islands' coasts and illegal fishing and over-fishing in the previous monitoring study by SAD-AFAG in 2008 [see [Vessel carrying capacity studied in Foça SEPA](#), TMG 12 (1): June 2009]. Unfortunately, the same downgraded conditions prevail in the area. SAD-AFAG is planning to communicate to EPASA the need to take the necessary steps without delay to reverse the situation.

In addition, Turkish and English signposts were designed for EPASA. These will be located by the agency either on the lookout point of Foça town/and or the harbour, from where many people visit these sites. Furthermore, a draft protocol for the management of the Foça Municipality Rehabilitation Centre was prepared for EPASA, for consideration and approval among the public stakeholders, including the Ministry of Environment and Forestry, EPASA, Izmir Metropolitan Municipality, Foça Municipality and SAD-AFAG. – Elanur Yılmaz and Suna Tüzün, SAD-AFAG.

Prof. Bahtiye Mursaloglu science camp

The “Prof. Bahtiye Mursaloglu Science Camp” took place in Foça between 20 and 30 August 2009, organized by SAD. Twenty-one students from various universities were selected to take part.

Both theoretical and practical lectures were given at the science camp in order to provide a higher level of knowledge and field survey ability to the students who are expected to participate in projects to be executed by SAD in the near future.



SAD-AFAG supported the science camp with its logistics already established in the area as a result of its previous projects and its operations in the Foça SEPA.

The camp programme featured both scientific and educational sections.

In the scientific section, three study groups were assigned different topics. These included fish diversity; monk seal habitat use and interaction of marine traffic and marine-coastal habitats; and sea urchin populations in the Foça SEPA. All groups collected their data either by skin diving or observations from the shore. The aim of these study groups was to introduce participants to the preparation and planning of scientific research and field work. This was followed by practical experience in collection and analysis of data, and the writing of a scientific paper. – SunaTüzün, Nilay Akça and Elanur Yılmaz, SAD-AFAG.

Strengthening the protected area network of Turkey

As reported previously in TMG ([UNDP-GEF supports integrated coastal and marine protected areas in Turkey](#)), a new project was launched on 12 November 2009 in EPASA headquarters in Ankara entitled “Strengthening the protected area network of Turkey: catalyzing sustainability of marine and coastal protected areas”.

Funded jointly by the Turkish government and UNDP, the project will be implemented during the next 4-years under the responsibility of EPASA and in close collaboration with the other relevant governmental departments, universities and NGOs. It is without doubt a national scale project with a total budget of USD 6,500,000.

A kick-off meeting was held with a wide-ranging participation, featuring inaugural addresses by the MoEF Undersecretary, the EPASA Director and UNDP Permanent Representative, as well as technical presentations by Adriana Dinu UNDP-GEF Regional Consultant, Mehmet Menengiç, Head of the Research Department of EPASA and Dr. Harun Güçlüsoy, Project Manager.

The project is important in terms of solidifying Turkey’s marine and coastal zone protected areas and enhancing effective management of MPAs. Since Turkey has no specific legal framework for integrated marine and coastal zone protected areas, it is expected that the project will seek to develop the required legal basis and management structure for MPAs in Turkey.

Meanwhile, as indicated by EPASA during the inaugural meeting, the Gökova ICMM project, executed jointly by the Rubicon Foundation and SAD-AFAG, is being closely monitored and supported by the agency, on the basis that project results and experiences will help in developing best practice for this large-scale MPA initiative.

One of the targets of the initiative is to enlarge existing marine and coastal protected areas in Turkey from 240.000 ha. to 340.000 ha. (44%). Capacity enhancement of EPASA and effective MPA management will be implemented in the six selected areas: Foça SEPA, Gökova SEPA, Datça-Bozburun SEPA, Köycegiz-Dalyan SEPA, Fethiye-Göcek SEPA and the Ayvalık Islands Nature Reserve. With the exception of the Ayvalık Islands, all of the designated project areas are Important Monk Seal Sites in Turkey. SAD-AFAG will be transferring its relevant monk seal and coastal habitat knowledge and experience to EPASA during project implementation, with the aim of integrating conservation of this indicator species into this wide scale MPA project. – CemO.Kıraç, SAD-AFAG.

Gökova ICMM project ongoing

The BBI Matra funded “Gökova Integrated Coastal and Marine Management (ICMM) Planning” project continued its activities during the 2009 summer and autumn period. Posidonia distribution, underwater photography and filming, yacht traffic, monk seals and habitats, as well as marine and coastal bird studies were the main area of focus. Field studies revealed that the area holds very important habitats for Gökova's rich biological diversity. Observation records of monk seals (including multiple seal sightings of up to 3 individuals) and a pair of Osprey (*Pandion haliaetus*) with their fish catch are promising. Meanwhile, as part of the project, a ‘train-the-trainers’ seminar on integrated coastal and marine zones management planning was organized jointly by Rubicon, SAD-AFAG and EPASA. Christian Perennou from Tour du Valat Foundation (France), Mike Mannaart from EUCC (the Netherlands), Prof. A.C. Yalçiner from METU, Prof. A. Yücel from Mugla University and Sezer Göktan from EPASA provided seminars and lectures on several related topics during 4-6 October 2009 in Akyaka. Workshops were also held among participants on coastal zone management issues.



Posidonia sea grass meadows are under threat by marine traffic in Gökova Bay. The project aims to reduce the impact of mooring in Gökova SEPA.

Seventy representatives from governmental agencies, local NGOs, coastal fisheries and universities participated. The basics and challenges of integrated marine and coastal zone management were discussed in detail. – Cem O. Kırac, SAD-AFAG.

Badem escapes, then returns to summer confinement

Badem, Turkey’s most famous monk seal, escaped her temporary summer captivity in Gökova Bay on 17 August, and quickly headed back to her old haunts, interacting with bathers and beach-goers along the busy coasts of Bodrum. Several bathers are reported to have sustained injuries, and monk seal conservation organisation [SAD-AFAG](#) again issued urgent appeals to members of the public not to swim or interact with the seal – both for their own sake and for Badem’s.

Rescued in December 2006 as an orphaned pup, Badem underwent rehabilitation in Foça, with AFAG drawing on expertise and nursing skills provided by the Zeehondencrèche Lenie ‘t Hart of the Netherlands. Regrettably, the seal became imprinted on her human carers during the 5-month process, a condition later exacerbated by swimmers’ and beachgoers’ demands for contact with her. She was released in April 2007.



From the Hürriyet [photo gallery](#).

Turkish Daily Hürriyet published a photo gallery of the interactions between seal and bathers, showing some bathers visibly frightened as they escaped what had often become rough and dangerous play.

Human stupidity was on some occasions more than to blame for inciting or encouraging the seal; one man was pictured even throwing stones for the seal as if Badem were a pet dog.

SAD-AFAG has warned repeatedly that such interactions pose potentially serious risks of injury to bathers, as well as setting back any hope of recovery for Badem herself. The more such interactions continue, the more it reinforces such behaviour.

As it happened, Badem's beach-frolicking summer came to an end on 27 August, when the runaway seal was recaptured by a [SAD-AFAG](#) team at Milas Ören in Gökova Bay; she was then returned to her temporary confinement in a large, specially-constructed sea pen at a fish farm in a less frequented part of the Bay.

The organisation, which undertook the intervention with its own limited resources, later reported that "instead of helping the team in charge, some tourists acted as obstacles."

Coast Guard boats in Marmaris and Ören reported sightings of Badem to SAD-AFAG, though were apparently powerless to overcome the intense fascination that impelled beach-goers to swim and play with her.

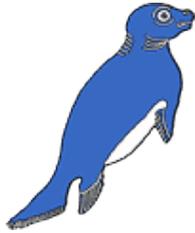
Further information

[Denizde Badem korkusu.](#) Hürriyet, 26 August 2009.

[Hürriyet photo gallery.](#)

["Let Badem does not hurt people nor she is hurt by people!"](#) SAD-AFAG, 27 August 2009.

[Badem undergoes veterinary treatment.](#) 2009. The Monachus Guardian 12 (1): June 2009.



Cover Story

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Tracking Artemis

Making sense out of a young seal's death

Panagiotis Dendrinou and Emily Joseph

[MOM/Hellenic Society for the Study and Protection of the Monk Seal](#)

“Artemis”. Thus was named the newborn Mediterranean monk seal that was found orphaned on the Greek island of Leros at the beginning of December 2008 after heavy seas in the Aegean. Following her rescue and four and a half months of rehabilitation at MOM’s Seal Rehabilitation Centre, Artemis, with a clean bill of health from veterinary staff, was released on 11 April into the core zone of the National Marine Park of Alonnisos, Northern Sporades (NMPANS). Sadly, she was found dead in Skiathos harbour almost one month later [[Artemis found dead on Skiathos](#), TMG 12(1): June 2009].

What went wrong?

In order to answer that question, and shed light on events leading up to her death, MOM experts immediately assembled all available scientific data, also drawing on their years of experience in monk seal research and rehabilitation.

The biologists drew information from three main sources:

1) The results of the necropsy:

A detailed necropsy was obviously the most valuable tool that the biologists could have to determine the cause of death. For that reason, MOM, in collaboration with the port police of Skiathos, transported the dead animal on the same day to the Biological Department of the University of Athens, where a full necropsy was performed the following morning. Despite the biologists’ experience, it was decided that the necropsy should be performed by a



specialist in marine mammal necropsies and pathology. Professor Thijs Kuiken of Erasmus University in Rotterdam (a collaborating institution of MOM) subsequently travelled to Athens specifically for this task. The results of the necropsy showed clearly that the animal, up until her death, was healthy and was feeding regularly, having the appropriate weight for her age. It also became apparent that Artemis died

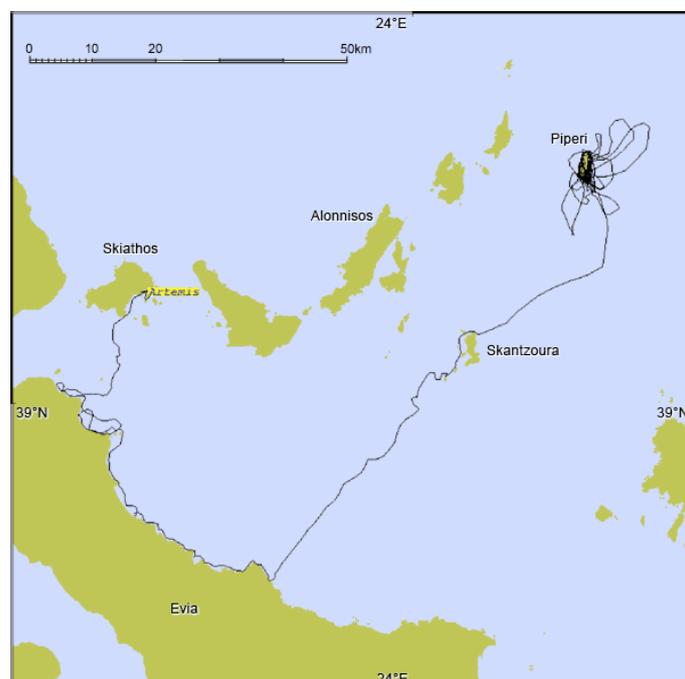
from an acute pulmonary oedema which, in all probability, resulted from drowning. The fresh food found in her stomach and digested remains provided explicit evidence that her death had been sudden. The only possible cause for a healthy marine mammal to drown would be if it were forced for some reason to remain at depth against its will and beyond the time limits that it can physiologically remain without oxygen. The most common case for such an event is the entanglement of an animal in fishing gear (mainly nets). Do other data support the conclusion drawn from the necropsy?

2) Data recorded by Artemis' tracking device:

A few hours before her release, MOM's biologists, in collaboration with experts from the Sea Mammal Research Unit of the UK, fitted Artemis with a recording and transmitting device designed specifically for seals. The device continuously records data drawn from the activity of the animal (geographic position, duration and depths of dives, duration of haul out, etc.). What did this data have to offer on Artemis' sudden death? Did it support the conclusion



reached by the necropsy? In point of fact, the device performed flawlessly from the moment of the seal's release. The data clearly demonstrates that Artemis was a healthy and energetic animal that, after a successful rehabilitation and a period of adjustment, behaved as a monk seal would be expected to in her natural environment. In the month following her release at the island of Piperi, Artemis explored a large geographic region, passing from Skantzoura Island to the adjacent coast of Evia, advancing north-west and finally crossing over to Skiathos (see map), a combined straight-line distance of approximately 150km. Since the day of her release (11.04.2009) until her death on 13/14 May 2009, the young seal performed almost 9700 dives, many of which reached depths of more than 100 metres, as well as a record dive on 09.05.2009 of 191 metres.



What happened, however, in the last hours of the life of this unlucky seal? The data are clear: around midnight between 13-14 May, Artemis was just east of Skiathos harbour where, for roughly half an hour, she made repeated dives, lasting a few minutes each, to depths of 20-25 metres. Afterwards, the last and fatal dive was recorded: she remained at 25 metres for seven hours. At approximately 7:30 the next morning, the animal returned to the surface where she remained, the tracking device recording that she was out of water continuously. Naturally, no marine mammal (and certainly no young Mediterranean monk seal) could sustain a dive for seven hours. The picture henceforth becomes clear. Around midnight, young Artemis most likely approached a fishing net at a depth of 20-25 metres and that net became her death trap. When the net was hauled in early the next morning by its owner, the tracking device had thus recorded the return of the dead animal to the surface.

3) The Rescue and Information Network:

Since 1990 MOm organises and runs a national Rescue and Information Network to monitor and respond to sick, wounded and orphaned Mediterranean monk seals. Activities of the Network also include collecting data on the health of seal populations in Greece, locating dead animals, performing necropsies, and determining cause of death. One significant finding from this effort is that almost half (47%) of the juvenile seals found dead in Greek seas and coasts are drowned as the result of entanglement in fishing gear.

Fitting seamlessly together, the three pieces of the puzzle provide a clear picture of the life and death of Artemis.

Some general conclusions:

a) Successful Rehabilitation:

Artemis is the second orphaned pup where MOm biologists were able to record in detail post-release behavioural activity. The first seal, "Dimitris", an orphaned male pup that was released in May 2004 following rehabilitation on Alonnisos. Dimitris sent data for almost five and a half months (until transmissions ended with the transmitter being dislodged, as intended, with the animal's first moult) [see [Orphaned seal criss-crosses the Sporades Marine Park, sets new diving record](#), TMG 7(2): November 2004 and [Final farewell from Dimitris](#), TMG 8(1): May 2005].



Dimitris' data, along with those of Artemis, were also important in another respect: they proved that rehabilitation processes and protocols followed by MOm in the care of orphaned seals are effective. Following their rehabilitation, both animals demonstrated "natural" behaviour, in terms of their movement in the marine environment and in the recovery of food.

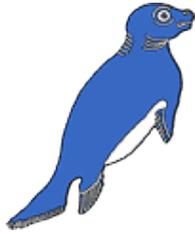
b) Protected regions and national measures of protection:

Data from both seals also clearly demonstrate that Mediterranean seals, from a very young age, can already travel extensive distances and dive to impressive depths – and surely beyond the limits of protected regions. Therefore, the establishment and correct management of protected areas, particularly around core reproduction zones, must be a key consideration in the protection of the species. Also essential is the application of management measures at the national level for the mitigation of threats to the species posed by fisheries interactions. These threats also require measures and action at the governmental level, such as those proposed in MOM's EC-funded MOFI programme; a four-year project carried out in collaboration with other institutions that for the first time investigated the problems of interactions between marine mammals and fisheries on a national level.

While we may be virtually certain that such interactions can never be eliminated entirely, specific steps can be taken to mitigate them. While tragically too late for Artemis, such measures could do a lot to save other young monk seal lives.

Further information

Dendrinis, P., A.A. Karamanlidis, E. Androukaki and B.J. McConnell. 2007. Diving development and behavior of a rehabilitated Mediterranean monk seal (*Monachus monachus*). *Marine Mammal Science*. 23 (2): 387-397. [Abstract [PDF](#)  7KB]



In Focus

Vol. 12 (2): November 2009

Progressive re-colonization of monk seal resting and reproduction habitats as the result of strict protection

Pablo Fernández de Larrinoa, Hamdi M'Barek, Moulaye Haye, Miguel Ángel Cedenilla, Mercedes Muñoz, Ana Maroto and Luis Mariano González

[CBD-Habitat Foundation](#)

The birth of a newborn pup this October on an open beach of the Coast of the Seals, the first of its kind in centuries, is a symbolic but important event that we hope will prove auspicious for the ongoing recovery of the Cabo Blanco monk seal colony.

Since the implementation of the Monk Seal Recovery Action Plan in the Eastern Atlantic (CMS/UNEP) in 2000, the first objective was to recover this important monk seal population, which in 1997 had just suffered a severe mass mortality event dramatically cutting its numbers by two thirds.

The first and most important action undertaken was the protection of the two single breeding caves that seals were using at that time. As a direct consequence of breeding in these caves, a high pup mortality rate occurred during years with severe sea conditions.

Therefore, the Coast of the Seals Marine Reserve was created to protect them and the vicinity [[Conservation actions on the Cabo Blanco peninsula – a new approach](#), TMG 5 (2): November 2002]. With the successful model that had been developed in Madeira's Desertas Islands in mind, the objective was to eliminate disturbance in the area, mainly caused by goose barnacle pickers, fishing pirogues and even ourselves during research and monitoring activities, with the objective of promoting the use of open beaches by the seals.

After 5 years of strict surveillance and of non-invasive monitoring and research methodologies, during which the reserve was progressively enlarged to reach its current size of 6.2km along the coast, the first results became evident in the form of solitary adult monk seals beginning to use open beaches of the reserve as haul out



The first recorded monk seal born on an open beach since the 15th century. Monk seal pup 'Sofia', suckling from her mother, among other individuals nearby.

sites. This behaviour had not been observed since the 1940s, when the colony was discovered. Progressively, year by year, growing numbers of adult seals were hauling out on open beaches, while at the same time, the number of open beaches the animals were using also increased.

After a couple of years, we also began to observe animals from other morphological groups, mainly subadult males and females.

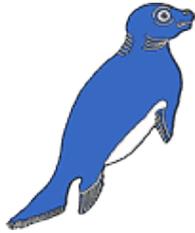
During this period, use of open beaches by small groups of 2-3 individuals began to be observed more frequently. The best example of this progressive evolution was the use in 2007 of Halcon beach, renamed Luc's beach in honour of one of the project donors, Dr. Luc Hoffmann. This beach, located south of one of the breeding caves, rapidly began to be used by concentrations of animals, some of them acting as effective lures to others. Larger groups of up to 11 seals began to use this beach, and in 2008 a mother even moved her pup there to raise it [[Lactation on an open beach in Cabo Blanco](#), TMG 11 (2): November 2008].



Groups of monk seals resting on open beaches in the Coast of Seals Reserve.

While re-colonization of hauling out habitat appeared to be impressive and ongoing, we were still expecting another fundamental step forward in terms of conservation of the monk seal. Still missing was a birth on an open beach, that would reinforce the re-colonization of this kind of habitat by becoming a reproductive one. This landmark event occurred this year. In September, a previously unidentified young reproductive female gave birth to a female pup on Luc's beach. The CBD-Habitat surveillance and monitoring team promptly detected the birth and determined that the mother-pup pair were in good health. We named the newborn Sofia, in honour of the Spanish Queen who has always showed interest and devotion for monk seals and for the progress of the project.

Sofia is today around one and a half months old; she is beginning to moult and in a couple of months, when she begins her first long excursions into the open sea, she will be the first monk seal ambassador in the eastern Atlantic to announce open beaches as reproductive habitat to be recolonized - all to the hopeful future of her species.



In Focus

Vol. 12 (2): November 2009

Monk seal sightings in Italy move to the central Tyrrhenian sea

Giulia Mo

ISPRA, Rome, Italy

Recent sightings of Mediterranean monk seals in Italy are not quite as surprising as they first seem, since single seal observations have been recorded almost on a yearly basis during the last ten years. Such observations have taken place along the rocky coasts and islets of Sardinia or of southeastern Sicily and southern Apulia. It has always been assumed that the sightings are of errant individuals originating from nearby Tunisian/Algerian locations or the Ionian Greek islands, and it was therefore hypothesized that these seals' displacement capacity from their natal sites could have ranged on the order of 100-150 miles. But the summer of 2009 brought about two unusual events in terms of sightings locations, this time bringing the seals to two insular locations much closer to Italy's central-western coast: the island of Giglio, located in the Tuscan Archipelago, and the island of Ponza situated 70 nautical miles southwest of Rome.

The first sighting was reported by a tourist who was visiting the island of Giglio on Sunday June 6th, 2009. The sighting occurred at 11 a.m. close to the rocky outcrops just outside the port of Giglio Campese. Startled by the cries of onlookers exclaiming about the presence of a seal a few metres away from the rocks, the sighter, who is also an amateur photographer, grabbed his camera and quickly approached the location where he



was not only able to take several photographs of the seal but also observe it during its surfacing bouts within a time frame lasting 35 minutes. The seal was observed swimming on the surface, approximately 10 metres from the coast. Its alternated surfacing bouts lasted between 2 to 20 seconds in between which it dove and disappeared temporarily from sight for 5-20 minutes. Every time it surfaced it tended to do so slightly farther away from the sighter's position. The sighter carefully described the seal's prominent nostrils and round head, eyes and vibrissae. He estimated the seal's body length as being at least 2 metres, and described the colouring as being dark grey on the dorsum and increasingly darker towards the tail area, with lighter spots especially in the anterior part of the dorsum. The sighter also declared that the seal's movements in the water were slow and calm, which would

lead one to assume that the seal did not feel threatened or nervous even though it was often observed looking in the direction of the rocks towards the bystanders when it surfaced after a dive bout. Analysis of the photos confirms the size class category of a subadult-adult sized individual.

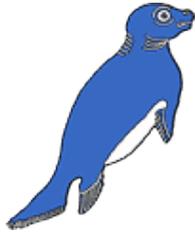


The second sighting was recorded on Saturday August 29th at 11.30 a.m. close to a rocky islet to the southeast of the island of Ponza. The sighter, an amateur free diver, was on a spearfishing dive and was inspecting a submerged rocky reef lying at 15 metres depth. One side of the submerged reef edge ended with a small rocky overhang situated on a sandy bottom and nearby, a rich Posidonia meadow. The diver noticed a dark grey mass partially jutting out from underneath the rock ledge and, driven by curiosity, approached it to identify the species, assuming it may have been a large fish. He recounted that as he approached the site the animal was so still that his immediate thought was that it may have been dead, possibly due to the various pieces of lost fishing gear he had observed attached to the rocky outcrops in that area. At less than 2 metres distance from the animal, and having reached a depth of approximately 15 metres, he saw that the dark gray mass was the posterior part of a spindle-shaped body at the end of which protruded two large flippers. The sighter describes the flippers as having longer lobes on their outermost sides compared to the inner and explains that he thought they were seal flippers given that they had a “webbed-like appearance like that seen in the wings of bats” and he could see “the layer of skin uniting one digit to another”. It appeared to him that the animal was lying partially on its side with the remaining part of its upper body resting on the sandy bottom under the shallow rocky overhang. At that point he noticed that the flippers swayed very gently with a slowly rubbing motion which brought them one against the other and so he concluded that the animal could not have been dead. He quickly resurfaced to call his other two dive companions who were on the boat, but tried to keep an eye on the animal so as not to lose sight of it. Within less than two minutes he and his dive companions observed the seal exiting the rocky overhang and swimming towards midwater at approximately 5-10 metres distance from them. Their impression was that the seal was aware of their presence and looked towards them and then slowly swam away in the direction of the nearby rocky islet. The duration of the entire sighting was estimated as lasting less than 3 minutes. The sighters clearly described the physical characteristics of the head (round ocular orbits, rotund head, pronounced snout), the spindle-shaped body and flipper position. The seal was estimated as being quite large, comparable in length to an adult man, with a dark grey head and posterior part of the body and an overall lighter coloured abdomen. The sighters also claimed that the seal may have had some lighter coloured

markings on the dorsal part of the body though the exact location and extent of these was difficult to recall in great detail given the reduced precision of vision underwater and the limited duration of the sighting.

Following these sighting events immediate contact was made by ISPRA with the local Coast Guard offices to request that they exercise particular attention to collecting any other sighting information reported from local fishermen or tourists. Within the framework of the Coast Guard's fishery monitoring activities, specific attention was also paid by the personnel to collecting information on possible specific damage to fishing gear which might be attributable to seals frequenting the area.

Given the low number of seal sightings in Italy it appears likely that the seal sighted and photographed in Giglio island at the beginning of June may be the same seal sighted in Ponza at the end of August 2009. The description of the pelage colouring and size estimate reported by the observers of each sighting would also tend to confirm this. If true, it would mean that the seal's movements from the first sighting location to the second would have entailed a journey of approximately 140 miles within 3 months, a not uncommon occurrence given accounts of observations of photoidentified adult sized individuals in other locations, such as Greece. What is puzzling is from where this particular seal may have originated. The nearest Italian monk seal sighting locations are those found in Sardinia, which lies at 100 miles distance from Giglio island. If indeed monk seals observed in peripheral Italian locations originate from the nearby north African coasts, the sightings observed in summer 2009 in Italy indicate that a monk seal's dispersion capacity from its original location may rank on the order of at least three hundred miles.



Perspectives

Vol. 12 (2): November 2009

Tackling the conflict between seals and fisheries in Greece: An end or a beginning?

Stella Adamantopoulou and Vangelis Paravas

MOM, Athens, Greece

June 2009 marked the end of MOM's 4-year LIFE-Nature programme "**Monk Seal and Fisheries: Mitigating the Conflict in Greek Seas**" (MOFI). The objective of the project was to improve the conservation status of the largest population of the Mediterranean monk seal in the world by mitigating the negative consequences of the monk seal-fisheries interaction to both the seals and the fisheries sector.

The undertaking appeared ambitious from the start and the difficulties that we would face were many. A lack of support by the state, a continuous change of political executives in key areas for the project, and a lack of united representation from the coastal fishermen, was disappointing but in no way discouraged us from our goals. In four years, we managed to acquire a comprehensive picture of the magnitude and intensity of the interaction between monk seals and fisheries. Through necropsies we were better able to understand the repercussions of the coastal fishery on the monk seal while, through surveys with the fishermen, we could measure the damage to fishing gear caused by seals and dolphins. Through research activities we estimated that the extent of the damage to fishing gear from seals is close to 20% of the fishing trips undertaken, while the entanglement of mainly young seals in fishing nets represents 55% of the death causes recorded, being a primary threat for the species.



For the first time, we also investigated the feeding habits of the species and revised the National Strategy for the Conservation of Mediterranean monk seals in Greece. The sensitization and the active participation of local fishing communities and students through awareness campaigns and environmental education constituted another important aspect of the programme. Finally, in close collaboration with WWF-Greece and the Fisheries Research Institute of Kavalla, we drafted for the first time in Greece an Action Plan aimed at reducing seal-fishery interactions. The Action Plan fills an important void in Greece because, until today, no other initiative has been undertaken at the national level. The final objective is for the Plan to be adopted by the relevant Ministries, becoming a basic tool in the configuration of policy. All of

these positive steps show that even if the programme has reached its end, the hour for action has only just begun!

Results

As an integral part of the MOFI project, surveys were conducted among stakeholders in fishing communities, gathering information both essential to understanding the seal-fishery problem, and to devising actions to mitigate it.

Coastal fishermen and aquaculture

The key findings of the 196 questionnaires completed among coastal fishermen in the project “hot spot” areas are:

- Fish stock degradation is due to over fishing
- For the recovery of fish stocks, a better implementation of the existing legislation and seasonal regulations are needed
- The main species showing signs of decrease are the red mullet, the lobster and the common sea bream
- The main problem faced by fishers is damage to fishing gear caused by marine mammals
- Most damage caused by marine mammals is recorded in spring and summer
- Dolphins cause more extensive damage compared to seals
- The proposed solution to damage caused by marine mammals to fishing gear is compensation.



Similar proposed solutions were recorded in the 64 questionnaires completed by Port Police authorities throughout the country and from 7 Fishery Departments.

Based on data from 19 aquaculture enterprises that participated in the project, it was found that monk seals cause considerable damage and that aquaculture operators use as an effective solution the installation of external reinforced nets.

From the experimental fishing conducted in Alonnisos and Kimolos the following key results were obtained:

- Damage from marine mammals to nets was found on an average in 21% of fishing efforts
- The average length of damage by marine mammals was found to be 1,12m per 100m of nets used
- The damage to fish catch could not be determined.

Monk seal rescue and treatment

MOFI's Rescue Team responded to 15 cases of animals needing help. In two of these cases, the seals were newborn pups, requiring immediate transfer to MOM's Seal Treatment and Rehabilitation Centre at Alonnisos. Following an intensive treatment programme, the animals were released in healthy condition back to their natural environment.



From the 29 necropsies conducted during the MOFI project it was evident that the main cause of death for adult seals, was deliberate killing (44%), and for sub-adult animals, entanglement in fishing gear (56%). Most of the dead animals were recorded in May. Despite the fact that human related mortality remains at high levels, during the project a gradual decrease in mortality was recorded especially in deliberate killing.

Dietary preferences

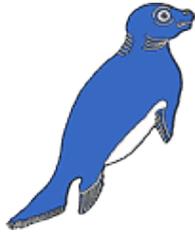
For the first time the dietary preferences of the Mediterranean monk seal were studied. Through the study of 24 monk seal stomach contents and the analysis of stable isotopes of tissues of monk seals and marine organisms it became evident that:

- Mediterranean monk seals feed mainly on octopuses (representing the most consumed prey, by weight and by numbers)
- The species was found to feed also on benthic, demersal and benthopelagic fish species, some of which were of commercial value.

Further information

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](#) 2.9 MB]

Notarbartolo di Sciara, G., S. Adamantopoulou, E. Androukaki, P. Dendrinis, A.A. Karamanlidis, V. Paravas and S. Kotomatas. 2009. National strategy and action plan for the conservation of the Mediterranean monk seal in Greece, 2009 - 2015. Report on evaluating the past and structuring the future. Publication prepared as part of the LIFE Nature Project: MOFI: Monk Seal and Fisheries: Mitigating the conflict in Greek Seas. Hellenic Society for the Study and Protection of the Mediterranean monk seal (MOM), Athens. 1-70. [[PDF](#) 3.4 MB]



Perspectives

Vol. 12 (2): November 2009

Mallorca's lone seal: the 2009 follow-up

Antoni Font and Joan Mayol

Servei d'Espècies Protegides, Conselleria de Medi Ambient, Govern de les illes Balears

Following the encounter of a monk seal by a diver in an underwater cave on Mallorca in the summer of 2008, an information and monitoring campaign lasting one month was organized, as reported previously in TMG [[Sighting and Response](#), TMG 11 (2): November 2008].

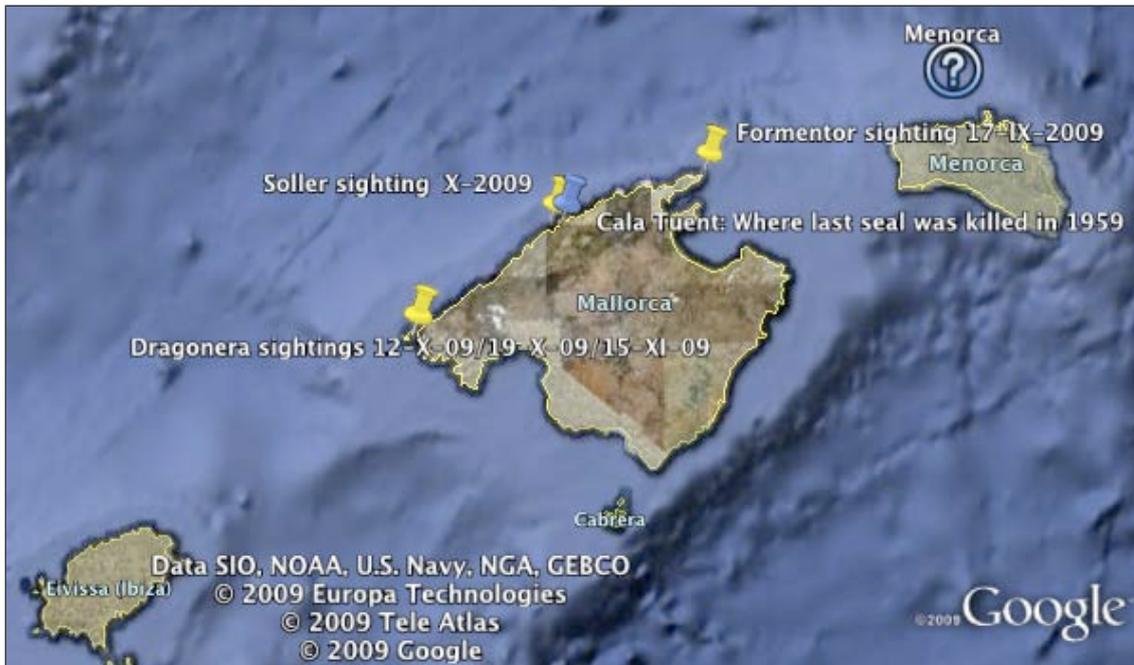
The initiative provided relevant information about new sightings. Also, the deployment and operation of automatic cameras in some caves in the area was tested ([Automatic cameras to be installed in Mallorcan caves](#), TMG 12 (1): June 2009). This proved useful and promising for the future use of this equipment, though unsuccessful in confirming the presence of seals. The equipment was dismantled pending future reinstallation in a specific cave, where sufficient evidence of occupation is detected.

In early summer 2009 there were no reliable data on the presence of monk seal individuals. It was for this reason that the envisaged information campaign and active collection of information among seafarers was not launched this year.

Nevertheless, since the close of the 2008 information campaign, we have received five reports of sightings, described below. One, in early summer, could not be considered reliable, and proved impossible to trace. The three locations where the four remaining observations took place cover a range of 90km along the north coast of Mallorca (Formentor, Sóller 40km west, and Dragonera a further 45km).

- In mid-June 2009 confusing information was received concerning a sailor who had observed two seals at Menorca. The chain of reporting informants was broken and the sighting proved impossible to verify.
- On September 17 a tourist guide spotted a seal from the cliffs of the lighthouse at Formentor. Through several informants, we managed to contact him. The sighting occurred at midmorning from the lighthouse, at an altitude of 120m above sea level. He observed, for about 5 minutes, a dark brown animal that swam and dived repeatedly at a distance from the cliffs of 100-200m. The man had seen dolphins frequently and this animal did not behave like one. The observation ended when some recreational boats appeared in the area, and the animal dived into the deep.
- One day in the first week of October, at noon, the skipper of a tourist boat covering the Sa Calobra - Sóller trip in rough seas and a west wind, briefly

glimpsed from the bridge, about 15m away, the back of an animal plunging a few meters from the bow. He claims to have seen clearly the brown back and hind flippers when the animal submerged, which he describes as “different from any cetacean that I see: it was a seal”. The sighting lasted a few seconds. Sea conditions prevented him from turning or staying idle to watch, so he did not observe the animal again. This sighting was made only 2.5km away from the place where the last seal was killed, in 1959, and it is one of the few areas along the coastline of Mallorca that has suffered very little coastal transformations in the last 50 years.



Map of Balearic Islands.

For more detailed locations download the Google Earth kmz file: ["foca observacions"](#).

- On 12 October at 11.50, Peter Borckenhagen, an experienced German zoologist who was walking in the Parc Natural de Sa Dragonera, saw a seal swimming with two dolphins. The animals were 300m from him, in the harbour area. They came from the vicinity of the reefs known as 'els Calafats' and swam at a distance of between 50 and 100m from the coast in a SW direction. With his powerful binoculars he could clearly see the head of a pinniped, its characteristics and behaviour clearly different from those of the dolphins that accompanied it. Experienced in seeing different species of pinniped, he had no doubt that this one was a monk seal. He made two observations separated by a few minutes – about 20 minutes in total – until the animal rounded a cape and he could no longer follow the swimming group. During this time the seal did not dive, and its way of swimming seemed fatigued. Mr. Borckenhagen is preparing an article for the annual magazine of the Natural History Society of the Balearic Islands.
- A week later, October 19, Juan Miguel Gonzalez, an ornithologist engaged in a bird ringing campaign in the Parc Natural de Sa Dragonera, may have observed the same individual. Despite using 8x binoculars, and the fact that the animal was about 1000m away from the shore and could not be observed in detail, he twice spotted the animal's back and head. He was certain this was indeed a pinniped. The informant is a reliable field naturalist: he worked for years with environmental education and information gathering summer projects in the Maghreb countries with FFM (Fondo de la Foca del Mediterráneo). During these

campaigns he observed repeatedly *Monachus monachus* individuals. The indications provided (estimated distance and bearing) are coincident (within an error of +- 200m) with the location of a popular diving spot: a sunken wooden fishing boat hosting many big morays and congers. Divers also used to feed fishes here, so the seal should have an easy catch. Some underwater videos of this site, where it's likely that the seal found food in abundance, are shown on [Youtube](#).

The closest recent sighting (in time and distance) to the Cape of Formentor occurred at the Italian island of Giglio, 700km east, June 7, 2009 [[Monk seal sighting at Giglio Island](#), TMG news blog].

Given the great distance involved, and the short space of time between the observations in Mallorca and Giglio, it is likely that the animal repeatedly observed in 2009 along the north coast of Mallorca is the same that was observed in Mallorca in 2008. Accordingly, we now work on the basis that an individual is present along an extensive (100km) stretch of the north coast of Mallorca. Reports on sightings are occurring at a rapid pace, although the high mobility of this individual makes it impossible to determine a specific spot where it is resting.

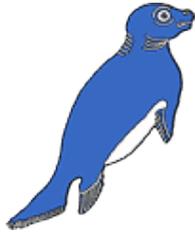
Postscript by Antoni Font

On Saturday 14 November, a group of 3 persons, myself and 2 friends, left Palma for a sailing weekend on board a 40' yacht owned by a friend who has decided to sell it in coming days. The first intention was to give a farewell to the boat, but we then decided to spend some time around the area where the monk seal has been sighted during recent months, paying special attention to the waters around the Conger Eels wreck at Sa Dragonera. We approached the area under sail on Sunday 15 November around 10:00. During the trip we observed various species of seabirds (*Calonectris diomedea*, *Phalacrocorax carbo*, *Puffinus yelkouan*, *Larus michahellis*, *Sula bassana*...). The wind was slight, about 7kts from the south and the sea calm, though slightly rippled. Just as we were arriving at the location, we saw the head of the seal at about 500m distance. Approximate locations of the animal / wreck / observation point are shown in the Google map kmz file. The three points fit in a 300m radius. The observation lasted about 20 seconds and then the animal dived.



Rear flippers of the diving seal. This is a detail of the picture at full resolution.

It was possible only to take a single picture, that I suspect will not seem conclusive to many, but it's all we managed. We remained in the area for one hour and then circumnavigated the island and visited a spot in the close-by island of Mallorca where a suitable cave was identified during the 2008 survey. The tour was again made under sail, engine off, but we were not lucky enough to see the animal again. We then returned to Palma, on the way observing a group of 5-7 dolphins a mere 5 km from Sa Dragonera.



Letters to the Editor

Vol. 12 (2): November 2009

Seals of Coincidence

Many years ago one of my technicians got married and happened to mention that they were driving around the Med. to celebrate, this generated the first comprehensive survey of Monachus. In July of this year her daughter Meg and her husband Dan drove across Africa (yes drove), and like her mother recorded another sighting of the Mauritanian seal as pictured; this was a very lucky visit.



– Professor Keith Ronald, 9 November 2009.

✓ Mercedes Muñoz Cañas,
of the [Fundación CBD-Hábitat](#) replies:

From the photograph provided by Professor Ronald, it was possible for us to identify the seal from our photo identification catalogue. The seal is:

AMRIGUE:
ID NUMBER-2271

Amrigue is an adult male of 12 years of age, rescued when he was a pup during the mass mortality episode in 1997 and released a few months later.

Today, he lives at the Cabo Blanco Satellite Reserve, which is part of Mauritania's Banc D'Arguin National Park.

He currently has his marine territory under the new visitors centre at the Reserve, moving from the old marine territory that he had near the "Malika Tanger" ship, which beached accidentally on the southern shore of the Reserve.

Unfortunately this animal has no contact with the "Costa de las focas" (Coast of Seals) colony located a little up north, nor has he ever been seen close to any other seal, except an adult male that had a territory close by. It is believed that there were rare encounters between them to delimit territories.

We at Fundación CBD-Hábitat would like to send our thanks to Professor Ronald for all his efforts on behalf of monk seals over the years.



Amrigue in the CBD-Hábitat photo identification catalogue.
[PDF 133KB]



Map of Amrigue's territory.
[PDF 92KB]

Holiday sighting

During a two week holiday we had the great experience of meeting a monk seal near an underwater cave on the coast of the small Greek island “Romvi” just south of “Tolo”, Argolida, Peloponnese. We were snorkelling just outside the opening of a small cave – the upper lip of the entrance at a water depth of 1 meter. When peering into the cave I saw a large moving greyish shape – and started to remove the group of snorkellers from the area as a precaution. The seal then left the cave and passed my youngest son at close hand. He saw the seal clearly under water.

Should we alert the local authorities in order to set up a protective perimeter around this cave?

— *Thomas Blume*, Denmark, 20 July 2009.

✓ **Marianna Psaradellis**, biologist responsible for the Rescue and Information Network of [MOM](#), replies:

The sighting of a monk seal is always a memorable experience, especially when encountering it underwater. We always appreciate receiving descriptions of these events. We regularly receive information coming from the area of Argolida, so this is a good sign. We don't ask for extra protection from local authorities when sightings occur. As you noticed, the interaction you had was not dangerous or stressful, either for you or for the seal. What we do, is when we receive many reports coming from a particular area, we then focus more our monitoring programme there, so as to estimate the local population and then propose general and permanent protective measures, as we did in the Marine Park in Alonnisos (Sporades), Kimolos (Cyclades), Karpathos (Dodecanese), and as we now try to do in the area of Gyaros in the Cyclades.

✓ **Editor's note:** Monk seal encounters are rare – though with increasing numbers of people venturing into wilder coastal areas for pleasure boating, diving and snorkelling, perhaps not as rare as they once were.

Here is a guide of what and what not to do when encountering a Mediterranean monk seal, be that underwater, in a cave, or on a beach.

Monk seal encounters Dos and Don'ts

by **Marianna Psaradellis**

Monk seals, like all pinnipeds, spend most of their time in the water, but they give birth on shore, mostly in isolated sea caves. They can also haul-out on secluded beaches, to rest or dry their fur to facilitate the moulting process.

Though monk seals are rare, humans are not, and so there is still a slim chance of humans encountering a seal or vice versa...

Underwater...

- Don't panic, don't make sudden movements that might scare the animal away and don't try to approach it.

- Respect its habitat and swim slowly and calmly away.
- If you have a speargun do not point it at the animal.
- When at a safe distance, don't forget to observe carefully; try to keep mental notes of the animal's size, colour, behaviour, and other details of the encounter.

Monk seals are not aggressive but they are wild animals and although they won't attack, they will certainly defend themselves if panicked or provoked.

If the animal exhibits aggressive behaviour of any kind, try to swim calmly to shore.

In caves...

Of course, we would prefer people not to enter sea caves at all, but if you happen to do so and encounter a seal...

- Again, don't panic, and don't make any abrupt movements. Above all, do not try to enter deeper into the cave; if cornered, the seal might become aggressive. If it is a female with her pup you might end up scaring the mother away.
- Slowly retreat towards the entrance, staying close to the cave walls so that the animal does not feel trapped.
- Keep the cave entrance free, so the seal can make an escape if it feels impelled to do so. If this happens, do not try to venture deeper into the cave, but just swim calmly away.

Monk seals underwater or in caves, are in their natural environment and it is very unlikely that they need help.

On shore...

- Keep a safe distance from the seal at all times (at least 20 meters), and try to ensure that other people or domestic animals also do not venture too close. Do not occupy the space between the animal and the sea. If possible, use some natural feature (for instance a rock or tree) or manmade object, to hide and observe the animal.
- A monk seal on land doesn't necessarily need human intervention and in many cases could be an adult moulting or sleeping deeply.
- The situation, however, can be critical if the animal is a stranded pup that might have lost its mother.

Contact MOm's Rescue and Information team to describe the situation and receive instructions. The number is **(+30) 210 522888**.

If the animal does not need help, you can still observe and take photographs of it from a safe distance, always making sure that you do not disturb it.

Please contact us to share your pictures and observations, at research@mom.gr. Every single monk seal encounter provides valuable information for the conservation of the species.

MOM has been operating the Rescue and Information Network since 1991. Its main goals are to:

- Monitor the status of the species in Greece, in order to plan conservation activities and to assess their effectiveness.
- Intervene where necessary to raise the survival possibilities of individuals (sick, wounded or orphaned seals) or populations (epidemics, oil spills, toxins).

If you have had a monk seal encounter, this is an excellent opportunity to get involved in the conservation of the species. Please contact us!

Mission impossible

I was interested in knowing the annual growth/decline percentage of the Mediterranean monk seal.

– L.W. (by email), 28 June 2009.

✓ **Editor's reply:** And so, indeed, would every monk seal researcher or marine mammalogist in the Mediterranean.

Because the remnant populations of the Mediterranean monk seal are widely scattered and fragmented, with animals usually occupying remote and often inaccessible coastal habitat (steep, cliff-bound coasts, sea caves), field researchers are unable to chart overall trends in population abundance. Even estimates of overall population size are largely based on educated guesswork.

The only exception to the above is monk seal research in Mauritania/Western Sahara where, because of the concentration of the colony, researchers are able to use direct observation, photographic evidence and tagging to obtain a reliable estimate of population size and trends.

For further information see:

[Who are our seals?](#) TMG 12(1): June 2009.

[Who are our seals?](#) Istanbul workshop presentations online, International News, this issue.

[Distribution and abundance](#), Mediterranean Monk Seal Fact Files, www.monachus-guardian.org.

EndQuote

One in six Mediterranean mammals is threatened with extinction at the regional level, mainly due to the destruction of their habitat from urbanization, agriculture and climate change, nature body IUCN said Tuesday in a new study.

Of the 320 mammal species assessed by the Geneva-based International Union for the Conservation of Nature, 49 were threatened, including 20 that can be found nowhere else in the world, it said in a statement.

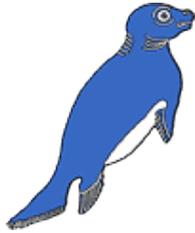
Three percent are “critically endangered”, including the Mediterranean monk seal and the Iberian lynx, another five percent are “endangered” and eight percent are “vulnerable”.

“The number one threat is habitat destruction, which affects 90 percent of the threatened species,” said IUCN expert Annabelle Cuttelod, co-author of the report, in a statement released in Spain.

“We need international action to protect key areas and preserve natural habitats to ensure we don’t lose the rich biodiversity in this area,” she added.

[One in six Mediterranean mammals face extinction](#), Agence France Presse, 15 September 2009.

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



Recent Publications

Vol. 12 (2): November 2009

In Print

- **Brombin, C., G. Mo, A. Zotti, M. Giurisato, L. Salmaso and B. Cozzi.** 2009. A landmark analysis-based approach to age and sex classification of the skull of the Mediterranean monk seal (*Monachus monachus*) (Hermann, 1779). *Anatomia Histologia Embryologia* 38, 382–386 (2009) doi: 10.1111/j.1439-0264.2009.00958.x. [[Abstract](#)]
- **De Waele, J., G.A. Brook and A. Oertel.** 2009. Monk seal (*Monachus monachus*) bones in Bel Torrente Cave (central-east Sardinia) and their paleogeographical significance. *Journal of Cave and Karst Studies* 71(1): 16–23. [[PDF](#)  2.3MB]
- **Gucu, A.C.** 2009. Preliminary study on the effects of photo traps used to monitor Mediterranean monk seal *Monachus monachus*. *Endangered Species Research*, [ESR:Biologging Technologies 13](#): 1-5. doi: 10.3354/esr00208. [[PDF](#)  180KB]
- **Gucu, A.C., M. Ok and S. Sakinan.** 2009. *Note*: A Survey of the critically endangered Mediterranean monk seal, *Monachus monachus* (Hermann, 1779) along the coast of Northern Cyprus. *Israel Journal of Ecology and Evolution* 55 (1): 77-82. DOI: 10.1560/IJEE.55.1.77.
- **Hazekamp, A.A.H., R. Mayer and N. Osinga.** 2009. Flow simulation along a seal: the impact of an external device. *European Journal of Wildlife Research* published online: 30 June 2009. doi:10.1007/s10344-009-0293-0. [[Abstract](#)]
- **Silva, M.A., C. Brito, S.V. Santos and J.P. Barreiros.** 2009. Historic and recent occurrences of pinnipeds in the Archipelago of the Azores. *Mammalia* 73 (1): 60–62. doi: 10.1515/MAMM.2009.008.

Reports

- **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]
- **Littnan, C., M. Hill, S. Hargrove, K.E. Keller and A.D. Anders.** 2009. Marine Protected Species, Chapter 6, pages 191-234. In: Friedlander, A., K. Keller, L. Wedding, A. Clarke, M. Monaco (eds.). 2009. A Marine Biogeographic Assessment of the Northwestern Hawaiian Islands. NOAA Technical Memorandum NOS NCCOS 84. Prepared by NCCOS's Biogeography Branch in cooperation with the Office of National Marine Sanctuaries Papahānaumokuākea Marine National Monument. Silver Spring, MD.: 1-363. [[PDF](#)  3.7MB]

- **Notarbartolo di Sciara, G., S. Adamantopoulou, E. Androukaki, P. Dendrinou, A.A. Karamanlidis, V. Paravas and S. Kotomatas.** 2009. National strategy and action plan for the conservation of the Mediterranean monk seal in Greece, 2009-2015. MOm, Athens: 1-19. [[PDF](#)  2.8MB]
- **Notarbartolo di Sciara, G., S. Adamantopoulou, E. Androukaki, P. Dendrinou, A.A. Karamanlidis, V. Paravas and S. Kotomatas.** 2009. National strategy and action plan for the conservation of the Mediterranean monk seal in Greece, 2009-2015. Report on evaluating the past and structuring the future. Publication prepared as part of the LIFE-Nature Project: MOFI: Monk Seal and Fisheries: Mitigating the conflict in Greek Seas. Hellenic Society for the Study and Protection of the Mediterranean monk seal (MOm), Athens. 1-70. [[PDF](#)  3.4MB]

Conferences and Workshops

18th Biennial Conference of the Society for Marine Mammalogy, 12-16 October 2009, Quebec, Canada.

Workshop

Research, Management, Conservation, and Policy in Monk Seal Recovery: A Global Perspective, 10th October 2009.

- **Cedenilla, M.A., P. Fernández de Larrinoa, M. Haye, A. Varea, H. M'Bareck, A. Maroto, L.M. González and M. Muñoz-Cañas.** 2009. Description of adoption behaviour detected in the Mediterranean monk seal (*Monachus monachus*) at the colony of the Cabo Blanco peninsula (Mauritania-Morocco). 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](#)  854KB]
- **Cedenilla, M.A., H. M'Bareck, M. Haya, A. Maroto, M. Muñoz, P. Fernández de Larrinoa and L.M. González.** 2009. Evolution of pup production and pup mortality rate of the Mediterranean monk seal colony Cabo Blanco (Mauritania-Morocco) after a mass mortality episode. 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](#)  364KB]
- **Gobush, K.S., S. Farry and G. Antonelis.** 2009. Detection and deterrence of shark predation on Hawaiian monk seal pups. 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. [Awaiting submission]
- **Gobush, K.S., F. Gulland, R. Braun, G. Johnson and C. Littnan.** 2009. Relieving parasite burden to boost survivorship in juvenile Hawaiian 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. [Awaiting submission]

- **Karamanlidis, A.A., J. Curtis, E. Androukaki, E. Joseph, M. Psaradelli, E. Tounta and P. Dendrinis.** 2009. Isotopic tracking of foraging of Mediterranean monk seals (*Monachus monachus*) in the eastern Mediterranean Sea. 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](#)  2.2MB]
- **Karamanlidis, A.A., V. Paravas, F. Trillmich and P. Dendrinis.** 2009. First observations of parturition and postpartum behavior in the Mediterranean monk seal (*Monachus monachus*) in the Eastern Mediterranean. 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](#)  1.5MB]
- **Kashinsky, L.S. and R.C. Braun.** 2009. Hawaiian monk seal (*Monachus schauinslandi*) tier one disease screening in the Main and Northwestern Hawaiian Islands. 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. [Awaiting submission]
- **Leclerc, D., T. Johanos and T. Wurth.** 2009. Interactive mapping system for *Monachus schauinslandi* (Hawaiian monk seal) sightings data. 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](#)  947KB]
- **Lopez, J.U., B. L. Becker, J.K. Schultz, J. Johanos-Kam and L. Kashinsky.** 2009. Dizygotic twinning in the Hawaiian monk seal. 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](#)  3.7MB]
- **Lowry, L., D. Aurioles, 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. [Awaiting submission]
- **Muñoz, G., A.A. Karamanlidis, P. Dendrinis and T. Jeanette.** 2009. Preliminary research on the aerial vocalizations of Mediterranean monk seals (*Monachus monachus*) native to Greece, Eastern Mediterranean. 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](#)  1.3MB]

- **Muñoz-Cañas, M., M.A. Cedenilla, M. Haya, H. M'Bareck, L.M. González and P. Fernández de Larrinoa.** 2009. Individual identification of the monk seal colony members at Cabo Blanco Peninsula (Mauritania-Morocco). 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](#)  1.1MB]
- **Schofield, D., G. Levine, F. Gulland and C. Littnan.** 2009. The first rehabilitation and release of an abandoned endangered Hawaiian monk seal (*Monachus schauinslandi*) pup in the Main Hawaiian islands. 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](#)  552KB]
- **Spradlin, T. R., S. Murphy, B. Mackey, J. Mcvee, E. Androukaki, E. Tounta, A. A. Karamanlidis, P. Dendrinis, E. Joseph, C. Lockyer and J. Matthiopoulos.** 2009. Age-related mortality of Mediterranean monk seals (*Monachus monachus*) estimated from dental samples. 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](#)  890KB]
- **Thompson, N., A.C. Hiron, C.W. Potter and C. Littnan.** 2009. Trophic structure of the Northwest Hawaiian Islands and resident monk seals (*Monachus schauinslandi*) [sic] during the twentieth century. 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](#)  1.2MB]
- **Wong, M.A., C.L. Littnan and A.W. Trites.** 2009. Hooray for El Niño!? Do climate changes alter the diet of Hawaiian 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](#)  970KB]
- **Wurth, T.A. and T.C. Johanos.** 2009. Changes in distribution and evidence of population growth of the Hawaiian monk seal in the main Hawaiian Islands based on aerial surveys. 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](#)  340KB]

23rd Annual Conference of the European Cetacean Society, Istanbul, Turkey, 2-4 March 2009.

Workshop

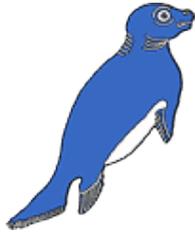
Who are our seals? Moving towards a standardized population estimate approach for *Monachus monachus*, 28 February, 2009.

- **Gucu, A.C. and G. Mo.** 2009. Who are our seals? Moving towards a standardised population estimate approach for *Monachus monachus*. Workshop conducted within the framework of the European Cetacean Society Annual Conference [an event sponsored by RAC/SPA (Tunis) and Pelagos-Monaco (Principality of Monaco)], Istanbul, Turkey, 28 February, 2009: 1-5. [[PDF](#)  162KB]

Workshop Presentations

- **Gazo, M.** 2009. The Atlantic Sahara case study, period 1993-1998. SUBMON – Conservation, Study and Awareness of the Marine Environment, Spain. Presentation at the *Who are our seals?* Workshop, European Cetacean Society Annual Conference, Istanbul, Turkey, 28 February, 2009: 1-5. [[PDF](#)  1.4MB]
- **Hiby, L.** 2009. Monitoring Mediterranean monk seals, a population widely dispersed at low densities. Conservation Research Ltd., UK. Presentation at the *Who are our seals?* Workshop, European Cetacean Society Annual Conference, Istanbul, Turkey, 28 February, 2009: 1-5. [[PDF](#)  88KB]
- **Karamanlidis, A.A.** 2009. 20 years of monitoring populations of Mediterranean monk seals in Greece. MOM/Hellenic Society for the Study and Protection of the Monk Seal, Greece. Presentation at the *Who are our seals?* Workshop, European Cetacean Society Annual Conference, Istanbul, Turkey, 28 February, 2009: 1-6. [[PDF](#)  306KB]
- **Panou, A.** 2009. Monk seal sightings in the central Ionian Sea. A network of fishermen for the protection of the marine resources. Archipelagos – Environment and Development, Greece. Presentation at the *Who are our seals?* Workshop, European Cetacean Society Annual Conference, Istanbul, Turkey, 28 February, 2009: 1-6. [[PDF](#)  242KB]

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