

1 Military Dolphins and Sea Lions: What Do They Do and Who Uses Them?

2 by Jane J. Lee

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4 Russian activities in Crimea now **include** taking over a Ukrainian military unit **made up of** bottlenose dolphins, according
5 to news **reports**. It's unclear how the Russian navy **intends** to use these "combat dolphins," although state-run Russian
6 news agency RIA Novosti reports that the mammals will be getting **equipment** upgrades. Using marine mammals like
7 dolphins, whales, or sea lions for military **purposes** isn't new. Nor is it **restricted** to the Ukrainian or Russian navies—the
8 U.S. Navy has had a similar program since the 1960s. The ability of these animals to **detect** and find **targets** at depth or in
9 murky water is something technology can't **duplicate** yet, but which militaries find very **valuable**. The Sevastopol-based
10 "combat dolphins" are trained to search for and tag underwater mines or unwanted divers or swimmers attempting to
11 **access** restricted waterways, says RIA Novosti.

12 The U.S. Navy trains its marine mammals—including California sea lions and bottlenose dolphins—to find and **retrieve**
13 equipment lost at sea and to identify intruders swimming into **restricted** areas. The dolphins are also used to detect
14 underwater mines, either **buried** in the seafloor or floating from an anchor. "[Bottlenose dolphins] are better than any
15 machine as far as detecting mines," says Paul Nachtigall, head of the marine mammal research program at the University
16 of Hawaii in Kane'ohe Bay. They can also do it much faster than a machine can. Dolphins can be especially **effective**
17 close to shore, where crashing surf and ship traffic **generate** a lot of noise, Nachtigall says. Mechanical systems can be
18 **overwhelmed** by all the competing signals, but not dolphins. It's because their sonar is so finely tuned, he explains.
19 Dolphins, and relatives like killer whales, send out **a series** of sounds that **bounce off** of objects in the **surrounding**
20 **environment**. The mammals **pick up** the return echoes and form an acoustic picture of their environment, an ability
21 known as echolocation. **Experiments** Nachtigall **conducted** in the mid-1990s with a resident bottlenose dolphin named
22 BJ **demonstrated** this sensitive ability. Nachtigall asked BJ to **distinguish** between metal cylinders made of either
23 **stainless steel**, brass, or aluminum. Even though he buried the four-inch-long (ten-centimeter-long) objects under two feet
24 (0.61 meters) of mud, BJ passed with flying colors. Researchers still don't know how dolphins do this, Nachtigall says.
25 But it's a topic that has captured the attention of military and civilian scientists for decades.

26 Out of Place

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28 California sea lions, while they don't **possess** sonar **capabilities**, have excellent **eyesight**. "They're really good at finding
29 things that are out of place," such as lost equipment, says Nachtigall. The U.S. Navy uses them to find and retrieve
30 unarmed test ordnance like practice mines. Handlers give a sea lion an **attachment** system it can hold in its mouth and
31 send the mammal overboard. Once the animal finds its target, it clamps the **device** to it and handlers in a boat at the
32 **surface** can bring the object in. A 2011 media demonstration in San Diego Bay, California, **featured** a former U.S. Navy
33 SEAL attempting to infiltrate the harbor with an unarmed mine. The Navy deployed dolphins and sea lions to patrol the
34 area, and both caught the diver on every one of his five **attempts**. The sea lion even **managed to** attach a clamp to the
35 diver's leg, and handlers on the surface reeled him in like a fish. Both California sea lions and bottlenose dolphins are
36 fairly **hardy**, smart, and very trainable, says Nachtigall. Sea lions also have the **advantage** of being amphibious. That's
37 why the U.S. Navy ended up using them instead of other marine mammals like false killer whales or belugas, which they
38 also initially looked at.

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40 **Adapted from the [National Geographic](#)**