Examining the Effectiveness of Coral Restoration Nurseries

This research focuses on taking a critical examination of how effective coral restoration nurseries are. Using nurseries in active coral restorations is a common methodology but to date there has little examination testing their effectiveness. We set out to conduct a quantitative analysis meta-analysis using published coral restoration literature to try and determine nursery effectiveness. The data from all the papers used was converted into a comparable daily instantaneous mortality rate. Qualitative information about the experimental design was also extracted from all the papers used. In the final analysis data from 46 papers was used representing 75,448 corals of 25 different genera. 420 data points were used with 174 data points for corals that were directly transplanted, 212 for corals that were currently on a nursery at that time, and only 34 data points for corals that were on a nursery and were then transplanted.

Our results suggest that the hypothesized benefits of nurseries were not supported. This was surprising because while the effectiveness of using a nursery is debated among the literature nurseries are still frequently used. Additionally, there were very few data points, only 34, representing coral fragments that were transplanted after being on a nursery. This shows that there has been very little experimental testing of a nursery, much less than we initially anticipated. More research is needed experimentally testing the effectiveness of nurseries in order to be able to evaluate their effectiveness.