Diving Russia’s Arctic

Beneath the White Sea

Text and photos by Michael Salvarezza and Christopher P. Weaver
We gathered in the frigid pre-dawn hours, our gear and luggage piled in front of the snowmobiles and our noses freezing in the -22°F (-30°C) temperatures. It was time to be saying good bye to our Russian hosts after a week of diving the frozen White Sea but we were tempted to linger just a little bit longer. It was during these last few moments, as we stood under a curtain of stars on a deep, dark winter’s night in Russia that we reflected back on the events of the past week.

An 8-hour white knuckle ride across the border and through the Russian wilderness brought us to the lodge, ready to dive.

Ice diving
Diving the White Sea in winter requires preparation, equipment, fortitude and, most important, adequate training in ice diving techniques. With surface tempera-
The dive team on the way to the dive site across the frozen surface of the White Sea (left). The dog sled team journeys deep into the magical forests in the Lapland region (far left). Snowmobiles are used to go from base camp to the dive sites (lower left). Divers must be prepared for extreme conditions (below)

The icy plunge into the magical world beneath the frozen sea.

Anemone Rock. Our first dives in the White Sea took us to a site known as Anemone Rock. Here, in 45 FSW (14m), a huge boulder lies on the bottom, perhaps 20ft (6m) in height. This rocky outcrop rises up from the slope of Rakshoy Krestyov (Big Cross Island). Some say it is as big as a three-story building and shaped like a dragon's...
tooth. The seabed is very silty, so care must be taken so as not to stir up the bottom.

Anemone Rock is so named because of the profusion of life that literally covers the massive structure. Filled anemones, colorful tunicates, beguiling nudibranchs and a wide variety of other small invertebrate life abound on this oasis of life in an otherwise nondescript sloping bottom.

Wedged inside cracks in the rock are wolf fish, expertly positioned to avoid the range of our cameras! Looking more closely alongside the rock, we did find small bottom dwelling fish such as the Arctic sculpin. Measuring close to four inches (10cm) in length, these wary denizens seemed unfazed by our attempts to photograph them—perhaps they were too cold to move!

Islands. Subsequent dives took us to dive sites alongside some of the islands in the White Sea. Small Cross Island is a small rocky outcropping with a tumbling, rocky slope, which we eagerly explored, photographing the kelp ( laminaria ) covered rocks and the dramatic ice ceilings above. Diving beneath the ice affords the diver an out-of-this-world experience as the surface ice takes on a greenish tint from the surrounding water.

Towards the end of our week’s expedition, the temperatures plummeted from a rather comfortable -20°F (-27°C) to a bone-chilling -22°F
White Sea

Clockwise from far left: divers explore ice formations of Bolshoy Bay. Divers enter and exit through the hole in the ice surface. Divers are suspended to the surface using a system of ropes. Divers find clear, dark water beneath the ice.

(-50°C). Suddenly, our dives became more arduous as we struggled to stay warm and keep our equipment functioning. Residual water would freeze instantly in the air and our equipment became encased in ice in a matter of minutes. The entrance to the dive site would become a slushy mix of ice and snow, and any water exposed through the hole would also start to quickly freeze solid. As we descended through a two-foot (0.6m) tunnel of slush and ice, it took all of our self-control not to breathe off the regulators until fully submerged lest we risk causing a free flow. And once under the ice we preferred not to think too hard about whether the surface tenders were keeping the hole cleared of solid ice.

Bolshoy Bay. At Bolshoy Bay, a location named for its abundance of shellfish and filter feeders covering its rocky bottom, we descended into a cathedral of ice. Bolshoy Bay is nothing extraordinary in summer, but it completely changes in winter. The most interesting thing about ice diving here is the ice itself. Because of the strong tidal currents, the high and low water levels differ by up to 6ft (2m), and the tidal cycle lasts about 12 hours. As the ice rises and falls within the water column, it freezes to the rock faces and other ice formations. It then breaks...
The spectacular northern lights, or aurora borealis (left); Authors Michael Salvareza and Christopher P. Weaver with sled dogs (below).

fabulous and magnificent beauty. And now, as we stood in the bitter cold waiting for our transport back to Finland, we swapped stories and reflected on our experiences. Suddenly, as if on cue, a shout rang out in the night: “Aurora!”

We all excitedly scrambled back to the edge of the frozen sea, our feet standing in newly frozen snow, and we looked up to the sky. There, a shimmering, undulating miracle of nature was being displayed across the right sky—the aurora borealis (northern lights).

The script could not have been written more perfectly. It was as if we were being bid farewell by the Arctic itself. With brilliant greens and yellows, the Aurora danced for us as we departed—a dance of indescribable beauty that has beguiled people for millennia in the northern latitudes. And one that will continue for millennia to come.

WHITE SEA INFORMATION

DIVE TIME: Usually 20-45 minutes, diver dependent

BREATHING GAS: Air, nitrox is not available

DEPTH: Rope dependent, usually not more than about 65ft (20m)

WATER VISIBILITY: 50-150ft (15-50m)

ICE THICKNESS: Up to 5ft (1.5m)

WATER TEMPERATURE: 30-28°F (-1°C to -2°C)

AIR TEMPERATURE: 43°F to -22°F (6°C to -30°C)

SALINITY: 27.5-28 parts per thousand, lower than the mean salinity of the Arctic Ocean

SURFACE INTERVALS: Heated huts are available for divers to don/doff gear, and to relax between dives

TRANSPORT: Snowmobiles are used to transport divers and equipment to and from the dive sites

ASSISTANCE: Diver tenders help divers exit the dive hole. Ladders are not used

Michael Salvareza and Christopher P. Weaver are underwater photographers based in New York. For more information on expeditions to the White Sea, visit: ecophotoexplorers.com/white-sea.asp