Scallop broodstock were conditioned through the month of November until mid-December 2013. At that time, we were successful in stimulating the adults to spawn using thermal shock techniques that have been used in the past routinely with success (animals are held and fed cultured microalgae at 8^{o}-10^{o}C, on the day when we are ready to produce larvae, they are transferred directly to seawater that is 12^{o}-14^{o}C). The larvae produced from the mid-December spawning were reared in two different types of conical-shaped tanks (400-L and 70-L). Larvae in both systems were fed a similar diet of cultured microalgae (*Monochrysis lutheri* [CCMP 1325]. T. *Isochrysis galbana* [CCMP 1324], *Chaetoceros muelleri* [CCMP 1316]), and raised at a temperature of 4-7°C.

Larvae were removed from tanks (drain downs) three times each week, tanks washed with soap and freshwater, and refilled with filtered (1µ) seawater that was within the temperature range described above, and the larvae returned to the tank. Each time larvae were drained down, they were poured through a sieve series which were arranged in a column to separate and create discrete size classes. This approach had two goals: 1) to separate the larvae from any excess food, feces and other organisms such as ciliates and 2) to grade the larvae by size to remove the fastest growing and presumably strongest animals from the slower growers. This process removed the undesirable material from the culture tanks, and successfully graded the largest animals, which were put into a separate tank.

At the same time, broodstock were being re-conditioned at 8°C, with the intention of inducing another spawning. Animals were fed a diet similar to that of the larvae with the addition of *Rhodomonas salina* (CCMP 1319) and *Skeletonema costatum* (CCMP 1332). We changed the approach of feeding from batch (placing large volumes of microalgae into the tank with the broodstock), and adopted a method of drip-feeding that allowed scallops to feed over extended periods of time during the day and night. We did so because broodstock were spawning spontaneously at times when we were unprepared (middle of the night; late afternoon, etc.), which wasted gametes. Broodstock received approximately 20 liters of cultured microalgae which was slowly dripped into the conditioning tank over a 12 hour period. Previously, when the food was added to the drip feeders it was approximately 16°C. In the past the addition of warm algae to the conditioning tank had resulted in undesired spawnings. The solution was to add ambient temperature, filtered seawater along with the cultured microalgae to the drip feeder in an attempt to cool the algae to the same temperature as the broodstock. This method was successful, as unwanted, spontaneous spawning ceased to occur in the conditioning tanks.

For the larvae produced in December 2013, despite separating out unwanted material and the fastest growing animals, none of the larvae grew beyond 125µ. Animals remained in the larval tanks for 45 days, but ceased growing after day 30. Another spawning was successful in late January 2014, and similar results (to day 50) were observed. In addition, larvae did not produce/exhibit the mucous funnel phenomenon that signifies their readiness to settle. The reason for this is unclear. During the second week of larval rearing in December, and throughout the larval period in February 2013, we used an anti-bacterial triple-sulfa solution, less food, more food, keeping them at varying densities and rearing them at temperatures lower than 14°C (closer to natural conditions). None of these approaches met with any success. After holding the larval cultures for 45 – 50 days and observing a steady increase in mortality the cultures were dumped.

The broodstock were maintained at their conditioning temperature and diet throughout this time and when the gonads appeared ripe spawning attempts were made in March, April, and May approximately 20 days apart none of these attempts produced any larvae. The animals chosen for the spawning attempts were picked because they had the most gravid and colorful gonads. After the third spawning attempt the animals were removed from the conditioning tank and placed elsewhere in the facility to free space for other bivalve species that we are currently culturing.