

2015 SCALLOP PROGRAM UPDATE

By

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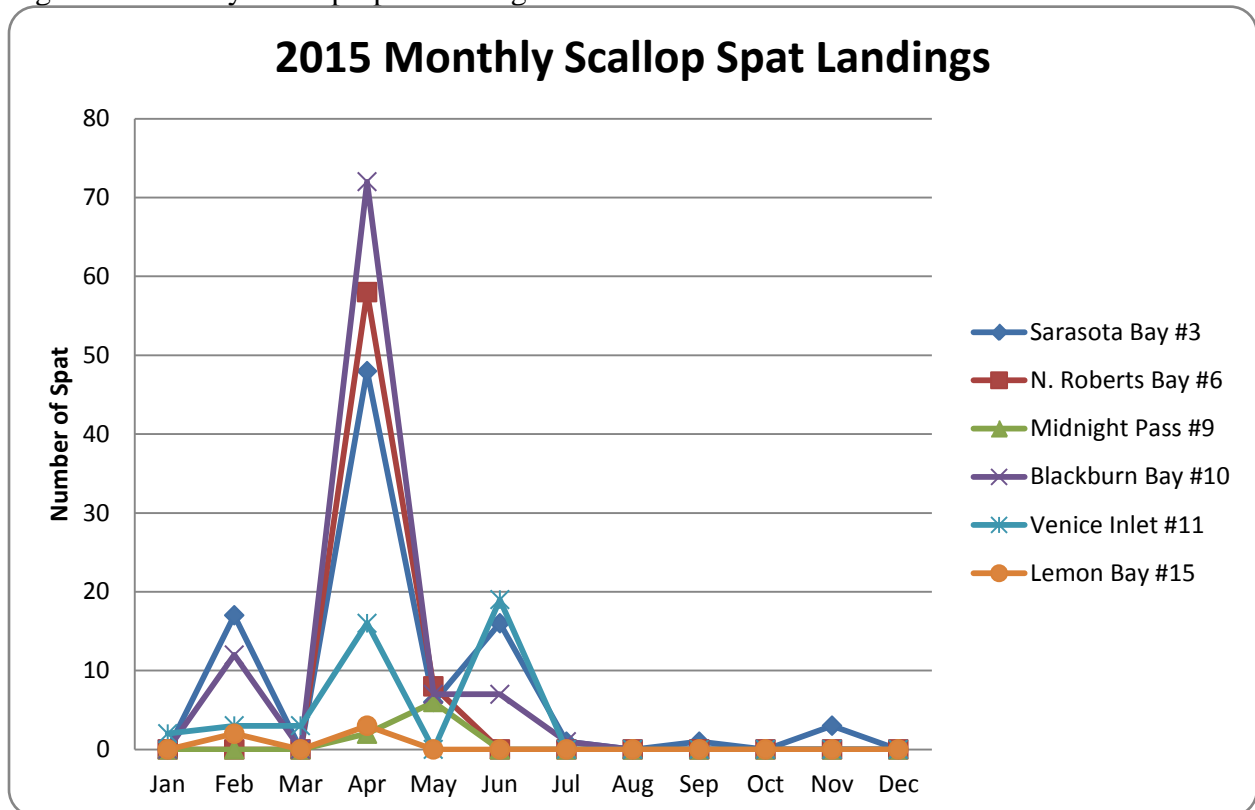
OVERVIEW

Since 2008, Sarasota County has been monitoring the scallop populations of our bays. The Scallop Program is part of a monitoring plan to help measure the effectiveness of the County's Stormwater Management Plan on our watersheds. The bay scallop (*Argopecten irradians*) is an indicator species that is particularly sensitive to freshwater influences. Monitoring is done through spat collection, adult surveys and survival rates of caged adults. These efforts are in partnership with the Florida Fish and Wildlife Research Institute (FWRI), Mote Marine Laboratory, and Sarasota Bay Watch.

RESULTS

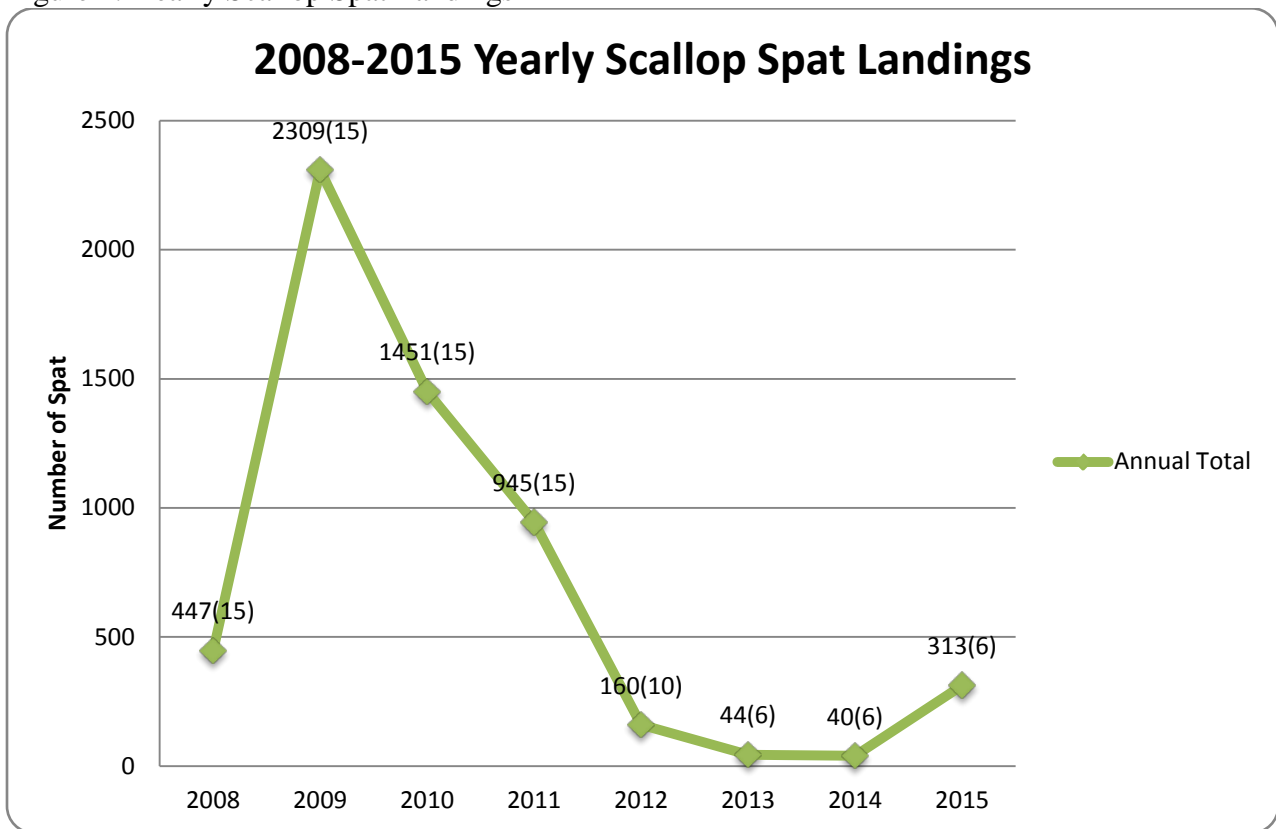
A. SPAT MONITORING

Figure 1: Monthly Scallop Spat Landings



The 2015 data shows the greatest number of spat landings occurred in April (Figure 1). Based on our historical data April typically has the highest numbers of landings and the last quarter is generally flat. There were 313 total spat landings for the year with only 6 occurring after June. Rainfall can have a negative effect on scallop survival. In-flow of large amounts of fresh water lowers the salinity in the bay which the scallops can only tolerate for short periods. The South West Florida Water Management District rainfall data shows 18.21 inches of rain fell during the first six months of the year. Compared to the last half of the year when 34.03 inches of rain fell which is 15.82 inches greater or nearly double. The peak month was July at 12.12 inches which coincides with a drop in spat landings. The salinity data shows a similar consistency generally ranging from 24-37 ppt. The salinity did remain within scallop's tolerable limits during the rainy season, but was on the low side of the optimal range.

Figure 2: Yearly Scallop Spat Landings



From 2008-2011 the County's scallop spat monitoring program was developed in cooperation with FWRI. The program started with (15) spat monitoring sites throughout the county bays. In 2012, Mote Marine Laboratory partnered with county and the monitoring sites were reduced to (10). The sites were further reduced to (6) in 2013 (Figure 2). The most productive site in each bay was chosen to keep the monitoring program spatially representative.

Figure 2 shows a sharp increase (683%) in spat landings in 2015 from the previous year. Ocean temperatures remained at or above the average for 2014 and transitioned to a strong El Nino conditions for 2015. The county wide annual rainfall amount was 52.25 inches which is near the annual average of 52.99 inches. The moderate to severe redtide blooms began in September and persisted through the end of the year. It is unclear what effects it may have on future populations.

B. ADULT SCALLOP TRANSECTS

In December, staff conducted 23 adult transect surveys throughout the County's Bay systems. No live adult scallops were found during the survey. During the Sarasota Bay Watch Scallop Search in late August, 31 live and 220 recently dead scallops were found by volunteers. Scallops are classified as recently dead if the inner shell has no evidence of marine growth or fouling. The recently dead shells confirmed the presence of numerous live scallops in the weeks prior to that survey. The lack of negative environmental factors such as redtide or heavy rainfall during this period suggests that the scallops spawned and died as part of their natural cycle.

C. CAGE PROGRAM

No cages were placed during 2015 due to a supply shortage of adult scallops. The county cage program relies on adult scallops provided by our partner organizations Mote Marine Laboratory & Sarasota Bay Watch. The lack of dedicated funding sources and unavailability of good brood stock to provide the hatchery is challenging for these organizations. Moderate to severe redtide blooms began in September and continue to persist locally, further hampering efforts.

CONCLUSION

Our watershed management efforts continue to have a positive impact on the conditions relative to scallop habitat. Seagrass acreage has been improving, innovative projects remove pollutants before they can reach the bays, and our comprehensive monitoring program helps ensure we achieve the water quality goals needed for scallop survival. Understanding and measuring all the factors that affect scallops is a challenging process. We continue to work with partners at Florida Fish and Wildlife Commission (FWC), Sarasota Bay Watch, Mote Marine Laboratory, and citizen volunteers. The county continues to learn how to use scallops as a biological indicator and support restoration of scallops to their former abundance.