

## VAQUITA EXPEDITION 2008

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THE KOIPAI YÚ-XÁ



### KOIPAI YÚ-XÁ REPORT

6-15 OCTOBER 2005

ARMANDO JARAMILLO-LEGORRETA

The mission of Vaquita Expedition 2008 is to evaluate the performance of different passive acoustic devices to develop methods to monitor trends in abundance of the vaquita in the Upper Gulf of California. The ultimate goal of the expedition is to obtain data on the distribution, movements, and density of the vaquita to allow scientists to design a monitoring scheme and inform management decisions. Monitoring is critical to assess the effectiveness of the Mexican Government's vaquita recovery plan.

The Koipai began work in June 2008 in preparation for the Vaquita Expedition, when the ship sailed to the vaquita reserve (the vaquita "polygon") to do preliminary trials with three of the four types of acoustic equipment that would be used during the October expedition. Equipment trials were performed with the A-tag, designed by Tomonari (Tom) Akamatsu from the Fisheries Research Agency in Japan and the T-POD and C-POD designed by independent researcher, Nick Tregenza, from Britain. During these trials, the Koipai was anchored for 24 hrs in the area with the highest number of vaquita detections over the past 10 years (the vaquita "hotspot") and both the A-tag and the C-POD had vaquita acoustic detections.

The fourth type of equipment to be incorporated into the suite of acoustic gear in the Vaquita Expedition is the Rainbow Click system assembled by Jonathan Gordon from the University of St. Andrews and EcoLogic in the United Kingdom. The Rainbow Click system can detect vaquitas in real time as compared to the





*The Koipai with scientists Armando Jaramillo, Jay Barlow and Jonathan Gordon.*

other three and will be used by the Koipai during the Vaquita Expedition.

On 10 October 2008, an experiment was performed on board the Koipai and the second of the three ships participating in the Vaquita Expedition, the Vaquita Express, a high performance sailboat. The test deployed the acoustic detectors in an area of intense background environmental noise both biological (snapping shrimp) and anthropogenic. These conditions tested the performance of the equipment under severe acoustic conditions and assessed the correct acoustic identification of vaquitas' clicks. Because vaquitas are rare, we used simulated acoustic pulses similar to those generated by vaquitas. Simulated clicks were emitted from different distances, through a system designed by Jay Barlow, Southwest Fisheries Science Center. With information obtained during this experiment, we will be able to adjust the parameters of each equipment type according to the acoustic environment of the Upper Gulf of California.