**Sea Turtles – A Case Study**

To advance the research and conservation of sea turtles at Palmyra Atoll, studies began there in 2005. One major objective of the early research at Palmyra was to gain some understanding of sea turtle distribution and abundance there. To this end, surveys were carried out to document the occurrence of sea turtles along the atoll about every three months from August 2005 to September 2006, and approximately annually thereafter.

Survey counts were conducted by 5 to 10 researchers who simultaneously traveled by kayak and boat along non-linear transects, each counting the number of turtles that they encountered on the transect. The total number of turtles counted was influenced by weather and visibility conditions, and as many as 120 turtles were seen during the roughly 2-hour survey period.

To help provide insights into conservation and management, you will use data from the first survey to investigate the abundance of endangered sea turtles along the atoll.

**Figure 1: Summary of survey results** – turtle sightings by date. *Note*: For many of these turtles, it was not possible to assign a species classification, and all size categories are estimates since the turtles were not measured.



**Figure 2: Summary of survey results** – turtle sightings by region on the atoll.



Based on the data answer the following questions:

1. Are sea turtles found randomly throughout the atoll? If not, identify regions where sea turtles are most commonly seen.
2. Assuming the data are correct, what might be some explanations to account for their distribution? (Why might the sea turtles prefer certain areas over others?)
3. Identify strengths and weaknesses of using this survey to assess turtle distribution at the PANWR.
4. How would you carry out future surveys to improve the quality of conclusions drawn from these data?
5. What happened to the number of turtle sightings between June 2006 and September 2006? Why might this change occur?