Project Seahorse

2011 Annual Report

Project Seahorse
ADVANCING MARINE CONSERVATION
SOMETIMES, THINKING BIG MEANS STARTING SMALL.

Seahorse small. Project Seahorse’s conservation work — our cutting-edge research, our always-pragmatic policy recommendations, our trade detective work — begins with these charismatic animals, who face many of the same threats and benefit from the same protections as a vast array of marine life.

In 2011, we published a landmark global analysis of their threats and conservation, as well as new research on seahorse genetics and reproductive behaviour. We also made policy recommendations to global trade management authorities that will increase protection of the seven species of greatest concern. In addition, we organized international symposia which brought together leading scientists to tackle the problems of trade, conservation, and management.

Our friends and supporters will, of course, be familiar with our mantra: Saving seahorses means saving our seas. Using our expertise as the world’s leading authority on seahorses and their relatives, we find broader conservation solutions to some of the most intractable problems facing our oceans today — with a particular focus, in 2011, on coastal marine ecosystems.

This year, Project Seahorse has been arguing that marine conservation should focus on the terrifically biodiverse and vitally important shallow seas where waters are less than 10 m deep. It’s where so many of us live, work and play, and where unsustainable human activities such as overfishing, pollution, and sea filling are most acutely felt. It’s also where people might be brought to care about marine life, not least because these are their ocean neighbourhoods.

Resolving problems in the shallow seas would do much for our oceans. In support of this push, we published a well-received article that calls for collective action to protect our dwindling coastal marine resources. We also organized international talks and symposia that engaged excellent conservation minds in developing a shallow seas concept. Now we need to take the next steps in developing a programme to mobilize millions.

We don’t just talk shallow seas. This year, in partnership with Selfridges, we established the largest marine protected area on Danajon Bank, a rare and threatened double barrier reef system in the Philippines. Further, we published new research on coastal marine planning, including an important study showing that MPAs established by local communities can protect marine species and habitats as, or nearly as, effectively as those established using rigorous scientific planning tools. Pragmatism and rigour remain the hallmarks of our work, as ever.

On behalf of everyone at Project Seahorse, I extend heartfelt thanks to our amazing supporters and collaborators for your engagement and contributions. You are very important to us.

Yours, in conservation,

Dr. Amanda Vincent
Director and co-Founder
Project Seahorse
Did you know?

Many seahorse species are monogamous. Their unusual life history — they pair-bond for life and only the male becomes pregnant — offers an excellent opportunity to increase our understanding of reproductive ecology.

Project Seahorse researchers were the first to study seahorses underwater and the first to identify the scope of the threats they face from overfishing and trade. Because these fascinating and charismatic animals suffer from the same pressures and benefit from many of the same interventions as other marine life, our work to understand and protect them supports marine conservation more broadly.

Our Work:

Understanding seahorse genetics

- “THE SHORT-SNOUTED SEAHORSE IS AN INCREDIBLY ADAPTABLE ANIMAL, AND REALLY VERY DIFFICULT TO FIND,” says Project Seahorse researcher Dr. Lucy Woodall. “With a lot of time and patience, I found them in cold and warm water, clinging to seagrasses and rocky seawalls, drifting along sandy bottoms, even attached to ship anchor chains and pieces of discarded plastic.”

As part of her research into seahorse genetics, Woodall spent three years studying the short-snouted seahorse (Hippocampus hippocampus), one of two native European species. Found in small and isolated colonies in northern Europe, the Mediterranean, and the Atlantic coast of West Africa, it is an ideal species for the study of how seahorse populations change and adapt over long periods of time.

As the recognized global authority on seahorses, Project Seahorse has pioneered the study of seahorse biology, life history, taxonomy, trade, and conservation threats. The fact remains, however, that seahorses are very difficult animals to study in the wild, thanks to their small size and chameleon-like ability to blend into their surroundings.
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Diving all over Europe, Woodall set out to understand how seahorse populations interact and how interbreeding between populations, or a lack thereof, could affect the species’ ability to recover from overfishing, pollution and other human pressures.

She discovered that the genes of short-snouted seahorse populations remained remarkably stable over many generations — there was little to no interbreeding between most colonies studied. In other words, short-snouted seahorses can migrate or disperse from where they are born, but do so rarely.

“So, even though these animals can adapt to different habitats,” says Woodall, “they remain vulnerable to human pressures. Without a fresh influx of genes (seahorses from other populations), a colony would not recover quickly or easily if its numbers are depleted. They just don’t have enough interaction with other populations. As a result, inbreeding and all the complications that entails, would become a risk.”

Woodall’s research, coupled with her survey of the demographics of the short-snouted seahorse over its entire range, has a number of implications for the species’ conservation and management. These animals are more vulnerable than their range and variety of habitats would suggest, and, given their genetic isolation, special care must be taken to protect individual colonies, rather than a broad-based, one-size-fits all approach.

Her work will also inform captive breeding programs, ensuring that aquarium-bred seahorses remain genetically robust.

Learn more about Dr. Lucy Woodall’s research at www.projectseahorse.org/seahorse-biology-ecology

SNAPSHOTS

Landmark seahorse research
In 2011, the Journal of Fish Biology published a special issue devoted entirely to seahorses and their relatives. The issue featured “Conservation and management of seahorses and other Syngnathidae,” our landmark analysis of human and other pressures on seahorse populations and conservation responses. Other important Project Seahorse studies included work on seahorse tagging methods, photo identification of seadragons (a seahorse cousin), and Dr. Woodall’s study of seahorse genetics.

Syngnathids symposium
Together with John G. Shedd Aquarium and Monterey Bay Aquarium, Project Seahorse convened an international meeting on the future of seahorses and their relatives (Syngnathidae). The event attracted over 90 researchers, conservationists, aquarists, and resource managers to share new ideas and discuss conservation and sustainability, breeding and population management, nutrition, medical care, aquarium exhibit design and management, and legislation and trade of these animals. Project Seahorse’s Dr. Heather Koldewey delivered a keynote speech on the global conservation status of syngnathids, as well as a workshop on setting regional priorities for syngnathid conservation around the world.

New website and video appeal
This year Project Seahorse launched a new website. The most comprehensive resource for seahorses and their relatives on the web, www.projectseahorse.org features educational videos, photo essays, seahorse species profiles, as well as a comprehensive archive of all Project Seahorse research published to date. We also launched Facebook and Twitter pages that bring our latest photos, research, and fun facts to thousands of people every week.
SECURING SHALLOW SEAS

Did you know?
The world’s coastal ecosystems are home to a huge diversity of marine species, including seahorses. They are also an important source of food and income for the 2.5 billion people who live near them. Unfortunately, 35% of mangroves, 30% of coral reefs, and 29% of seagrasses have been degraded or destroyed worldwide due to unsustainable use.

Project Seahorse has catalyzed the creation of 34 marine protected areas (MPAs) on Danajon Bank, a rare and threatened double-barrier reef ecosystem in central Philippines. Our cutting-edge research helps to make MPAs around the world more effective.

Our Work:
Putting communities at the forefront of conservation

“Only about 1.2% of the world’s oceans are currently protected from harmful human activities such as overfishing and pollution. We need to scale up MPA coverage,” says Gretchen Hansen, lead author of a recent Project Seahorse paper. “Unfortunately, high levels of scientific rigour are not always possible, especially in developing-world contexts where urgent threats such as overfishing, pollution, and harmful practices such as blasting must be addressed as quickly as possible.”

Continued
As part of our ongoing effort to make MPAs more effective and easier to establish, Hansen compared the impact of MPAs initiated scientifically — that is, through rigorous research and planning — to those based primarily on input from local communities. Her study site was Danajon Bank, a rare and ecologically important double-barrier reef system in central Philippines, where Project Seahorse has catalyzed the creation of 34 no-take MPAs over the past 15 years.

“When we started out, we had very few data about fish populations and habitats in the region. So we asked communities where they thought the MPAs should be, based on their preferences and experiences. This is different from — and probably faster than — the way most MPAs are planned. Usually biological analysis drives the process,” says Dr. Amanda Vincent, one of the study’s co-authors. “We then checked to see whether these community-designated MPAs succeeded in protecting marine life, and we discovered that they did. Project Seahorse always makes a point of measuring its conservation actions.”

The study, which was published in the June 2011 issue of Biological Conservation, shows that the MPAs that emerged from this community planning process actually created ecological protection across Danajon Bank that was almost as good as if we had, in fact, focused on technical information. Usually biological analysis drives the process,” says Dr. Amanda Vincent, one of the study’s co-authors. “We then checked to see whether these community-designated MPAs succeeded in protecting marine life, and we discovered that they did. Project Seahorse always makes a point of measuring its conservation actions.”

The results are a boon to conservationists and resource managers around the world.

“What our work shows,” says Hansen, “is that we can act boldly when it comes to MPAs. Working together, conservation scientists and local communities can respond much more quickly and effectively than previously thought.”

Learn more about our marine protected area work at www.projectseahorse.org/marine-protected-areas

A clarion call for conservation

In the autumn 2011 issue of Aquatic Conservation, Dr. Amanda Vincent published an influential editorial that calls on marine scientists and conservationists to focus on shallow seas — the coastal areas where many of the world’s most threatened marine habitats and species can be found — as a lightning rod for public engagement. The gist of the article was then reprinted in Conservation Magazine and continues to circulate online.

Shallow seas at ZSL and IMCC

In 2011, Project Seahorse team brought together the world’s leading thinkers on coastal marine conservation to discuss ways of generating public awareness of the threats these habitats face, as well as solutions to the threats themselves. At the International Marine Conservation Conference in Victoria, Canada, we hosted a Shallow Seas Symposium where we considered how the concept might apply to mangroves, estuaries, seagrasses, corals, and other at-risk habitats. We also convened a scientific panel on the shallow seas concept at ZSL.

New marine protected area on Danajon Bank

In partnership with UK luxury department store Selfridges, Project Seahorse established the largest marine protected area to date on Danajon Bank, Philippines. The size of 33 Selfridges stores — about 52.6 hectares — the MPA will provide a safe haven to endangered corals and mangroves.

MPA workshop in Philippines

Project Seahorse shared its extensive scientific work on MPAs in the Philippines with Filipino colleagues in a two-day meeting entitled “Ever More, Ever Better.” The papers and ensuing discussions focused on new ways of streamlining marine resource management, scaling up marine protected areas, and forging alliances that extend throughout Filipino society, including faith-based groups and other organizations not traditionally associated with conservation.
Cleaning Up Fisheries & Making Trade Sustainable

Did you know?

Many millions of seahorses are traded globally per year. They are used in traditional Chinese medicine, aquarium displays, and as curios.

In 2002, Project Seahorse played a key role in the creation of a landmark international agreement that forbids countries to export more seahorses than wild populations can bear. Today, we monitor the international seahorse trade and act as the IUCN Red List Authority on seahorses and their relatives. Our work helps governments and fishers around the world to use their marine resources sustainably.
IN 2002, PROJECT SEAHORSE HELPED TO
generate landmark trade protections for seahorses and
their relatives under the UN Convention on International
Trade in Endangered Species (CITES). Currently
encompassing 175 countries around the world, this
important agreement was the critical first step toward a
sustainable global seahorse trade.

“The challenge with CITES,” says Dr. Amanda Vincent,
Director of Project Seahorse, “is that every country that signs
on to the agreement does so voluntarily. They want to be
seen as good global citizens who are doing the right thing.
As such, you have to work closely and carefully with them,
making sure they understand what’s at stake if they don’t
protect their endangered species.”

Vigilant monitoring is key, and that’s where Project Seahorse’s
team of trade detectives comes in. Every year we turn our
trade research and analyses into policy recommendations
and technical advice to governments and international
bodies such as CITES and the International Union for Conser-
vation of Nature (IUCN)’s Red List of Threatened Species.

Through our study of the biology, ecology, life history, and
trade volumes of seahorses, we have identified a number
species of particular concern in the Indo-Pacific, where
countries such as Thailand export millions of animals every
year, and in West Africa, an emerging market.

“At the moment, we’re particularly interested in Hippocampus
algaricus, the West African seahorse. Our research shows that
number of animals in trade has risen dramatically over the past
few years, to exports of about 600,000 seahorses annually.”

In 2011, Dr. Vincent brought our analysis to the CITES Animal
Committee, which convenes annually to advise governments
on technical issues related to protecting animals under the
Convention. Based on our recommendations, seven seahorse
species have been designated for special attention over the past
two years, among them the heavily traded long-nosed
seahorse \(H. \text{trimaculatus}\), hedgehog seahorse \(H. \text{spinosissimus}\), and great seahorse \(H. \text{kelloggi}\).

“Thanks to our recommendations,” says Dr. Vincent, “countries
all over the world have been asked about the scientific informa-
tion that justifies their exports of seahorses, with a particular
focus on nations in the Indo-Pacific and West African nations
such as Senegal, Gambia, and Guinea.” Further trade research
in Senegal and Guinea is planned for 2012.

Learn more about our trade work at
www.projectseahorse.org/sustainable-trade

Our Work:
Making trade sustainable in
West Africa and the Indo-Pacific

Sustainable seafood campaign in the United Kingdom
Teaming up with Selfridges and the Zoological Society of Lon-
don, Project Seahorse helped launch ‘Project Ocean,’ a sustain-
able seafood campaign targeted at UK consumers. Combining
our science with the public reach of one of the world’s most
iconic department stores, we contributed to a month-long series
of educational talks, events, and window displays that educated
the British public about the crisis facing the world’s oceans. As
part of the campaign, Selfridges agreed to become the UK’s first
major food retailer to stock only sustainable seafood.

CITES symposium at IMCC
At the 2011 International Marine Conservation Congress, one
of the largest and most important global meetings of marine
scientists and conservationists, Project Seahorse co-organized a
symposium on the trade in marine species. Using the example of
seahorses and other commercially valuable species, the sympo-
sium explored how international conventions and legal instru-
ments such as the Convention on International Trade in Endan-
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Fisher in a makeshift boat, Danajon Bank, Philippines.
Eulalio Guib/Project Seahorse

Learn more about our trade work at
www.projectseahorse.org/sustainable-trade
TRAINING CONSERVATIONISTS

Did you know?

Project Seahorse has trained over 160 professional conservationists since its founding in 1996. Our volunteers, students, and staff have built impressive, influential careers in conservation, making a difference as members of the Project Seahorse team and beyond — as policymakers, activists, and scientists in every region of the world.

PhD student Kerrie O’Donnell works with community members on a research project in the Philippines.
K. O’Donnell/Project Seahorse
ALUMNA PROFILE: DR. NATALIE BAN

Since completing her PhD with Project Seahorse in 2008, Dr. Natalie Ban has continued her work on conservation biology and planning as a postdoctoral fellow at James Cook University, Australia. She recently accepted the position of Assistant Professor in the School of Environmental Studies at the University of Victoria, Canada.

When did you first become passionate about the ocean and about conservation?
I’ve been passionate about the oceans ever since I can remember, but I suspect it was childhood vacations to the Mediterranean Sea in Spain that inspired my love for the ocean.

How did you become involved with Project Seahorse?
I studied with Project Seahorse for five years (2003-2008) while carrying out my PhD. The most valuable aspect of being part of Project Seahorse was the enthusiasm, inspiration and commitment to conservation by fellow PS students and staff. Project Seahorse inspired me to start – and continue – with applied conservation research that takes into account the needs of ecosystems and people.

Tell us about your career path, post-Project Seahorse.
Upon finishing my PhD, I took up a research fellow position in Australia, at the Australian Research Council Centre of Excellence for Coral Reef Studies at James Cook University. At James Cook, I have explored how conservation planning can be improved to protect biodiversity while minimizing impacts on humans. The field of conservation planning focuses on identifying areas important for protection of biodiversity. My research focuses on linking and ecological and social considerations in marine conservation planning.

From your professional perspective, what are the most important conservation issues we face as Canadians and/or as global citizens?
Broadly speaking, the most important conservation issues we face are connected to ever-growing human populations and consumption, which continue to result in habitat destruction, climate change, and so on.

How can conservation organizations, governments, and civil society better work together to resolve these issues?
All aspects of our decision-making, from those taken by businesses, governments, and individuals, must consider the environmental impact, and in turn what that will mean for the well-being of future generations.

Why are organizations like Project Seahorse important? How do they fit into the bigger picture of marine conservation?
Organizations like Project Seahorse are important because they bridge the gap between science and practical conservation. They find ways to make conservation rigorous yet effective and community-friendly.

WHERE ARE THEY NOW?

Dr. Nick Hill
Since completing his thesis in 2011, former Project Seahorse PhD student Nick Hill has joined the Zoological Society of London’s conservation team, where he manages a pilot project that turns discarded fishing nets into carpet products, creating new livelihood opportunities for fishers.

Dr. Julia Baum
Former volunteer and summer student Dr. Julia Baum joined the University of Victoria’s biology department as an assistant professor in 2011. Her current research focuses on remote Pacific coral reefs and on north temperate marine ecosystems.
Publications


Project Seahorse in the News

Highlights from our media coverage in 2011:

BBC “Spotting Weedy Seadragons of Australia” (June 13, 2011)

“Saving the Quirky Seahorse” (Aug. 22, 2011)

“Seahorses: Freaky Fish” (Sept. 15, 2011)

“Shallow Argument” (Oct. 3, 2011)

“Seahorses: Marvels of the Sea” (Oct. 13, 2011)
Thank you for your support

Our partners and home institutions

The University of British Columbia’s Fisheries Centre hosts most of Project Seahorse’s international team. Project Seahorse Director Dr. Amanda Vincent is a member of the UBC faculty and holds the Canada Research Chair in Marine Conservation. www.fisheries.ubc.ca

The Zoological Society of London hosts Project Seahorse’s UK team. Project Seahorse Associate Director Heather Koldeway is also Section Head, Global Programmes, at ZSL. www.zsl.org

Our major sponsors

Guylian Belgian Chocolate is a major sustaining sponsor of our research and marine conservation projects around the world. Its commitment to marine conservation is matched only by the excellence of its chocolates. www.guylian.be

The John G. Shedd Aquarium has worked in partnership with Project Seahorse since 1998, supporting a variety of programs including core operations. www.shedd.org

Our donors

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Our volunteers

Colin Ankerson (Canada)
Terry Bauer (U.S.)
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