

## Large interannual variation in spawning in San Diego marine protected areas captured by molecular identification of fish eggs

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Table S1. Two of La Jolla, California's Marine Protected Areas and their boundaries.

MPA	Boundaries of Reserve (Latitude, Longitude)
San Diego- Scripps Coastal State Marine Conservation Area	32° 53.000' N, -117° 15.166' W; 32° 53.000' N, -117° 16.400' W; 32° 51.964' N, -117° 16.400' W; 32° 51.964' N, -117° 15.252' W
Matlahuayl State Marine Reserve	32° 51.964' N, -117° 15.252' W; 32° 51.964' N, -117° 16.400' W; 32° 51.067' N, -117° 16.400' W

Table S2. For each collection year from 2013 to 2017 the date in which the highest species richness per collection is shown. Two dates are shown for 2015, because there were two collections with the highest species richness.

Year	Date	Day of Year	Number of species
2013	19-Jun	170	15
2014	19-Jun	170	18
2015	24-Jun, 23-Jul	175	10
2016	1-Jul	182	14
2017	20-Jul	201	19

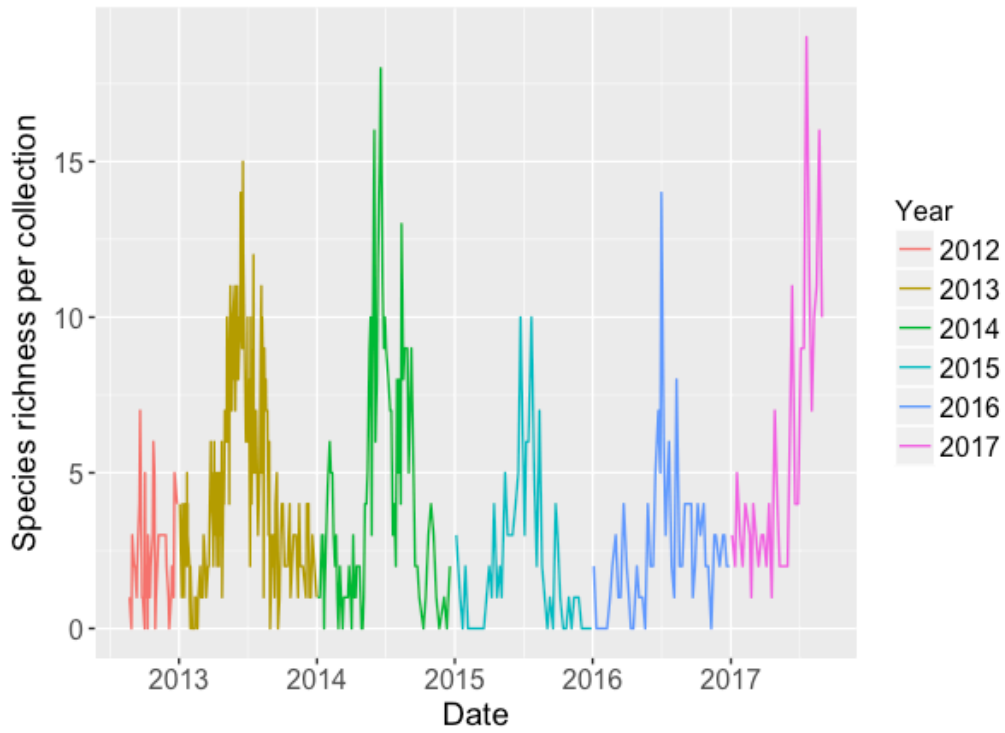


Figure S1. Number species found in each weekly collection of fish eggs in the San Diego-Scripps Coastal Reserve from 2012-2017.

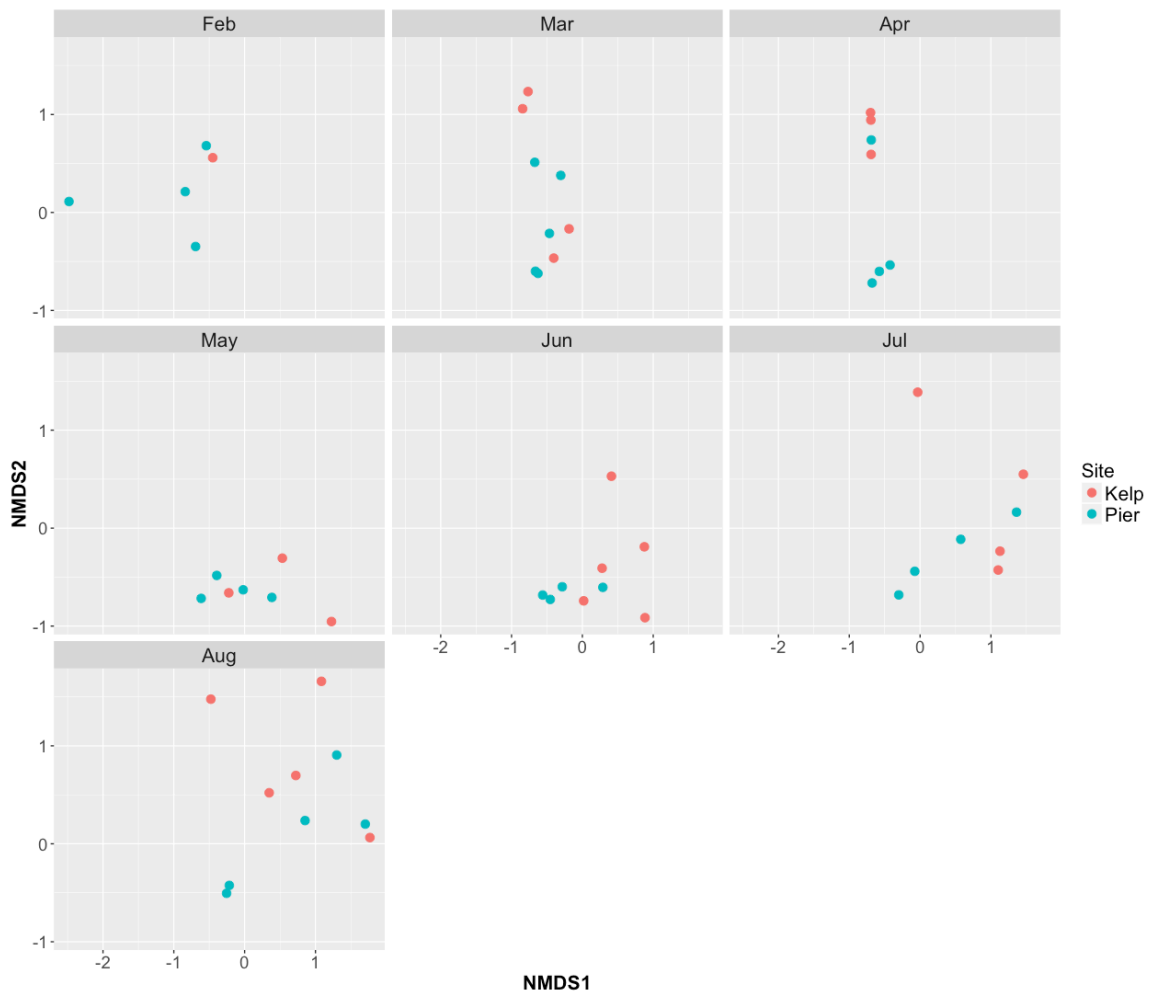


Figure S2. Non-metric multidimensional scaling plotted from number of fish eggs for each species normalized to number of eggs identified per collection between two sampling sites from February 2017 to August 2017 separated by month of collection. Based on Bray-Curtis dissimilarity. Stress value 0.166 indicates plot gives an adequate representation of data.

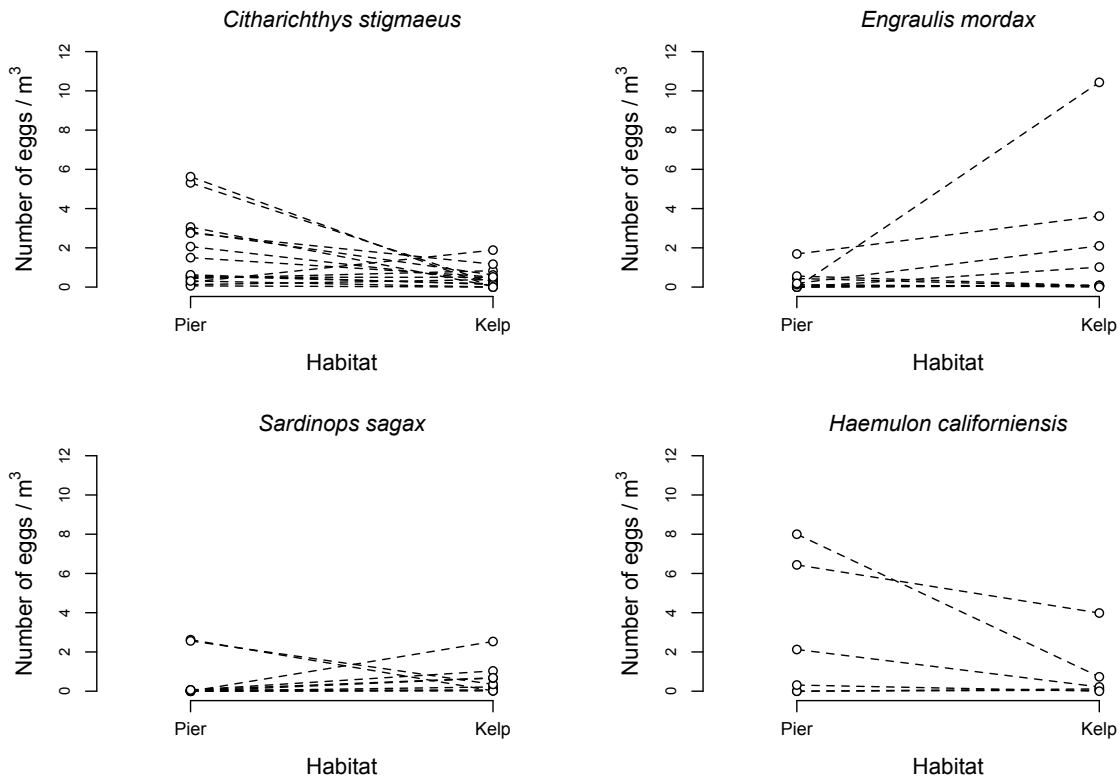


Figure S3. Number of fish eggs per cubic meter between two sites shown for four species. Species shown had the largest difference in percentage between two sites overall. Linear mixed effects models fit for each showed non-significant differences between sites, and non-significant interaction between site and spawning period (indicated by month of collection).

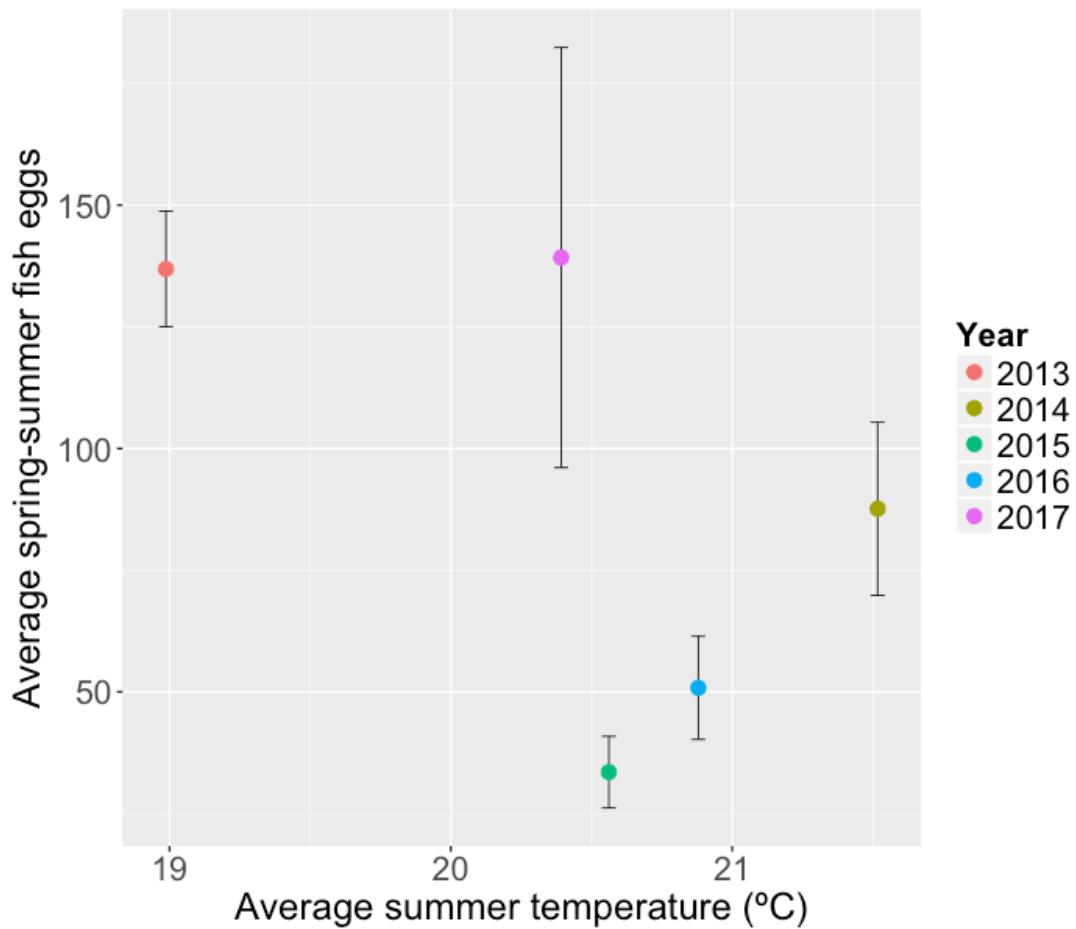


Figure S4. Spring and summer (March-August) average fish egg abundance plotted against average summer temperature (June-August) for each year. Fish eggs were collected from the Scripps Pier. There is no relationship between summer temperatures and spring-summer spawning ( $R^2 = 0.380$ ,  $p > 0.05$ ). Error bars represent SEM.