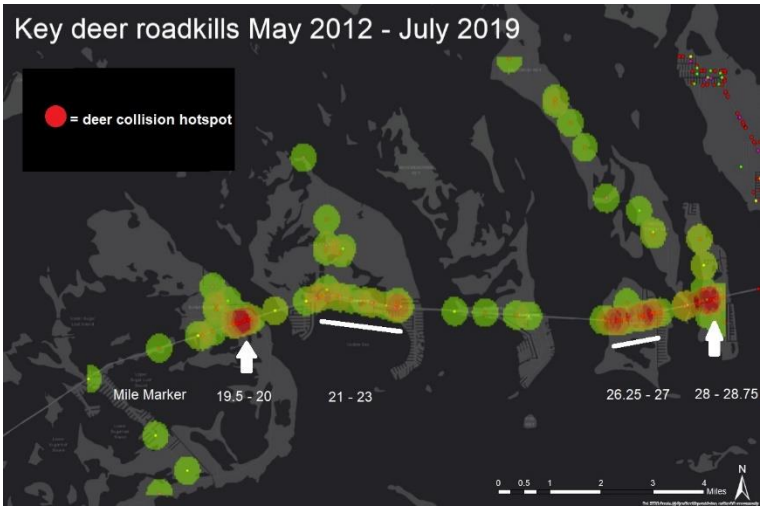
Ocean Imaging

June 2020 - Ocean Imaging conducts GIS study of vehicle-caused Key deer deaths in the Florida Keys.



The Lower Florida Keys are the unique home to the Key deer (*Odocoileus virginianus clavium*), a subspecies of the whitetail deer and federally listed as an endangered species. Saved from extinction in the 1950s, the deer have rebounded from a mere 25-50 individuals in 1950, to 700-800 today. Affected by major habitat losses in the past decades, as well as recent mass casualties during a screwworm epidemic in 2016 and Hurricane Irma in 2017, their most persistent cause of death is a collision with a motor vehicle. Each year 100+ Key deer (i.e. 9-15% of the entire world population) die that way.

There are plentiful road signs alerting motorists to the presence of deer on Big Pine and No Name Keys – the two islands holding the majority of the Key deer population. Smaller sub-herds also live on neighboring islands to the west, however, where no signage has historically existed, and most tourists and even many residents are unaware of the possibility of a collision with a deer. Ocean Imaging's President, Dr. Jan Svejkovsky, lives in the Keys and with his wife runs the non-profit organization "Save Our Key Deer" (SOKD). For the past 2 years SOKD has been lobbying the Florida Dept. of Transportation (FDOT) to install deer-warning signs on all islands with Key deer herds, in hopes that the raised awareness may reduce the number of collisions and deer deaths. In late 2019 FDOT agreed to the signage additions. The question then was where to locate the signs for best effect?

SOKD obtained detailed vehicle-caused deer death location records from the US Fish & Wildlife Service and the Monroe County Sherriff's Office for the past 8 years, and Ocean Imaging technicians used GIS analysis software to create maps of collision "hot spots". The hot spots indicate where the deer cross the road most frequently which, in turn, tends to

correlate with natural resources (e.g. a drinking water source) or human-related ones (e.g dumpsters behind a restaurant where deer tend to look for food scraps). The hot spot results were forwarded to FDOT by SOKD and are being used to plan out the new sign locations to be installed later this year or in early 2021.