

Mapping UNSW Impact

Global Development

Primary SDG	14: LIFE BELOW WATER
Broad theme	Improving urban marine life and water in harbour cities
Research	Investigating water quality and marine infrastructure in urban harbours, and coming up with green solutions and strategies to improve marine life and water quality
Impact region	Indonesia, Nigeria (tbc)
Faculty	Science
School/Institute	School of Biological, Earth and Environmental Science
Academic	Professor Peter Steinberg
Project partners	The Sydney Institute of Marine Science (SIMS)
	NSW Government, Ian Potter Foundation and the SIMS Foundation - \$1.5 million in funding over three years, funding ends mid-2018
Related SDGs	6: Clean Water and Sanitation
	11: Sustainable Cities and Communities

Elevator pitch

A World Harbour Project, where UNSW is a key partner, can restore water quality and marine life in urban harbours that are heavily developed and polluted, enhancing human interaction with the water and encouraging economic development surrounding it.

The Challenge: How do we clean up polluted harbour water?

Because of residential and industrial development, harbour waters in cities are often polluted, causing natural habitats under water that support native flora and fauna to be lost. Harbour areas devoid of fish and other marine life become deserts, leaving pollutants to accumulate in the water and sand and remain there for decades.

UNSW's solution: Create green infrastructure and marine life under water

The World Harbour Project (WHP) is an initiative of SIMS, a partnership between four major Sydney universities and several State Governments. Peter is Director of SIMS. When it launched in 2014, the WHP initially targeted 14 cities around the world where there was inadequate urban marine life and local motivation to clean up harbour waters. The WHP now encompasses 26 world cities, including Jakarta where rising sea levels from climate change and subsidence in land are affecting poor communities and infrastructure on land.

For each targeted city, the WHP assesses the health of water, monitors contaminants, designs new “greener infrastructure”, and restores habitats by adding shellfish or kelp forests. These actions attract fish and sea life, enhancing the diversity of life under water and improving water quality.

With further funding, Peter would like to expand water testing techniques using microbes, scale up green engineering strategies, research the monetary value different users place on harbours, and educate harbour users in urban marine sustainability. WHP can work with any developing city in the world where there is the local motivation.

The Impact: Improve water quality, human interaction with water, and economic growth around harbour

WHP’s work furthers understanding about the human impact on marine life and how to use flora and fauna to improve water quality and achieve marine sustainability. Healthier waters attract recreational activities, such as fishing, and businesses looking to establish themselves in or around the water. This could have economic benefits for developing cities like Jakarta, and improve the quality of life for people in the vicinity of the harbour.

Researcher

Professor Peter Steinberg is Director of SIMS and a Visiting Professor at Nanyang Technological University. At a time when most people on the planet live near the coast or in cities, he was inspired to set up the WHP to address issues of marine sustainability and resilience in places where they impact people most: coastal cities.

Ben Falkenmire 25.09.17