

Abstract of proposed student project (1 page limit. This should mirror the aims page of a grant and CLEARLY indicate the student's role.)

While the conservation status of the West Indian manatee (*Trichechus manatus*) has been downgraded from 'endangered' to 'threatened', successful management of the population is still at risk. While both natural and anthropogenic threats continue to result in high numbers of annual injury and mortality, the West Indian manatee also faces potential challenges to reproduction that can be attributed to the moderate level of inbreeding present within the population. Rather than taking a reactive approach to this potential problem, this study is the first effort to be proactive and develop assisted reproductive technologies (ART) in sirenian species in an attempt to mitigate the negative effects of inbreeding within this population. This pilot study was conducted to develop initial liquid storage protocols for short- and long-term storage of manatee semen.

Specific Aim- Compare the effects of different storage parameters, such as semen extender, temperature, time, and presence/absence of seminal plasma on sperm

Whole semen was previously collected from a wild-born, adult West Indian manatee under managed care at the Caribbean Manatee Conservation Center in Puerto Rico. Semen samples were diluted in one of four liquid extenders and exposed to various storage parameters including storage temperature (room temperature versus cooled), storage time (0hr, 6hr, 12hr, 24hr), and presence or absence of seminal plasma. Sperm motility was analyzed using a Microptic Sperm Class Analyzer computer-aided sperm analysis system. The student will be tasked with cleaning up these motility files, exporting and collating the data, and working with statistician for appropriately analyzing the data. The student will work under the direct guidance of Drs. Iske Larkin and Jonathan Cowart in the Aquatic Reproduction Laboratory at UF CVM.