

# TAKING THE PLUNGE

A WOULD-BE NEMO ATTEMPTS UNDERWATER “FLIGHT” IN A NEWLY INVENTED PERSONAL PLANE FOR THE OCEAN.

EXPLORE EVERY CRANNY OF EVERY continent, climb the tallest peaks and spelunk into the deepest caves, and still you will not see much of this planet. More than 70 percent of the Earth’s surface is covered by ocean, a fascinating, alien world largely inaccessible to human travelers.

Inventor Graham Hawkes, perhaps the country’s premier designer of submarines, hopes to change that. Hawkes’ latest project is a kind of personal plane for the ocean called the Deep Flight Aviator. He’s already been teaching would-be Nemos to pilot the two-man mini-sub, and on a cloudless day recently at Northern California’s Monterey Bay, it’s my turn to take the plunge. Literally.

I find Hawkes tinkering with the Aviator at the far end of a dock jutting into Monterey’s harbor. It would have been hard to mistake him: Amid the weathered fishing boats moored nearby, Hawkes’ mini-sub resembles

a tiny military jet forced to make an emergency water landing. Two space-age domes bubble from its top, held in place by ornate purple clamps, and bright yellow fins sprout from the mini-sub’s turquoise fuselage. The thing looks like a turbocharged Pez dispenser.

In fact, the Aviator may prove to be a technological milestone. Until now, submarines have functioned like underwater balloons, descending and rising by altering their buoyancy. Hawkes’ mini-sub is the first to attempt underwater “flight.” At rest, it simply floats on the surface, but as it moves forward the Aviator’s stubby wings—installed upside down, compared to those on jets—pull it gently underneath the waves.

Lightweight and easily transported, the mini-sub can move at speeds of up to 10 knots and dive to 1,000 feet for as long as five hours—perfect, the inventor hopes, for tagging along with whales and other marine life.

“In a conventional submarine, you’re dropped overboard by a crane from a boat, cramped in a hole with only pinprick vision,” says Hawkes. “With the Aviator, you can move faster and see more over a wider range. You’re literally flying through the water.”

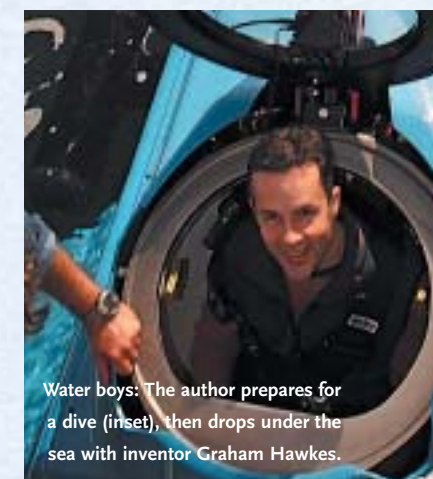
But learning to soar through this brave new world is no small task. After signing a release—recreational submarining is *inherently dangerous*, it turns out—I’m strapped into the Aviator’s second cockpit, behind Hawkes. It’s not, shall we say, a plush exploratory environment. Between my legs is a metal joystick with a red button. By my right hand is a small console with three mysterious toggle switches and numerical displays, and at eye level are a depth gauge, an artificial horizon, and a direction indicator. I’m to communicate with Hawkes—and with the emergency crew, if need be—by means of a two-way radio attached to my vest.

One of Hawkes’ crew peers down at me. “Hear that hissing noise over your left shoulder? That’s your oxygen. If you stop hearing it, you should probably radio us.” The cockpit dome slams down and locks into place.

*Ulp.*

Hawkes pulls the mini-sub from the slip, and we head for the Pacific. Sea lions bark furiously at us from the docks, old-timers discovering that their neighborhood is about to be overtaken by unwelcome arrivistes. Out in the bay the wind has picked up, and the roiling water has become a turbulent green cloud. The waves slap the cockpit dome and rock the mini-sub; clearly this is not a pursuit for the claustrophobic or motion-sick. Over the radio I can hear Hawkes grumbling about the conditions. But soon he gives the signal, throws down the joystick, and the mini-sub turns its nose to the seabed.

Our first dive is oddly, unexpectedly beautiful. As the ocean closes over the dome and the sun shrinks away, I realize I’m seeing this realm as its inhabitants do, and more efficiently than I ever could in scuba gear. The Monterey Bay National Marine Sanctuary is one of the planet’s most spectacular ecosystems, host to



Water boys: The author prepares for a dive (inset), then drops under the sea with inventor Graham Hawkes.

## RESOURCES

Graham Hawkes conducts “Sub-Sea Aviation Schools” for enthusiasts wishing to learn to pilot the Aviator. The next two are planned for this fall in the Mediterranean and this winter in the Caribbean. The cost: \$15,000, which includes three days of instruction, hotel, and meals. There are two pilot-pupils in each session. For more information, contact Deep Flight at 415-256-9273 or visit [www.deepflight.com](http://www.deepflight.com).

26 species of marine mammals and 345 species of fish. Below us, the world’s largest kelp forest waves. Somewhere nearby is the yawning Monterey Bay Submarine Canyon, deeper than the Grand Canyon. All around us, I know, are shipwrecks from centuries past, more than 1,200 at last count.

This marine sanctuary is bigger than Yellowstone National Park, yet few people have seen even a fragment of its treasures. How *could* we—unless someone were to

invent a lightweight, economical submarine, a Model T for oceangoers?

We surface and dive, surface and dive, each time pushing a little deeper, until Hawkes decides that deteriorating weather warrants a speedy return to the harbor. As we make our final ascent, breaking from the underwater twilight into the sun, I realize that I’d forgotten to listen for the hiss of oxygen in the cockpit. No matter: Most of the time, I’d been holding my breath. □

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