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Lobsters are considered a great delicacy by many people and feature as the most expensive dish in any city menu. However lobsters have become scarcer in Panama over the years because of overfishing. An interesting project set up in Boquete may have the solution to this problem. The following article by Dr Bill McGraw, Aquaculture and Environmental Scientist, explains what is happening: [caption id='attachment\_71081' align='aligncenter'

width='600'] Lobster farm.[caption] Lobster farms are appearing all over the world, thanks to new technology for growing these pricey crustaceans in captivity. One species that can be farmed is the spiny lobster, also known as langouste or rock lobster. In the wild they can be found in Australia, New Zealand, South Africa, the Bahamas, Cuba, Nicaragua and the U.S. from where the majority of the world production originated. The prominent species is Caribbean spiny lobster (*Panulirus argus*) found throughout the Caribbean, which makes up half of the total world harvest worth \$400 million per year, selling near \$13 per kg. The US imports 10,000 tons of spiny lobsters per year, and harvests 3,500 tons more, worth \$25 million, with 85% coming from Florida. Although it takes two years to reach the legal harvest size of 3 inches in carapace length in Florida, the fishery is very well managed and has only decreased slightly on average over the past 20 years. In contrast to the US, the green spiny lobster found along Panama's Pacific coast, like many of the world's fisheries, has been overexploited for decades and has been described as on the verge of collapse. Approximately 10% of the total lobster fishery of Panama comes from the Pacific side. The Atlantic side of Panama has two main areas for lobster harvest: Guna Yala, producing about 92 tons for export, and the remainder of the total of about 1800 tons being from the Caribbean Bocas del Toro. In reference to Coiba, off the coast of Pacific Panama, which is a marine protected area Smithsonian scientists from the Tropical Research Institute in Panama City had this to say: "The number of surveyed lobsters in both archipelagos was surprisingly low and average densities were dismal." Spiny lobsters in the Gulf of Chiriqui on the Pacific side are hard to find. Although the author has been diving over the course of 4 years for a total of about 20 times in a reef area of Chiriqui Bay, lobsters have never been seen in the wild. A good way to protect the wild population and allow it to recover, is the creation of lobster farms. Although there is only anecdotal information available on the very few small spiny lobster aquaculture operations in the Caribbean, spiny lobsters grown in cages and nets along the coast of Vietnam are reputed to be worth \$70 million per year. Unlike the more aggressive northern clawed lobster, spiny lobsters are gregarious and can be housed together in aquaculture systems and have a higher growth rate when housed communally rather than singly. An attempt has been made to grow the Pacific Spiny Lobster in a land based, aquaculture system which has never been done before with any success. However, a lobster farm was established near Boquete, Chiriqui province. The animals were stocked into a zero water exchange system,

after a brief acclimation. Over the course of the next four months, lobsters were fed a variety of prepared and raw feeds until the adequate formula was found. After a few months of trial and error the lobsters began to grow and achieve a good weight. This is not only the first time this lobster species has been grown in an aquaculture system, but the first time in a zero water exchange system as well. Fishery management of the spiny lobster ranges from a huge success in the US, to desperate on the Pacific side of Panama. Although spiny lobster aquaculture has a few important obstacles, information provided here shows an immediate need coupled with an obvious possibility. The Pacific Spiny Lobster can be grown using a closed, land based aquaculture system in Panama, 600 m above sea level, 15 miles from the ocean. Regular updates on spiny lobster farming in Panama can be found at [www.newaquatechpanama.com](http://www.newaquatechpanama.com).