



Project OspreyTrack

A project of the Squam Lakes Natural Science Center funded by:
3M Eco Grant, Eversource, and Jane B. Cook 1983 Charitable Trust

S13 – Outdoor Migration Game

Teacher Notes

Objective:

To simulate how an Osprey wearing a transmitter pack is tracked via satellite and to have students understand how and why it is important to study Ospreys.

Materials:

- Clicker (some sort of sound maker)
- Osprey model (or paper cut out)
- Cones – # variable depending on group size (for a group of 14 students you would need 6 cones)
- Blindfolds – 1/pair of students
- Garden hose hoops - 2
- Light weight rope – 1/pair of students
- Bells – 1 for every 2-3 pairs of students

Procedure:

In a large open space have students pick a partner. While the students are picking partners place sets of three cones in two lines approximately 20-30' apart and a garden hose hoop about 10' behind and approximately half way between the end of each line.

Explain to the students that they are about to participate in an activity that symbolically demonstrates how Ospreys are tracked by satellites.

Ask one pair of students to “volunteer” to play an important role. This pair will be split up to become the “receiving stations” by standing inside the garden hose hoops. The other pairs of students should each stand behind one of the cones.

Show students the Osprey model. Tell them the Osprey will be “migrating” around the area between the two lines of cones. (Recommend designating the teacher or chaperone to play the role of the Osprey)

The pairs of students at each cone will represent stationary “satellites” stationed above the earth. Tell the students that the satellites can only hear the signal the Osprey is transmitting so one of pair will be wearing a blindfold (“locater”). The other student will be the “relay” and use the light weight rope to signal to the receiving station when the Osprey signal is correctly aligned with the Osprey. The ropes should be stretched to the receiving station and the satellites.

The receiving station students should hold the end of each rope of their respective lines and have the bell in front of them on the ground.



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Teacher Notes — continued

Have the Osprey signal by using the clicker attached to the Osprey model handle. The blindfolded students should practice pointing to the Osprey. When the action begins the Osprey will move about stopping every 5-8 seconds and sounding the clicker. The Osprey should count to 5 before moving again (to allow the satellites to try to align themselves).

The non blindfolded member of each pair will determine if the blindfolded “locator” has accurately pointed to the Osprey. If the locator is accurately aligned the relay gently tugs on the rope sending the message to the receiving station. If the blindfolded locator is not aligned accurately the relay should just say “miss” and the pair wait until the next transmission from the Osprey. Tell the students it is OK if the locator misses as sometimes the signal from the Osprey transmitter is interrupted by thick cloud cover, geographic terrain or vegetation depending on where the Osprey was at the moment of transmission.

When the receiving station feels a tug on the rope from at least 2 stations they may ring the bell.

The activity may continue until the receiving stations have rung the bell at least 3 times.

The activity should then be repeated with the satellite pairs switching roles allowing both partners to have been blindfolded.

Discussion:

Ask the students:

“What are the advantages of using satellite technology to track Ospreys?”

(Allows scientists to know where Ospreys migrate to, what routes they take, find out how long it takes to get to their destinations, gives them “real time” locations of where the Ospreys are every hour, lets them know if the Osprey is alive or has died)

“Is there any other ways Ospreys can be tracked?”

(USF&W Service numbered bands, color bands and wing tags can be used but rely on someone to actually see the Osprey and be close enough to make the observations)

“What are the disadvantages of satellite tracking Ospreys?”

(It is difficult to catch Ospreys safely, the transmitter equipment and satellite time is expensive, transmitter packs and harnesses may add an extra burden to the Ospreys and affect their survival chances. Further advances in technology may make the latter less of a concern in the future)