

— FIELD GUIDE · RETURN TO SEA

Memorial Reefs

*Ashes become reef structure. The structure becomes habitat.
The habitat grows for centuries.*

On the sandy sea floor off a coast, there is a concrete structure about the size of an armchair, perforated with holes of varying sizes, designed not for looks but for marine biology. Within months of placement, algae colonised its surface. Within a year, barnacles, oysters, and coral polyps had attached, and small fish began sheltering in the holes. Within a few years, the structure was unrecognisable beneath a living skin of organisms. Mixed into the concrete are the cremated remains of a person who loved the ocean.

A memorial reef combines cremation ashes with marine-grade concrete to create an artificial reef structure, deploys it at a permitted ocean site, and lets it become functioning habitat. It is the only disposition method that creates lasting marine habitat from human remains.

How It Works

THE REEF BALL

The technology is the reef ball: a hollow, perforated concrete dome that mimics the structural complexity of a natural reef, developed in the early 1990s for artificial-reef construction and coral restoration. It is engineered, not a random lump of concrete. Its dome shape resists currents and offers stable attachment surfaces, its holes create microhabitats for organisms of different sizes, and its surface is deliberately rough to encourage biological attachment. It is heavy enough — several hundred to a few thousand pounds — to stay put without anchoring, and built to last for centuries in salt water.

THE CASTING

This is what distinguishes memorial reefs from every other method: families help build the reef. At scheduled coastal events, families travel to the casting site, the concrete is mixed, the remains are added, and family members help mix it by hand, pressing handprints or

embedding messages and small objects. This is not ceremonial window-dressing; families genuinely build the structure that will carry their person into the ocean, and many describe it as the most meaningful part of the process. The cast reef then cures for about a month, permanently incorporating the remains.

DEPLOYMENT AND MONITORING

The cured reef is barged to a permitted artificial-reef site and lowered by crane; these sites are designated reef zones permitted by state and federal agencies. Families can attend by boat and hold a ceremony, and the GPS coordinates are recorded and given to them. Volunteer divers periodically monitor deployed reefs and document the biological colonisation, and families can visit their reef by diving or snorkelling to the coordinates.

The Ecological Case

The argument for memorial reefs is different from every other green method. It is not about reducing harm. It is about creating benefit. Well-designed, well-placed artificial reefs increase local fish populations, provide hard substrate for coral and invertebrates, shelter juvenile fish, and raise the biological productivity of the area. The remains themselves are ecologically neutral – cremated remains are largely the same mineral that forms coral skeletons and shells, and at low concentration in concrete they neither attract nor repel organisms. And the benefit compounds: a reef ball is more productive in ten years than in one, and more in fifty than in ten, as the community that colonises it grows in complexity from algal films to barnacles to corals to fish. The memorial becomes more alive, not less, as time passes.

The Honest Trade-Off

Memorial reefs require cremation first, so they carry the standard cremation footprint: fossil fuel burned, mercury released from dental fillings. The reef itself is ecologically positive, but the cremation that precedes it is not. So the net calculation is a cremation footprint (a cost) plus reef creation (a benefit). Over a fifty-year or five-hundred-year view, the habitat almost certainly outweighs a single cremation; over a one-year view, the cremation dominates. We grade memorial reefs honestly on both, and we do not call them “green” the way we describe natural burial or aquamation. We call them what they are: a method that creates lasting marine habitat, preceded by one that burns fuel.

Who Chooses This

Families who choose a memorial reef tend to share something: the person loved the ocean. Often a diver, a fisherman, a sailor, a surfer, a marine biologist, or a veteran. Becoming part of a reef resonates with how they lived, and the permanence — and the sense of contributing to something larger — fits.

A NOTE ON THIS GUIDE

This guide is for general information and reflects conditions as of 2026. Legal status, availability, and costs change over time; confirm current details before making arrangements. Nothing here is legal, medical, or financial advice.