

Losing the Loggerheads, The Collapsing of *Caretta caretta*

Looking into the human activity that is harming the sea turtle *Caretta caretta's* ability to thrive.

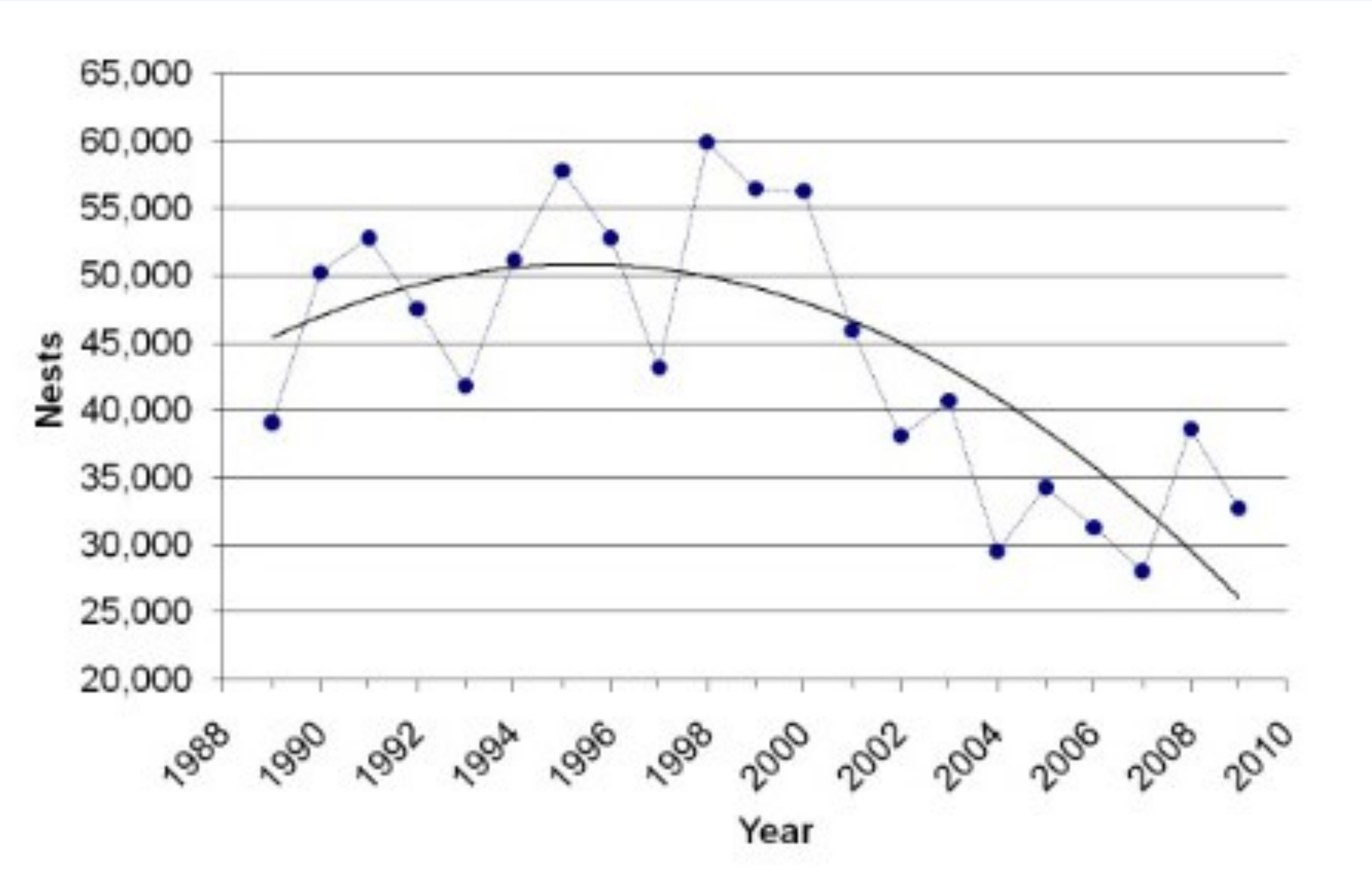
Introduction

Loggerhead turtles also known as *Caretta caretta* are an graceful ocean creature. What makes them unique is their life both on and off land. This also has them facing harm from humans coming at them from both land and sea. The Loggerhead turtle relies on sandy beaches, especially in Florida, to safely lay their eggs. Humans also enjoy the sunny beaches and this can be a harmful clash, whether it is finding them for food or just an accidental squish of an egg. The encroachment of our development paired with erosion of beaches is a double hit for Loggerheads laying eggs in sandy beaches. Living offshore puts these creatures at potentially even more at risk of coming into contact with the all the plastics these coastal developments are producing. What makes it worse for the Loggerhead is one of its favorite foods, the jellyfish happens to look very similar to a floating plastic bag. In addition to these at sea threats, larger fishing nets can also take in turtles to their unfortunate demise. Both of these come along with more and more people living on the coast.

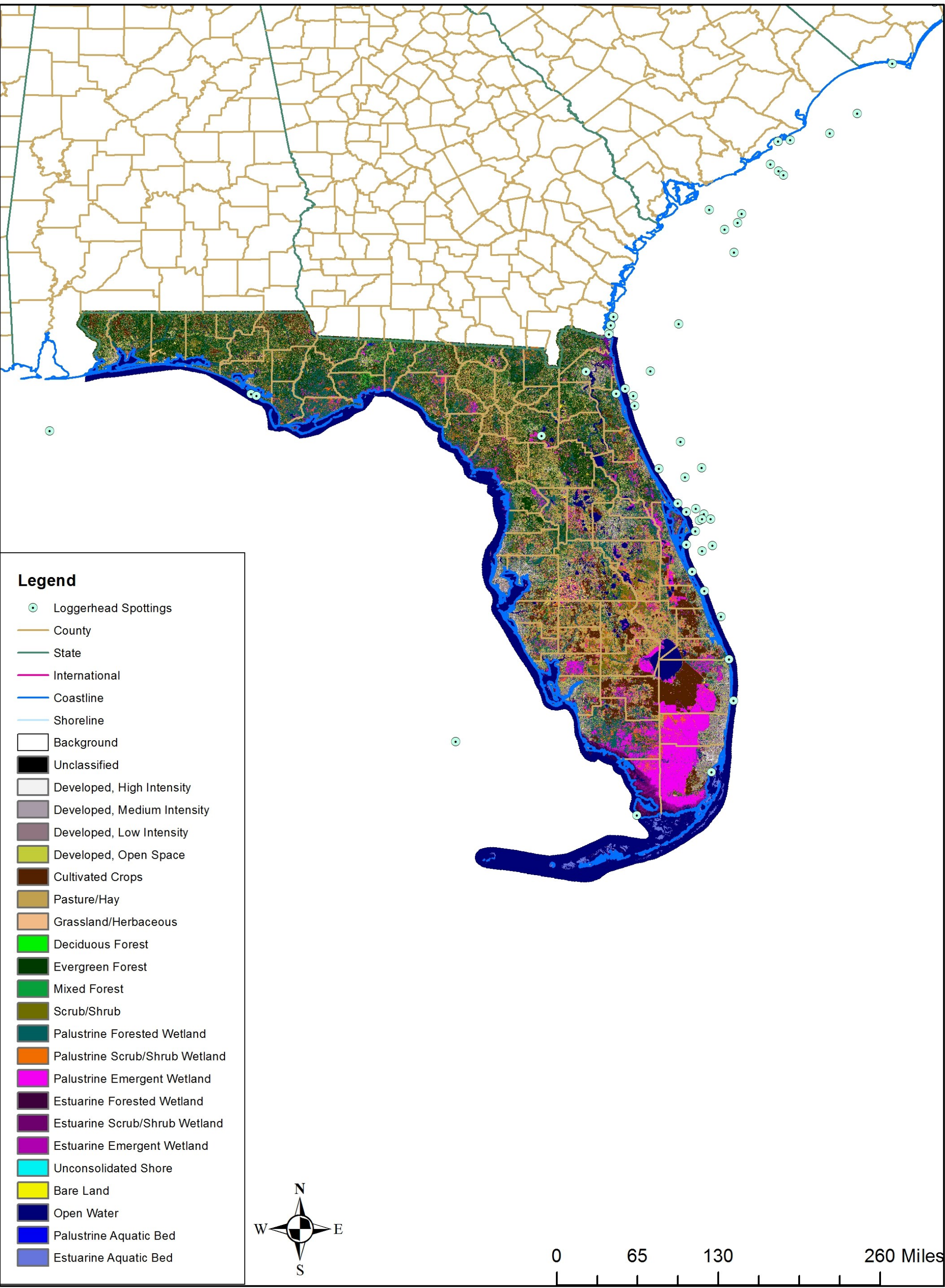
As is the case for many species today, the Loggerhead suffers from warmer than normal temperatures. For this turtle warmer temperatures mean the egg will more likely hatch a girl. A gender discrepancy can easily lead to the decline of the population.

To look into these problems we will focus in on Florida, a dense area for this species of turtles. Comparing the observed trend of declining Loggerhead nests on Florida beaches with some areas of predicted risk factors will hopefully lead to some answers about the decline.

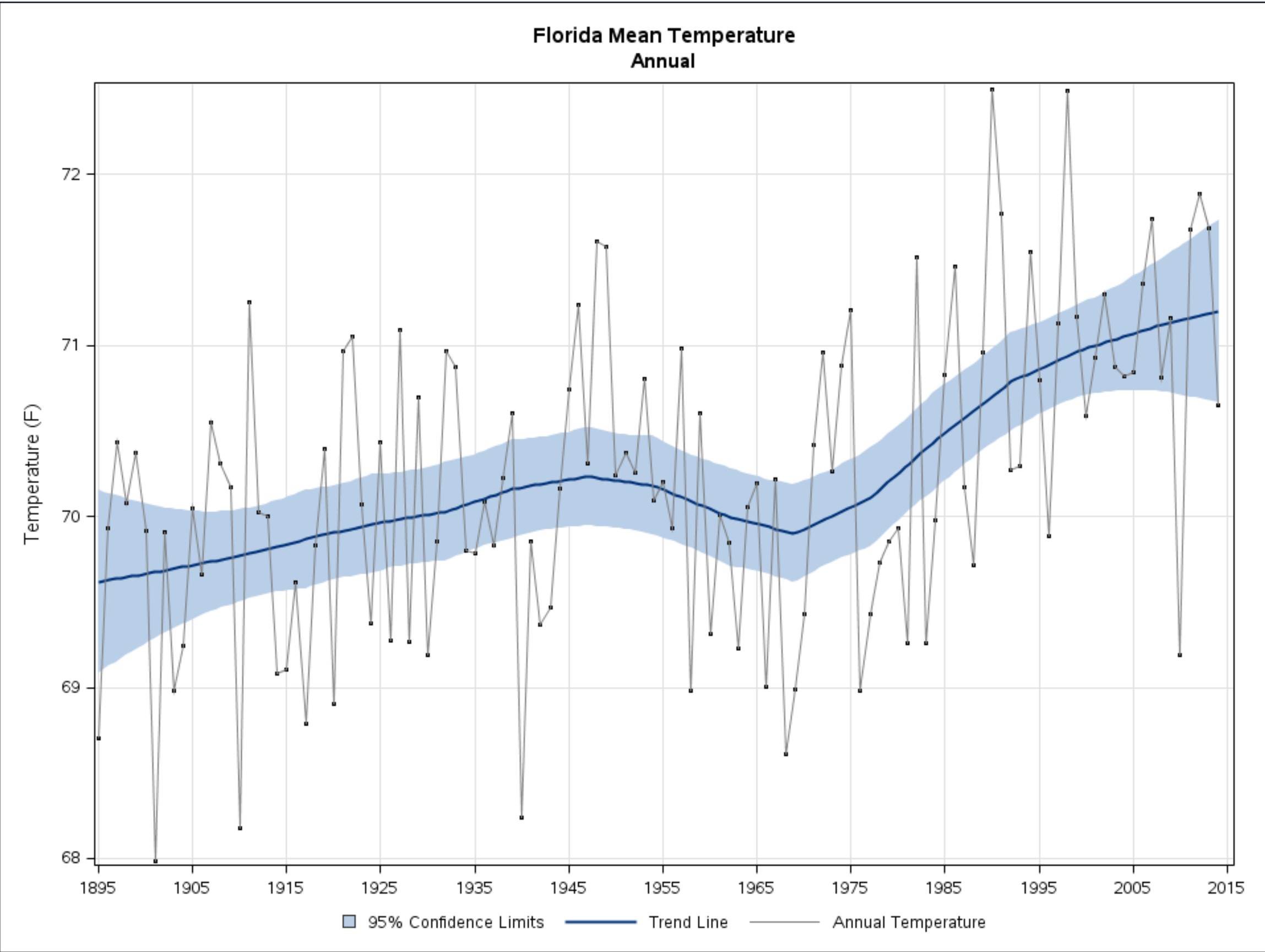
Decline of Loggerhead Nests On Florida Beaches



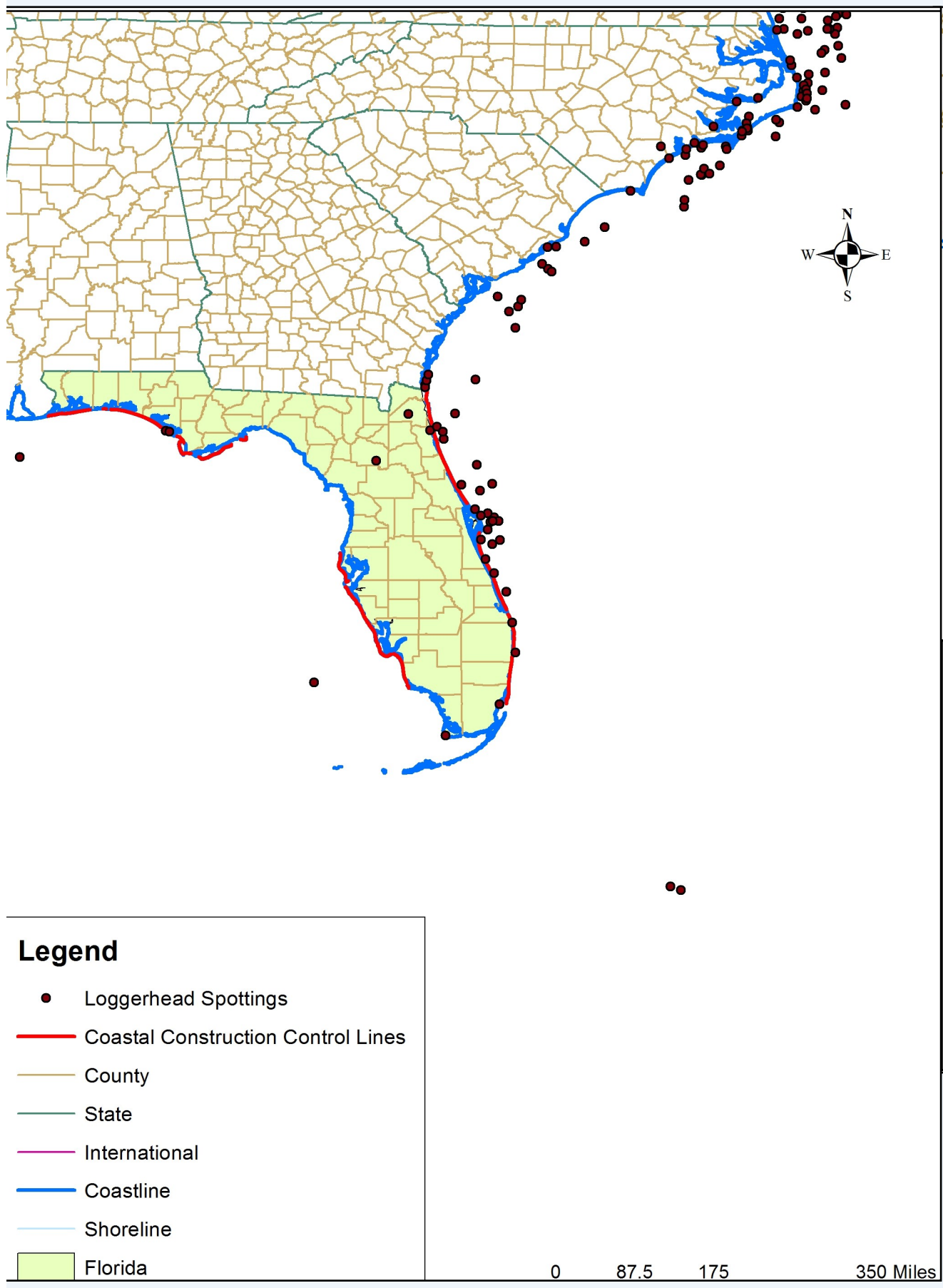
Land Development



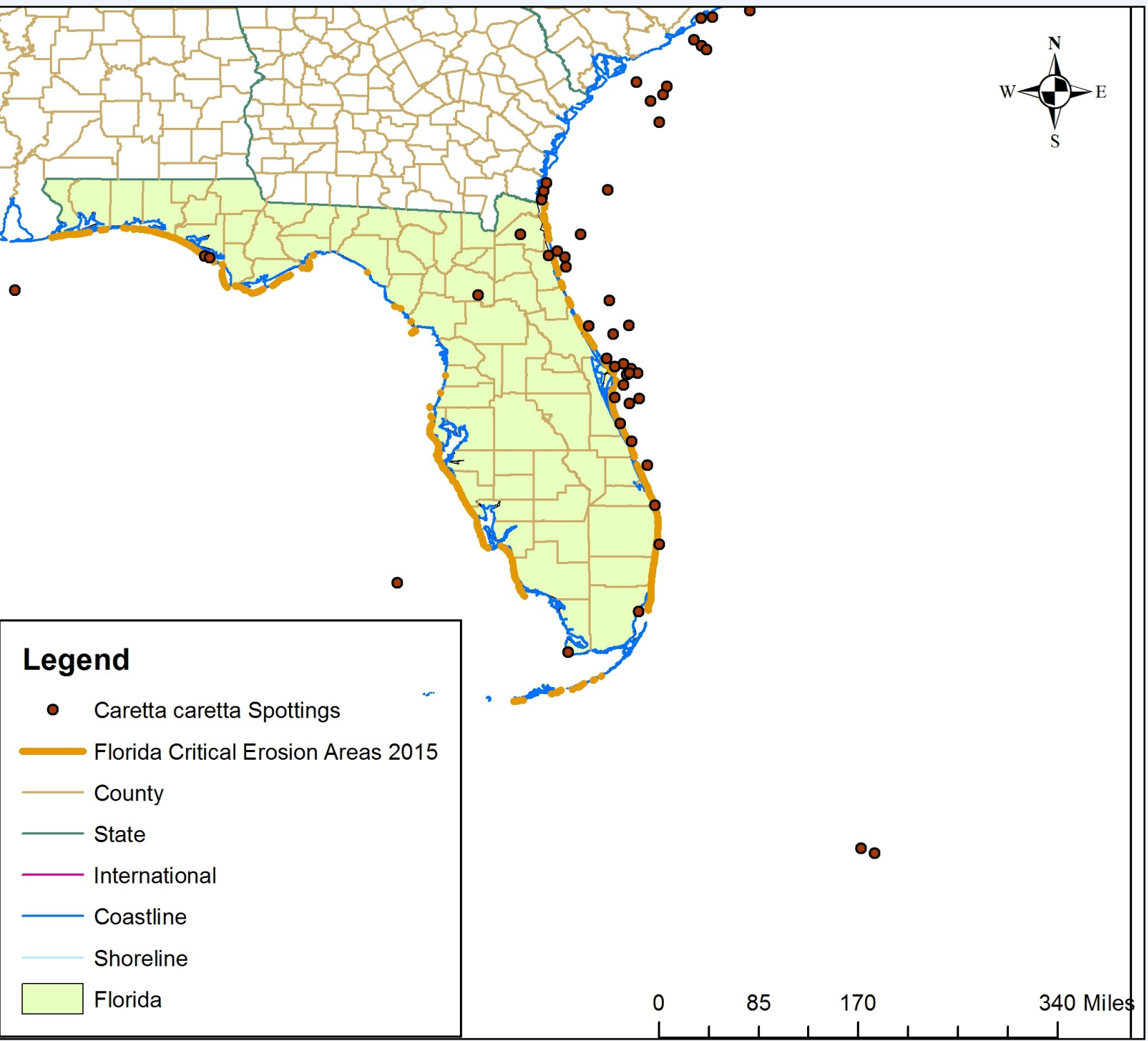
Rising Temperatures



Coastal Construction Control Lines



Critical Erosion Areas



Analysis

Looking into the graphs found, like the one on this poster, they strongly indicate that, in at least Florida beaches, the turtles are in a decline. Now looking to the overall temperature increase in Florida, this too could be weakening the Loggerhead population and is no doubt a human made cause of climate change. Now we look to on the most direct effects humans are having on the habitat. Pairing the locations where turtles have been know to be seen with areas of significant human activity shows strong association. The high density and desirable sandy beaches bring in both turtles and tourists and the turtles cannot beat the crowds. Building and urban development keeps increasing where turtles can be spotted, as you can see on the map. To further the battle for the coast, it is evident that the turtles are also located in areas of critical erosion. Loosing the sandy beaches will mean the loss of their once reliable breeding grounds. Erosion is natural but can also be accelerated by human influence. Looking forwards, with more frequently updated and acquired data, scientists could analyze more complex GIS maps of larger Loggerhead populations. These could help determine how much urban light pollution really impacts turtles.

Conclusion

Seeing clear data that a magnificent species is threatened from actions the human race has taken a majority part in is unfortunate. Although things like coastal control lines like on the map are in place, in situations like this they are merely guidelines to constructing on the shores. An important first part of taking on this problem is assessing both where those at risk are as well as the harmful factors they come into contact with. Seeing the areas of concern in relation to turtle populations really helps society prioritize and fully weigh their options.