



Department of the Environment
Government of Gibraltar

Issue 9
Spring / Summer 2013

Enviro-Watch

The Environmental Impacts of Beach Littering

Local beaches are popular venues of recreation in Gibraltar and more so during the summer period. Whether it is to enjoy the sea, have an ice-cream by the shore or put on some sunscreen and soak up the sunshine, beaches in Gibraltar certainly become busy over the summer months. However, although all beaches in Gibraltar have litter bins that are serviced on a daily roster, and the majority of beachgoers dispose of their rubbish responsibly, there are still those unfortunately who leave their litter behind. This poses a number of problems as a beach strewn with litter is not only unpleasant and unattractive, but can also negatively impact the environment and beachgoers themselves.

Litter left on a beach is not only an eyesore, but it can also cause injury. People might accidentally cut themselves by stepping on a broken piece of glass, a soft drink can or a sharp piece of plastic.

How does beach litter affect the environment? The answer to this question mainly relates to its impacts on marine life and marine habitats. Litter and debris left on a beach can be blown into the sea and be ingested by marine life as it can be mistaken for a food source.

For instance, plastic bags floating on the sea surface can resemble jellyfish which are a food source for many species of fish and turtles. Once ingested, materials such as plastics can cause considerable harm to a marine animal's digestive system. Beach litter can also cause suffocation, and entangle marine animals. This is especially the case with items such as plastic bags and plastic six-pack holders



Photo: 9-year old Peanut's shell was deformed by a plastic six-pack holder. She is one of the few examples of a pollution survivor. For every Peanut, there are thousands of animals that aren't as lucky.

which can suffocate and entangle marine species.

One of the other problems associated with beach litter is that, once deposited on the seabed, it will take a long time to break down and disintegrate, and will thus remain there for a long period of time.

Making sure you don't leave any litter behind on the beach sounds simple enough but can actually be a bit more difficult when having to carry beach paraphernalia back to your car when leaving, especially for those with children. Although all beaches in Gibraltar have litter bins that are serviced daily, it is perhaps not prudent to have to sprint along the burning sun-baked sand every time you need to throw something. A good idea is to bring your own plastic bag to throw any litter in and later deposit this in the larger litter bins provided. Beachgoers can also reduce their litter by using Tupperware containers and mugs that can be cleaned later rather than using disposable tableware.



Photo: litter left behind at Eastern Beach

Going to the beach is certainly something for all to enjoy. Ultimately though, enjoying the beach should also involve taking care of it and not having to rely on someone else to pick up your rubbish for you.

Highlighting Gibraltar's Uniqueness

Gibraltar is well known for being unique in more ways than one; from a cultural standpoint we are a multicultural society rich in ethnic and religious diversity. Geographically Gibraltar provides a wide range of topographical features - from underwater structures and rich waters to steep coastal cliffs, beaches and intertidal zones, culminating in the Upper Rock Nature Reserve and the adjoining Windmill Hill flats. Throughout these areas diversified habitats have developed which in turn support a rich and assorted number of species; both resident and migratory.

The extent and diversity of habitats present in Gibraltar is not always common knowledge even though some are quite rare. Within the terrestrial extent of Gibraltar's Special Area of Conservation, the main habitats are vegetated sea cliffs of the Mediterranean coasts with endemic *Limonium* spp. (Sea-lavender), Malcolmietalia dune grassland, Arborescent matorral with *Laurus nobilis* (Bay Laurel), Calcareous rocky slopes with chasmophytic (steep slope) vegetation, Caves which are not open to the general public, *Olea* and *Ceratonia* forests, Low formations of *Euphorbia* (Spurge) close to cliffs, and Dunes with *Euphorbia terracina* (carnation spurge). Gibraltar's littoral and marine extent provide fewer types of habitats, although no less biodiversity or richness, due to their inaccessibility and remoteness which provides them with a natural means of protection.

Gibraltar's caves are an example of a rare habitat: they have been forming for thousands of years, and are numerous, with some located below sea level, formed during the ice ages when the level of the sea around Gibraltar was much lower. These caves provide specific and stable conditions for several protected species, such as *Miniopterus schreibersi* (Schriber's Bat) and *Myotis myotis* (Mouse-eared bat).

Gibraltar's bat species have suffered in the past due to the vandalising of caves. Vandalism has not only

disturbed the bats but also the shade and cool environment that cave entrances offer, which provide a home for several interesting plants and ferns including the maidenhair fern *Adiantum capillus-veneris*.



Photo: *Miniopterus schreibersi* (Schriber's Bat)



Photo: *Adiantum capillus-veneris* (Maidenhair Fern)

H.M. Government of Gibraltar has taken steps to try to safeguard the continued survival of these species by limiting opportunities for vandalism. Some caves are therefore closed to the public and have been recolonized by bats.

Gibraltar's Waters and its Visitors

Extending three nautical miles to the East and South of Gibraltar and stretching all the way up to the median line to the West of Gibraltar, the territorial waters of Gibraltar, including the marine Special Area of Conservation and Special Protected Area, has long been recognized as an important marine area due to its rich diversity in species and habitats. Seasonal abundance, due to migratory movements between the Mediterranean and the Atlantic, results in a multitude of pelagic and predatory fish such as Bluefin Tuna (*Thunnus thynnus*) along with cetaceans including the Striped and Common Dolphins as well as occasionally Killer Whales (*Orcinus orca*).

The strong currents and upwellings that are so characteristic of the Strait of Gibraltar result in an abundance and richness of biomass which is transported into the Mediterranean Sea by the Atlantic waters, creating a nutrient rich safe environment for resident and migratory species.

As a result, every year within the Mediterranean and Gibraltar's waters many of nature's astonishing events occur. One of which is the relationship shared between two regular migrants; the Killer Whale *Orcinus orca* and the Bluefin Tuna *Thunnus thynnus*.



Photo: Bluefin Tuna (*Thunnus thynnus*) N. Ferrary

Numerous studies have shown that the three resident Killer Whale pods in the Strait of Gibraltar are capable of catching migrating Bluefin tuna as they pass through the area. This is surprising considering the relatively high swimming performance and endurance of Bluefin tuna. Through a method known as the exhaustion technique, however, Orcas are able to chase these fish to the point of exhaustion.

This enables Orcas to hunt and access food sources which would normally be out of their reach due to manoeuvrability of prey and bursts of speed. Orcas have been recorded at speeds of approximately 25 km/h for periods of 30 minutes whilst chasing Bluefin

Tuna through the Strait of Gibraltar.

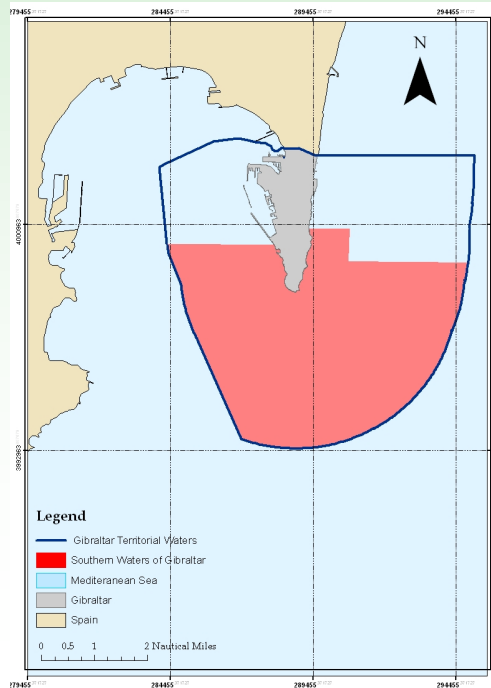


Photo: Killer whale (*Orcinus orca*) N. Ferrary

Crucially both of these species - now classed as critically endangered - and their yearly ritual is under threat from human pressures. However, it is hoped that increased demand for responsibly fished tuna and the prevention of unnecessary killing of whales will help to reduce the current pressures and restore population balances.

Migratory Birds

Gibraltar's Yearly Visitors

The Rock of Gibraltar, and in particular the Upper Rock Nature Reserve is dominated by a dense cover of mostly maquis, with some garrigue. These habitats include many important fruit-bearing shrubs that support large passerine populations during passage periods and in winter.

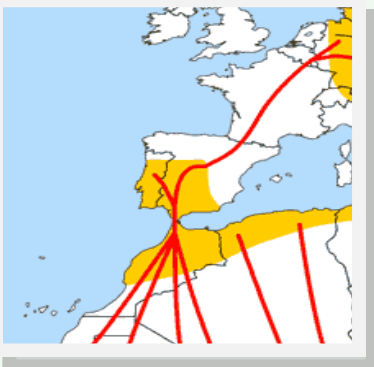


Photo: Scops Owl (N. Ferrary)

Passerines are more commonly known as song birds. Over half of the world's bird species are passerines.

One of the main distinctive features of a passerine bird is that they have four toes, three directed forwards and one directed backwards.

The slopes of the Rock also serve as a staging site for large numbers of passerine and near-passerine migrants. Most migratory western European species can occur at Gibraltar during the northward or southward migration periods. The passerine and near passerine species that occur within the Nature Reserve on migration are numerous, some of which have an unfavourable conservation status within Europe.



Bi-annual migration route

In addition, many migratory birds of prey and storks congregate at the Strait of Gibraltar on their way to and from their wintering grounds in Africa. When

westerly winds blow across the Strait, Gibraltar itself sees the majority of raptor passage during both the pre-nuptial (northerly) and post-nuptial (southerly) migrations, and most of these birds fly directly over the Upper Rock Nature Reserve.

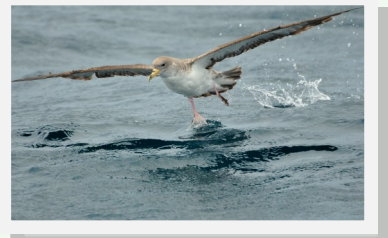


Photo: Cory's shearwater (N. Ferrary)

Minister's Column

The Hon. Minister for Health & the Environment, Dr John Cortes.

Gibraltar is truly a unique location for wildlife, with an amazing diversity given its small size. As Gibraltarians we have a serious responsibility to protect this biodiversity, much of which we share with Europe and Africa, the destination of many of our migrants.

This is a responsibility that we take seriously, and Gibraltar is now widely regarded as one of the countries where environmental protection and sustainable economic development go hand in hand and are least conflictive.

But we must also go out and enjoy our wildlife, our fascinating birds, our unique flowers, our rich marine life and our stunning landscapes, conscious of how special they are and proud of how well we look after them.

**Department of the Environment
Government of Gibraltar**

Duke of Kent House
Line Wall Road
Gibraltar

Tel: 00350 20050294
Fax: 00350 20059833
✉ : info.environment@gibraltar.gov.gi

