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Headquartered in Ventura, California, the Channel Islands National Park (CINP) is spread over five islands off southern California's coast, and was created in 1980 to protect diverse terrestrial and marine ecosystems (out to one



nautical mile). In 1982, the Kelp Forest Monitoring (KFM) program was launched to monitor and collect data on marine life at 16 dive sites around the islands; in 2005 the program expanded to include 17 additional sites.

Every other week from May to October, these 33 sites are incrementally surveyed to collect size and abundance data of over 120 categories or taxa of marine species including algae, invertebrates, and fish. Researchers use 12 different sampling techniques to examine kelp forest condition and monitor ongoing environmental changes.

The KFM program is one of the longest established monitoring programs in the National Park Service (NPS). According to David Kushner, NPS Biologist, "Data from the CINP KFM program is key for understanding the longterm changes of the nearshore marine ecosystem. This program has helped scientists and fisheries managers understand large-scale ecological patterns in kelp forest communities and may help to predict species population trends."





An additional role for KFM long-term data was inform the establishment of MPAs, or marine protected areas, around the northern Channel Islands; currently, almost 20 percent of CINP waters are protected in state

MPAs. These MPAs were established in 2003, and incorporated into a statewide network of MPAs in 2012. Nine of the 13 MPAs also extend beyond the state's 3 nautical mile line into federal waters.

The overlapping management of California MPAs with CINP has created an invaluable partnership between NPS and the California Department of Fish and Wildlife (CDFW). "CDFW divers have assisted in data collection since the program's inception, and we have had about 40 CDFW divers over the years," says Kushner. "But, the continued participation and collaboration with CDFW staff to monitor these KFM sites is essential for the continuation of this long-term monitoring program, and future evaluation of the state's MPAs."

Following MPA implementation, data collected from the KFM program was combined with data from the Partnership for the Interdisciplinary Studies of Coastal Oceans (PISCO) which showed after five years of monitoring there was: 1) greater overall biomass of targeted fish and invertebrate species inside MPAs; 2) a greater number of fish species in MPAs; and 3) a larger average body size of some fish and invertebrate species. PISCO later released a 10-year report on the Northern Channel Islands which showed similar MPA trends.

With more than a decade of MPA protection, and over 35 years of data, the continuation of the KFM program and the partnership between CDFW and NPS is vital prior to the first statewide evaluation of California's MPA network in 2022.

Story by CDFW Environmental Scientist, Amanda Van Diggelen

Signup to receive these MPA Management Program newsletter updates. California's MPA network is managed collaboratively through the MPA Management Program, which includes four focal areas: outreach and education, enforcement and compliance, research and monitoring, and policy and permitting.

