Above, an underwater archaeologist prepares to submerge to visually inspect a target of interest in Kaneohe Bay. Opposite, a student archaeologist takes measurements of the cockpit area of a PBY, being careful not to disturb tenant lobsters.

The side-scan transmitter sends out acoustic signals which bounce off the seabed or any object on the bottom. A computer system receives the acoustic signal, analyzes the information and produces an image of the sea floor. A remote sensing specialist, who can differentiate between manmade objects and naturally occurring objects, analyzes the resulting image. But this system can only tell the specialist what is visible above the sediment, and perhaps indicate its shape and relative size. A magnetometer is needed to determine if the object is made of ferrous metals, such as steel or iron. Unfortunately, since aircraft are made up of mostly nonferrous materials, magnetometry has limited use. However, it can eliminate certain targets depending on the size and intensity of the signal.

When joined together, side-scan sonar and the magnetometer indicate an object of a specific size and ferrous material at a specific location. All types of remote sensing equipment are correlated with a global positioning system, which gathers precise information from satellites to pinpoint a location. In this way the target can be revisited and marked on a map, sometimes indicating a pattern of wreckage that helps the investigators. By using this equipment the archaeologist has already learned a great deal about the area without ever having to get wet.

Once identified, targets require visual inspection, and the archaeologist must physically visit the site. This is where the long, tedious hours pay off. The Kaneohe Bay field school produced many targets. The students spent two of their five weeks visually investigating targets and recording the measurements and characteristics of the objects encountered. Preliminary analysis suggests they found a portion of a PBY wing along with other scattered and disfigured wreckage. Photographs taken just after the attack indicate that this plane burned for some time, leaving few remnants. In addition to the pieces of possible wreckage, the students identified mooring blocks for the three patrol squadrons (VPs 11, 12 and 14) at Naval Air Station Kaneohe Bay prior to the attack, confirming the validity of their search area.

The sector most likely containing the remaining two seaplanes is in a dangerous zone still used by the military, and therefore could not be visually inspected. However, the side-scan sonar and magnetometer data from this zone will remain on file to enhance future investigation when conditions permit.

Although one of the four planes retains some structural integrity, it can reasonably be stated that the other three do not. This means that the aircraft will not be threatened by illegal salvage should the base ever close and the area become nonrestricted. Little remains of these aircraft that would be worthy of display, and the costs of retrieval and conservation prohibit their removal. Therefore, there are no plans to revisit or retrieve any of the patrol plane wrecks found in Kaneohe Bay. Instead, they will continue to serve as testimony to a devastating attack, as they have for more than 50 years.

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For full details on the field school, please