ABSTRACT

Southwest Florida coastal waters and shorelines (which includes bridges, jetties and piers) are heavily used by both residents and tourists and are popular areas to fish. As a result, marine debris (both consumer debris and derelict fishing gear) is prevalent in the region. A recent publication (Adimey et al. 2014) identified this region as a hot spot for entanglement of dolphins, manatees, and sea turtles. To address this issue on a fine scale, Mote Marine Laboratory high school and college interns were trained to collect data on human activity, wildlife frequency, and marine debris frequency on area bridges, piers and jetties on a monthly basis. During these surveys, students used the Marine Debris Tracker App to record all marine debris and collected derelict fishing gear for measurement. Additionally, interns conducted or participated in several coastal clean-up events where trash was logged and derelict fishing gear was further measured. To date (since 2015), with the help of over 50 interns, over 10,000 pieces of trash have been logged and over 2 kilometers of fishing line have been removed and measured from area bridges, piers, jetties and beach and mangrove shorelines. Student interns communicated these results through a variety of modes such as public or scientific posters, educational games and activities at outreach festivals, peer mentoring of elementary-school children on relevant conservation topics, and presenting their activities and findings to a worldwide audience via videoconference technologies. Allowing students direct involvement in research and conservation education opportunities during teenage years builds important capacity in this next generation of potential future ocean scientists and creates conservation-minded members of the public.

METHODS

- Study area showing survey areas at bridges, piers, jetties:
  - North (ACP, RRP, LBP)
  - Mid (NPB, OKC, RGB, SKB)
  - South (NVJ, SVJ, SFP)

- Student surveys monthly
  - Human & wildlife activity
  - Clean and log trash (*MDT app)
  - Measure fishing line debris

RESULTS

- Nov 2015 thru Feb 2018 61 participants/215 surveys
- 3,909 total meters line removed and 247+ pieces fishing tackle
- 12,342 pieces trash removed; plastics most abundant
- Derelict line hotspots NPB and LBP were noted as having inadequate waste receptacles and signage

CONSERVATION ACTIONS

- Anti-litter and ethical angling signage
- Timely removal of derelict gear/trash topside and underwater
- Appropriate waste and recycling receptacles near land/water interface
- Fishing line recycling programs
- Pier walkers – students/volunteers

Many thanks to the student and teacher volunteers for all their help collecting, logging and measuring trash and fishing line and keeping our coasts clean! Special thanks to our grant sponsor Disney Conservation Foundation!