A Safe Place to Nest
Help a Great Egret find the best available nesting site

Introduction:

Every spring Great Egrets build their nests in tall trees, lay eggs and raise their young. Great Egrets are colonial nesters—they prefer to nest in groups of birds called colonies. Some colonies are made up of only one species (type) of bird. Other colonies are mixed and contain more than one species. For example, a mixed species colony might have both Great Egret pairs and Great Blue Heron pairs nesting near each other. Heron and egret colonies are sometimes called heronries.

Male Great Egrets are the first to arrive at the colony site in early spring. The males choose a location, usually near the top of the tallest tree around, to put their nest. In this spot, the male will perform his courtship displays. He will show off his beautiful feathers and do his best to look healthy and strong. He will defend his spot in the tree from other Great Egret males who might try to take it from him. These behaviors are attempts to attract a mate, a female Great Egret with whom he can raise a brood of chicks.

How do male Great Egrets choose a colony site? There are many things they look for in a good nesting site. They need a safe place where predators can’t reach their chicks. Many Great Egrets will choose sites with tall trees such as redwood, cypress, or eucalyptus. Tall trees are good protection against land-based predators such as foxes. Groves, or groups of trees, are often preferred over single trees because the many leaves and branches can make it harder for flying predators such as ravens to see the nests. Good nesting sites are also protected from disturbance. Disturbance can come in many forms. Humans can cause disturbance by making loud noises and scaring the adult birds off the nest, leaving the eggs and chicks vulnerable to cold or predators. High winds can cause disturbance by blowing nests out of trees. Finally, Great Egrets also need to nest close to good foraging areas, where food is plentiful. Lots of food is needed to feed the chicks.
Good nesting sites can be hard to find! In this activity, you will practice your map reading skills to help find a suitable place for a Great Egret colony. You will use the clues provided in the instructions to decide which redwood grove is the best colony site location for the Great Egret.

**Vocabulary:**

**Brood** - A family of young animals produced at one hatching or birth  
**Predators** - Animals that eat other animals  
**Disturbance** - Anything that will causes stress to the birds such as loud noises, predators, or high winds  
**Foraging** - looking for food

**Materials:**

- Pencil  
- String (yarn or thread)  
- Scissors  
- Ruler (if you don’t have one, cut out the one provided on page 4)  
- Map on last page

**Instructions:**

**Part one: Getting oriented**

1. One thing you should know when looking at a map are the cardinal directions: north, south, east and west. Directions help us describe and communicate where objects on a map are located.  
2. Find the compass rose on the map. It looks like this:  
3. The compass rose is used to tell the map reader how to orient the map. The letter N on the compass rose represents North.  
4. South is in the opposite direction of North. What direction is the opposite of the top of the page?  
5. Label the remaining three cardinal directions on the compass rose. There are blank lines in the places that need a label. Write an “S” for south where it belongs.  
6. Write a “W” for west on compass point facing left.
Part two: Read the legend

The legend of a map tells you what the symbols on the map means. Read the legend and write down what the following symbols represent.

Part Three: Scale

At the bottom of the map is the scale bar. A scale bar shows how the distances on the map relate to distances on the ground.

1. On this map, one inch represents a distance of _______ miles on the ground.
2. Use a ruler to measure how many inches the map is from east to west.
3. How many inches was the map from east to west? ________
4. How many miles, from east to west, does this map show? ______________
   
   Hint: multiply your answer for number 3 by you answer for number 1
5. Use a ruler to measure how many inches the map is from north to south.
6. How many inches was the map from north to south? ________________
7. How many miles, from north to south, does the map show? ______________

Part Four: Mapping foraging range

Many Great Egrets prefer to nest within 2 miles of good foraging areas. This is their foraging range. To help decide which grove of redwoods is the best colony site for the egrets, map the foraging range around each redwood grove.

1. Using your answer from Part Three, determine how many inches on the map represents 2 miles on the ground. Use scissors to cut a piece of string this long.
2. Tape one end of the string to your pencil near the point.
3. Place the other end of the string at the center of redwood grove #1. There is a small dot on each redwood grove marking the center.
4. Put your finger on the string to hold it down over the dot.
5. Pull the string taught and slowly draw a circle around the redwood grove using the pencil taped to the other end of the string. Use the length of the string as a guide to give your circle a radius of 2 miles.
6. Do the same thing for redwood groves #2 and #3.

Part Five: Finding the best available nesting site

To find the best available nesting site, you need to identify the redwood grove that:
1. has good places to find food within the birds’ foraging range,
2. is large enough to provide good cover from predators, and
3. is far from noisy disturbances.

Use the following clues to choose which of the 3 groves is the best.

Clues
1. Egrets like to eat fish, frogs, and crustaceans that live in creeks and wetlands.
2. Large groves of redwoods make it harder for avian predators such as ravens to find egret nests.
3. Construction sites are very noisy and disturb the birds.
4. Egrets and herons like to hunt for food within two miles of where they nest.
5. Tree trimming along the highway can disturb the birds.

Conclusion:

Which of the three redwood groves is the best one for the egrets and herons to nest?

Why was the grove you chose the best one?