

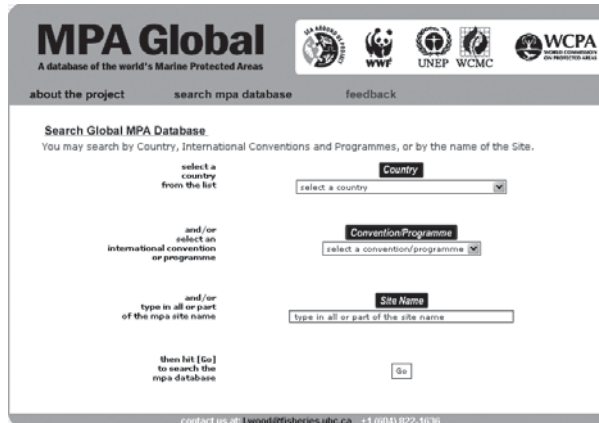
## MPA Global – an online database of the world’s marine protected areas

by Louisa Wood

The Sea Around Us project’s website, [www.seaaroundus.org](http://www.seaaroundus.org), has a new addition: MPA Global, a spatial database of the world’s marine protected areas (MPAs). This

database is the result of a formal collaboration with World Wildlife Fund (WWF) and the United Nations Environment Programme – World Conservation Monitoring Centre (UNEP-WCMC) and constitutes a substantial part of my PhD thesis.

There is an explicit global need for a robust and detailed MPA baseline, such that progress towards a comprehensive, representative global network of MPAs can be readily monitored. MPA Global serves as a means to achieve that global baseline. It was initially developed by extracting the marine information from the World Database on Protected Areas



(WDPA), maintained by UNEP-WCMC and searchable at <http://sea.unep-wcmc.org/wdbpa>. Since then, the structure of MPA Global has been further developed to store and present additional, MPA-specific information explicitly. It also provides for referencing at the field level. The MPA Global website has two main goals:

- To provide information on the world’s MPAs in a clear and explicit format; and
- To solicit feedback on the data contained within MPA Global, so as to improve the global MPA baseline.

MPA Global is currently searchable by country, international convention and

by all or part of the area name, both independently ([www.mpaglobal.org](http://www.mpaglobal.org)), and as part of the *Sea Around Us* website, the latter allowing a view of MPAs as part of a system of information on marine

fisheries and ecosystems. All available information is freely provided for each MPA. Currently, around 5000 sites are listed, of which approximately 3700 are designated under national legal / informal mechanisms and 900 under international conventions. The remainder are of uncertain designation status. The project is currently in a substantial edit and update phase. So, when searching and/or viewing the database, you may notice gaps and/or errors in the information provided. The *Sea Around Us* project would like to extend an invitation to all readers to verify the data currently available in MPA Global for the MPAs with which you are familiar or for

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which you have references. You can do this simply by registering at MPA Global, logging in, and then submitting edits directly online. Registration is open to anyone and required only so that we can attribute every edit submitted in this manner to the person who provided it.

*The addition of data on regulations that apply to an MPA [...] constitutes a substantial part of this project that will add much value to the global MPA baseline*

In the coming months the website and the contents of the database will continue to be improved and updated. For example, a mapping interface showing the location and boundaries of the MPA is currently in development, and we will be adding to the search criteria as the database becomes more populated – e.g. searching for all no-take MPAs, or those that ban trawling. Throughout this process, we welcome your feedback, comments and requests.

Contact:  
**[I.wood@fisheries.ubc.ca](mailto:I.wood@fisheries.ubc.ca)**



## What's included in MPA Global?

There are many widely varying definitions of MPA available, with perhaps the most globally applicable being the IUCN definition ('Any area of intertidal or subtidal terrain, together with its overlying water and associated flora, fauna, historical and cultural features, which has been reserved by law or other effective means to protect part or all of the enclosed environment', IUCN 1988). In considering which definition to apply to MPA Global, we identified two guiding principles:

- 1) **Inclusivity:** MPA Global seeks to be an inclusive database, that can provide comprehensive MPA information to any (and hopefully, all) stakeholders, that is tailored according to their particular definition of MPA;
- 2) **Objectivity:** This is key to the academic integrity of a PhD thesis that seeks, among other things, to assess the current extent of marine protection globally.

MPAs and other spatial resource management tools, such as fisheries closures, may have different objectives and be implemented by different organizations under different frameworks, but their outcomes can also overlap: regulation or restriction of resource extraction over a defined spatial extent. The distinction between the two becomes ever more blurred and their inclusion in, or exclusion from, a list of MPAs becomes increasingly subjective as one descends the protection continuum. We suggest that the differences between them can best be represented in terms of how the space they cover is regulated.

As a consequence, the approach being taken with MPA Global is to broadly follow the IUCN (1988) definition of MPA, but to supplement it with data on how the site is regulated. The addition of data to MPA Global on regulations that apply to an MPA (or, indeed, the lack of regulation) constitutes a substantial part of this project that will add much value to the global MPA baseline.

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IUCN (1988) Resolution 17.38 of the 17th General Assembly of the IUCN. Gland, Switzerland and Cambridge, UK, IUCN.

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Our mailing address is: UBC Fisheries Centre, Lower Mall Research Station, 2259 Lower Mall, Vancouver, British Columbia, Canada, V6T 1Z4. Our fax number is (604) 822-8934, and our email address is [SeaNotes@fisheries.ubc.ca](mailto:SeaNotes@fisheries.ubc.ca). All queries (including reprint requests), subscription requests, and address changes should be addressed to Robyn Forrest, *Sea Around Us* Newsletter Editor.

The *Sea Around Us* website may be found at [saup.fisheries.ubc.ca](http://saup.fisheries.ubc.ca) and contains up-to-date information on the project.

The **Sea Around Us** project is a Fisheries Centre partnership with the Pew Charitable Trusts of Philadelphia, USA. The Trusts support nonprofit activities in the areas of culture, education, the environment, health and human services, public policy and religion. Based in Philadelphia, the Trusts make strategic investments to help organisations and citizens develop practical solutions to difficult problems. In 2000, with approximately \$4.8 billion in assets, the Trusts committed over \$235 million to 302 nonprofit organisations.

# The natural history of the Falkland Islands traced through European expeditions

by M.L. Deng Palomares and Elizabeth Mohammed

In June 2004, a Tegner Memorial Grant was awarded to the first author, through the Marine Conservation Biology Institute (MCBI), to document the abundance of marine organisms observed by the great European oceanographic expeditions. This project aims to gather qualitative information on the abundance of marine organisms from narratives of

these early expeditions, render them in an analyzable format and finally use them to map trends of observed abundances in a specific locality over time, the final objective being to provide an older baseline of the biodiversity and abundance of marine organisms. Given that the sources of information form an enormous pile, we had to focus on one geographic region. We chose the Falkland Islands.

landings were made and most descriptions were cartographic; no particular attention was given to the natural history.

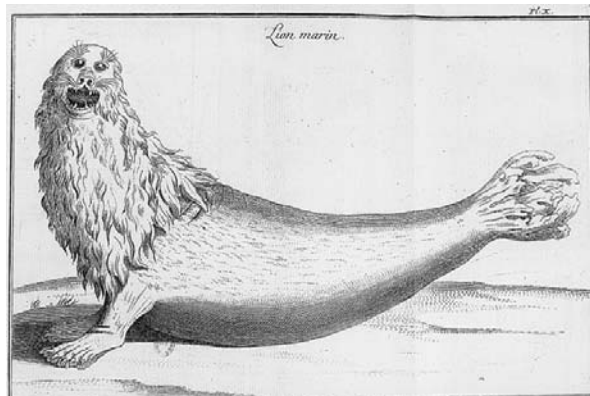
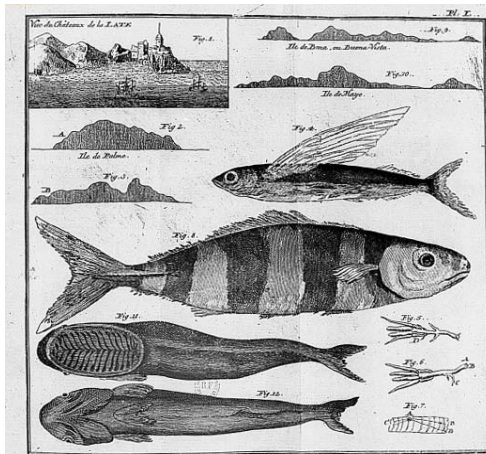
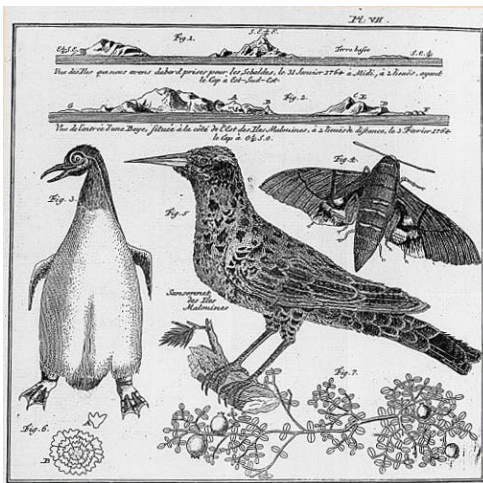
The discovery of the Falkland Islands is attributed to Captain John Davys of the *Desire*, of the second 'privateering' expedition of Thomas Cavendish in 1591-1593 (Pepper 2001). After wintering in the Magellan Straits, on his way home to England, on 9 August 1592, blown by stormy weather, Davys' fleet was 'driven in among certaine isles never before discovered [...] lying fiftie leagues or better from the Shoare East and Northerly from the Streights [...]' (Boyson 1924).

Except for describing how they replenished supplies, most privateering expeditions paid little attention to the natural resources of these islands. Most of the earlier narratives mention that the Falklands were 'barren'

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The first cartographer to plot the Falklands, marked as "Insule 7 delle pulzelle," was Martin Waldseemüller in 1507 on the first map to bear the name of *America* (Haeber 2003). Sixteenth century Spanish, Portuguese and English navigators knew of these islands as the *Yslas de Sanson* (Boyson 1924). No

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Plates from the voyage of de Bougainville to the Malouine (or Falkland) Islands made in 1763 and 1764. Reproduced from Pernetty 1773.



*Falklands - Continued from page 3*  
in that the islands provided little or no wood, and there was no access to freshwater. However, seabirds, e.g., penguins, and seals were observed as 'extremely abundant' – expectedly so, as these are animals that are easily seen.

Sebald de Weert, vice-admiral of a Dutch fleet on board the *Blijde Boedschap* wrote: "They here saw vast numbers of those birds called 'plungeons' or divers, because they dive into the water

to catch fish [probably penguins, given that they were at Penguin Island at the time of observation, but could also refer to diving petrels]. *They killed there ten or fourteen of them with sticks, and might have killed as many as would have served the whole fleet* [5 ships at 100 men each would have amounted to 500 mouths to feed], *but would not lose the opportunity of a fair wind"* (p. 133 of Kerr's 1824 interpretation of Sebald de Weert's observations upon arriving at Penguin Isle on 6 April

1599; see other de Weert anecdotes at the *Sea Around Us* website: [www.seararoundus.org](http://www.seararoundus.org)).

The English William Dampier on board a buccaneer's ship in 1684 wrote the following: *January 28<sup>th</sup> we made the Isles of Sebald de Weert [...] where we found foul rocky Ground, and the Islands barren, and destitute of trees, but some Dildo-bushes growing near the Sea-side. We saw the same day vast shoals of small red Lobsters, no bigger*

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*The current project is intended to provide a baseline on catches in the Canadian Arctic coastal region*

## Arctic and Philippine collaboration

Visiting scientist, Paul Watts was invited to the Fisheries Centre from January 31- March 3 2005 to work on two projects: a summary of fisheries harvest in the Canadian Arctic and a scientific/cultural orientation for a two year volunteer placement in the Philippines through the Volunteer Service Overseas (VSO). Vancouver is also a great place to adjust between -35°C and +35°C! These projects have been greatly advanced by the logistical and scientific support at the Fisheries Centre, particularly those working on the *Sea Around Us* and *Project Seahorse*. The Fisheries Centre is also an excellent location to look at comparisons in both fisheries and marine management on a global scale and to consider common issues.

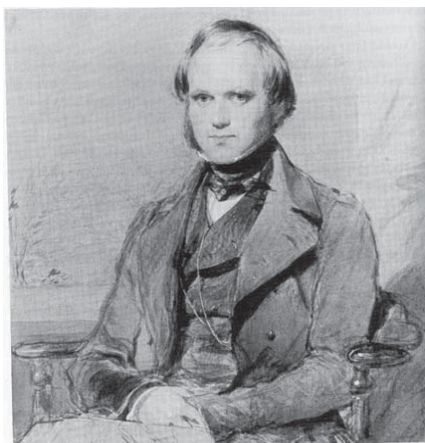
Previously, Canada's perspective on Arctic fisheries has evolved primarily through local interest in subsistence harvest and regional economic initiatives. Information on for these activities has often been incomplete both in terms of limited geographic application and as a result of defined mandates for specific datasets. The current project is intended to provide a baseline on catches in the Canadian Arctic coastal region through comparative analysis of existing reports on subsistence and commercial catch. The final result will be to transform community-based records from about 50 settlements and to put the information into a format that will be compatible with global *Sea Around Us* datasets.

As a volunteer coastal resource manager going to the Philippines, Watts will have the opportunity to work with communities, NGOs and government agencies on the efforts to advance a holistic approach to sustainable resource use, local capacity building and other related considerations. He feels that the history of Fisheries Centre programmes in the Philippines and *Project Seahorse* provide an ideal environment to learn about the country, as well as the resource sectors and different levels of intervention that are occurring. Prior to coming to the Centre, he felt that this invitation would be a great opportunity to obtain information before starting his in-country cultural and language training. The experience has surpassed his expectations. He looks forward to next time.

*Paul Watts has a background of research on single animal energetics and behavioral ecology of large Arctic mammals and has also worked on educational, health care and business development in the north. His current research interests include beluga whale ecology, ethnoecology and the development of community based research/management.*

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than one's Finger [...]." Boyson (1924) identifies this as a shrimp, *Munida surugosus*, "much liked by whales and penguins." The genus *Munida* belongs to the decapod family of squat lobsters, Galatheidae, and the species occurring in the Falklands is *Munida subrugosa*, with benthic adults but planktonic larvae (Tapella *et al.* 2002). However, the swarming description might refer to what is now termed as 'lobster krill' (usually *Munida gregaria*, but also other species of *Munida*) occurring in the diets of sea lions, *Otaria flavescens* (Thompson *et al.* 1997) and penguins (Clausen and Pütz 2003).



1840 portrait of Charles Darwin, age 31, by George Richmond.

The first recorded landing was not until 28 January 1690 when the British captain, John Strong, anchored at Bold Cove, Port Howard, where he wrote: "[...] this land doth show like a great many Islands [...] there is several keys that lye along shore. Wee sent our boat on Shoar to one of them and they brought on board abundance of Pengwins and other fowl and Seals [...]." Strong named the islands after the Viscount of Falkland, one of the owners of his ship, the *Welfare* (Boyson 1924; Pepper 2001).

At the end of the 17<sup>th</sup> century, French seafarers, quietly establishing an extensive trade with South America, used the islands as their base, which they called *îles Malouines*, after St. Malo, a city in northwestern

France (Boyson 1924). French activity in the southern seas led to the establishment of a French colony at Fort St. Louis (named after the ship *St. Louis* commanded by Jacques Gouin de Beauchêne which landed there in 1698) in the East Falkland by Louise-Antoine Comte de Bougainville (Pernetty 1773; Taillemite 1997).

Bougainville's stay (1763-1764) and successive voyages (1766) to the Falkland Islands provided science not only with detailed descriptions of aquatic and terrestrial life but also of their abundance (Bougainville 1771; Pernetty 1773). Our analyses (see documentation of Bougainville's expeditions at [www.seaaroundus.org](http://www.seaaroundus.org)) show that half of these descriptions represent observations on the abundance of birds (mostly seabirds) and fish (mostly marine). About 43 % describe the commonness of invertebrates, seaweeds, herbs and shrubs and about 5 % describe the rarity of reptiles. The French relinquished the islands to the Spanish in 1767, and from then on the islands were known by the Spanish name of *Malvinas*. In the early 1830s, a successful colony of 'cowboys', the 'gauchos', was exporting dried beef (and salted fish) to Brazil and wool to London (see

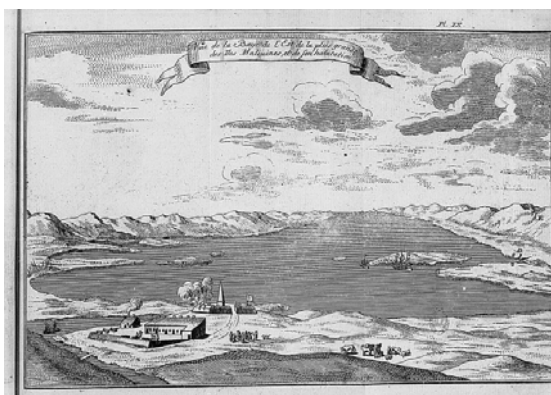


Plate from the voyage of de Bougainville to the Malouine (or Falkland) Islands made in 1763 and 1764. Reproduced from Pernetty 1773.

[www.falklands.info](http://www.falklands.info)). However, the British reclaimed the islands, renaming them the Falklands, and in the 1840s the population of 'gauchos' was replaced by settlers from England (Cawkell 2001). This era marks the beginning of the exploitation of terrestrial and aquatic resources, though American sealers were already slaughtering the seal populations around the islands since the late 1820s.

Charles Darwin's visits to the islands in 1833 aboard the *Beagle* and again in 1834 provided a rich collection of specimens along with notes, his and those of Captain Robert Fitzroy and Syms Covington (Darwin's servant), describing the islands' natural resources. Upon arriving, Darwin found the islands 'desolate' being "universally covered by a brown wiry grass, which grows on the peat [...] & excepting snipes & rabbits, scarcely any animals" (Armstrong 1992). Covington, on the other hand, found "[...] low Bushes with red berrys [sic] which are very good eating [...]" and "[...] enormous numbers of Bullocks Horses & Pigs [...] Rabbits, wild geese & Ducks [...] & most excellent Snipe Shooting in the Marshy ground & Long grass, which the Island in general is very little else."

Charles Darwin's visits to the islands in 1833 aboard the *Beagle* and again in 1834 provided a rich collection of specimens ...

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But the islands were not desolate after all. They had "[...] an immense quantity & number of kinds of organic beings which are intimately connected with the Kelp [...] the infinite number of small fish which live amongst the leaves [...] Crustacea of every order swarm, [...] Encrusting Corallines & Aztias are excessively numerous [...] The number of compound & simple Ascidia is a very observable fact [...]

*We have yet to exploit the big pile of books of expeditions to the Falklands as we have only seen the tip of the iceberg*

*Heurobranchus is common: but Trochus & petalliform shells abound on all leaves [...]."* Darwin believed that these islands would "[...] become a very important halting place [...]" with "[...] fine harbors, plenty of fresh water & good beef [...]" (letter to Caroline Darwin, 6 April 1834; cited in Armstrong 1992). However, as the islands became colonized, rare, endemic and exploited species of the islands (e.g., he was here referring to the Falkland fox ('warrah')) "[...] will be ranked among those species which have perished from the face of the earth." (Darwin, 1839-1843).

We have yet to exploit the big pile of books of expeditions to the Falklands as we have only seen the tip of the iceberg. Our goal is to further assemble accounts of organisms occurring in the Falkland Islands from these early narratives in order to have a more representative documentation not only of the observed occurrences of species, but also their relative abundances. So far, our relatively 'scanty' data (from only 7 major references though it now numbers 250 records) show that, in the period 1590-1790, most observations mention a general abundance of seabirds, an expected result – a reason why

some islands are named after them, e.g., Penguin Island (one in the Falkland archipelago and one in the Straits of Magellan). We hope to show other trends, e.g., rarity of some species groups which have since disappeared from these islands or are currently under threat of extinction. More results will be available this winter through the *Sea Around Us* website.

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