



Photo by Juan Mayorga



SUCCESS
stories

PURSUING THE WIN-WIN-WIN

IN THE GALÁPAGOS, A GROUP PROJECT SEEKS TO BALANCE FISHING, CONSERVATION, AND TOURISM

The Galápagos archipelago is world-renowned for its unique flora and fauna and for inspiring Charles Darwin's Theory of Evolution. The importance of the islands as a living laboratory of evolution and the home of species and ecosystems found nowhere else on Earth has been officially recognized by UNESCO, which designated Galápagos a World Heritage Site in 1978.

For the past few years, Bren School dean, Steve Gaines, and Bren professor Christopher Costello have been supporting the Ecuadoran government in redesigning the Galápagos Marine Reserve to better balance commercial fishing, conservation, tourism, and development. It has been a classic Bren School challenge of finding the win-win-win solution to achieve more conservation and greater fishing yields while increasing income for local residents.

Part of the government's approach has involved establishing new marine no-take zones (NTZs) in the reserve, which previously lacked protection, but doing it in a way that would not adversely affect local fishermen.

In 2015, with the National Geographic Pristine Seas project as its client, a Bren Master's Group Project joined the effort, spending nine months to help determine where one or more NTZs should be located.

Using government-supplied data, the five students quantified tourist visits to various sites and identified the relationship between the ecological characteristics of each site and the revenue it generated. After identifying three prospective new NTZs, the team assessed the fishing profits associated with each site to identify the costs fishermen would bear if the areas were closed to fishing. Finally, the students explored how to leverage tourist fees to offset those losses.

Their key finding was dramatic and powerful: the total cost to fishermen of closing *all three* of the NTZs would be \$200,000 per year, and that could be completely covered, with revenue to spare, if every international visitor to the islands paid *just one extra dollar* upon entry. The fee would generate enough extra revenue not only to compensate fishers directly, but also to improve monitoring and enforcement of protected areas, thus enhancing the likelihood of long-term success.

In March 2016, as a result of the work done by Bren students and many others, three new NTZs comprising 44,000 square miles were established, one in each of the three areas the students had identified. Protection was provided for fully one-third of the Galápagos Marine Reserve. Through a nearly year-long collaboration that involved analyzing and assessing vast amounts of data and working with disparate stakeholders, the Bren School students had done what Bren students do: they helped to solve a problem and increase the chances for a prosperous and sustainable future.