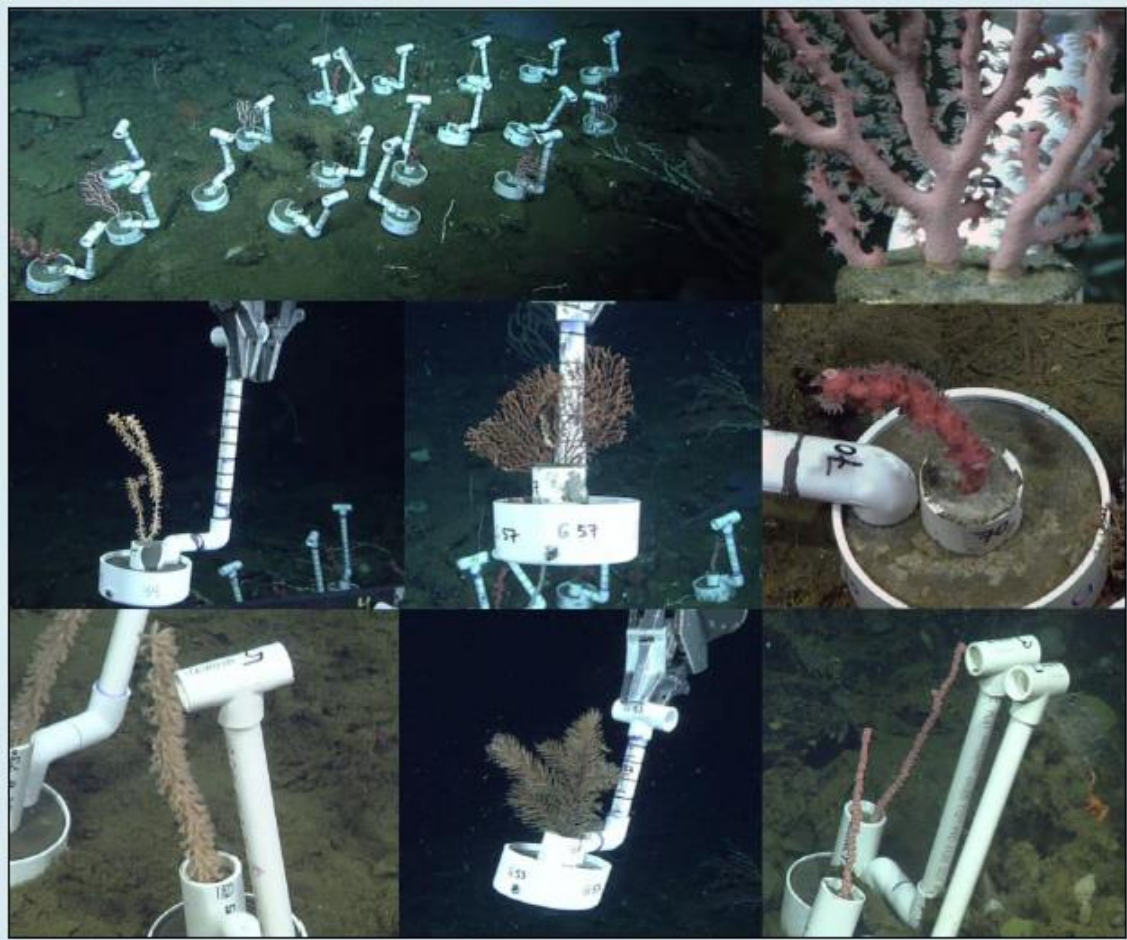


Box 3: ROV-based translocation of coral fragments

Deep-sea corals, sponges, and associated species typical of CWC communities are concentrated on seamounts and ridges along California (Lundsten et al., 2009a, 2009b), though most taxa also occur in lower densities on steep topography (e.g., outcrops and submarine canyon walls) throughout the continental margin (McClain et al., 2009). Destructive fishing, particularly bottom trawling, has a rich history in California waters, and is thought to have impacted CWC communities on some local ridges, such as the flanks of Sur Ridge, near Monterey Bay.

To evaluate potential methods of restoring CWC assemblages damaged by destructive fishing practices, Boch et al. (2019) tested a remotely operated vehicle (ROV) based approach of translocating coral fragments at Sur Ridge (800-1300 m depth). Fragments of colonies from several coral species (deep-sea black coral *Lillipathes* sp., and the octocorals *Corallium* sp., *Swiftia kofoidi*, *Isidella tentaculum*, *Paragorgia arborea*, and *Sibogorgia cauliflora*) were collected from CWC assemblages, prepared for translocation, then returned to the seafloor. Branches of donor colonies were collected using an ROV, fragmented at the surface, and attached to small pots by zip ties or fast-curing cement (Box 3 Fig 1.). Pots were then transported by ROV and placed in the habitat where coral fragments were collected. Coral survival was followed for the next 2.5 y. Although mortality was highest during the first 3 months, more than half (52%) of transplanted fragments survived at least one year. Survival varied among species, and was highest for the most flexible, uncalcified taxa (*S. kofoidi*), and least for *P. arborea*, none of which survived 1 y. A step-by-step guide (Boch et al., 2020) provides a detailed description of the methods employed for these experimental coral restoration efforts, and extends observations of translocated corals reported by Boch et al. (2019) to over three years. Survival of *S. kofoidi*, and *Lillipathes* sp. remained near 100 percent. Overall, these results indicate that direct colony repopulation may accelerate the recovery of disturbed CWC communities.



Box 3 Figure 1. Coral pots deployed at Sur Ridge (California). Photo credits: MBARI