

THE DIFFERENCE IN EFFECTS OF ROADS ON TURTLES BASED ON SEX

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The density of roads increase every year increased human demand to travel. Some of these roads are constructed through wetlands. As a result, wetland habitats become fragmented and local wetland animals suffer as they cross roads during migration. Among the most sensitive organisms are the turtles. As turtles migrate to breed or nest they must cross roads and are often killed by vehicular traffic. We conducted a census on *Chrysemys picta*, *Chelydra serpentina* and *Emydoidea blandingi* in the St. Lawrence Valley to look at this problem. It is my hypothesis that the majority of these turtle fatalities are females. I feel that this would be due to the increased activity of females during the nesting season as they select appropriate nesting sites. Which are often found along roadsides where the soil temperature remains elevated and is composed of sand or loam

To test this hypothesis we conducted a census of all turtle mortality and nesting activity on all state and county highways within the towns of Potsdam, Canton, Madrid, and Lisbon in St. Lawrence County, New York. The Censuses were conducted by driving and walking roads between the months of April and July 2002. Roads were driven where traveled at 20 to 30 mph in the early hours after dawn. When a turtle was seen from the vehicle, the observers stopped at that location and conduct a walking survey of 50m in each direction from the initial site to locate additional turtles within the area that were not seen from the vehicle. A walking census was conducted separately in four specific locations in our study area. These locations were chosen because they were known hotspots of turtle mortality. A hotspot was a location where the road fragmented a wetland and where turtles were likely to cross the roads. These hotspots were surveyed by walking both sides and recording each turtle found. These hotspots were measured out and marked off, on average they would be 225m in length. Each side of the transect for each census which was conducted 6 days a week in the early hours after dawn

Each census included both living and non-living turtles. Non-living turtles were identified when possible and sexed (by the position of there anal opening in relation to the end of the carapace and claws length (on painted turtles)), palpitated for the presence of eggs and measured for the curved length and width of their carapace. Remains were removed from the road to prevent turtles from being counted more than once.

Live turtles were captured alive on state and county highways and in hoop traps that were placed in a pond adjacent to one of the assigned transects. The hoop traps were placed 25-50m apart and marked with the date they were set up and a number for easy identification. All captured turtles were marked by a

notch or combination of notches on the rear scutes. Scutes were characterized as being left (L) or right (R) on the shell and numbered in descending order from back to front on each side (for example marked L9 or R12/L10)

Though the census is continuing, we have collected data that suggests there is a correlation between sex and mortality of turtles on roads. Presently we have identified a total of 130 turtle remains and of those were only able to sex, 35, 25 female and 10 male. Of the total non-living turtles found 83% of them were identified in the month of June. We have captured a total of the 31 turtles, 24 of them were females, 15 of which were captured on the road after nesting. Of the living turtle captures 97% were identified in the month of June. From this census we concluded that more female turtles than male turtles are being killed on roads. This is of great concern because excess adult mortality of females has a high impact on population viability of turtles.

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