



Activity Theme: Ecological Protection

Activity Type: Relay Race 

Grade 2-5

## Eagle Survivor

**Activity Overview:** Students will learn how Bald Eagles catch their food for survival, and how humans can affect their livelihoods negatively. Students will discuss the impact of human and animal interaction, identify how species can decrease in number or become extinct and be mindful of what contributes to the survival of animals, specifically the Bald Eagles.

**Objectives:**

- To learn that Bald Eagles eat fish and need fish to feed their babies
- To understand why fish are only healthy if their water source is clean and if water is polluted, fish are unhealthy, which impacts the health of Bald Eagles

**Materials:**

- 30 Foam Fish
- 1 Kid's pool
- 4 Hula Hoops
- Stopwatch

**Setup:** Put the fish into the kid's pool. Set up the hula hoops around the pool.

**Takedown:** Make sure all materials are returned and packed away.

**Safety:** No pushing or shoving; highlight that this is not a competition.

### What will I be doing? (Procedure)

*Before you start your presentation check with the teacher or chaperone that the entire group is present and ready to start.*

Remember that **doing** an experiment and **discovering** the answer is more powerful than watching and listening to someone, so try to involve as many children as possible.

**Say:** "Hello, and welcome to Eagle Survivor. In this activity, we are going to be eagles and our goal is to catch as many fish as possible for the baby eagles."

Step one: Divide students into groups of 3 or 4.

Step two: Each group starts from their nest (hula hoop)

## Orange Colour Group - Easy

Step three: One member of the nest is permitted to run to the lake (pool) at a time.

Step four: Only one fish may be grabbed at a time, and brought back to the nest.

Step five: Once the first student has returned to the nest, the other person may get one fish.

After a few students have run back with a fish, pause the game and let them know that a developer who is building a business park is cutting down trees in the area. This means the eagles have lost their homes (habitat loss) and that they must now sacrifice the fish that they have so far and find somewhere else to nest. Each group must move their hula hoop 5 steps away from the original location. Play the game for a second round but now they must walk because they do not have as much energy to fly quickly having lost all their food in the first round. After a minute or so of play, stop the game and have students remain at their nests.

As students count up their fish, tell them to remove 3 or 4 fish from their collection. These fish represent food that is contaminated from chemicals found in the water. When bald eagles eat contaminated fish, it can be very bad for their health.

**Say:** "This is what eagles must do to survive in the wild. They feel happy and healthy when their nests are in forested areas, but deforestation forces them to find other places to live. On top of that, chemicals in the water – even from decades ago – contaminate their food source, fish. 50 years ago, the government banned certain chemicals from being dumped into waterways and that has helped, but it has taken a long time for the bald eagle population to rise since then. It's important for us to be aware of where Eagles are nesting and be careful to not disturb their habitat. We also want to be careful not to dump any chemicals down our drains because those can make their way into our waterways and harm the fish that live there – which then harms the eagles."

### **Specifically remind them that:**

- Eagles eat fish and need fish to feed their babies.
- Fish are only healthy if their water source is clean.
- If water is polluted, fish are unhealthy and it may negatively impact the Eagle populations and baby survival.
- Habitat loss is another factor that can negatively impact the Eagle populations. Loss of nesting and foraging habitat can occur due to development along coasts and waterways, logging, oil exploration and extraction, construction and recreational activities.

### **Background Information**

Prior to European settlement, Bald Eagles were abundant along the north shores of Lake Erie and Lake Ontario. An estimated 200 pairs nested from the Ottawa River to the lower Great Lakes and nesting densities were as high as one nest per mile of shoreline along Lake Erie. Loss of nesting and foraging habitat along with direct human persecution led to a marked decline in the Bald Eagle population in the Southern Great Lakes.

The introduction of protective legislation helped the southern Ontario eagle population rebound to approximately 100 pairs by 1950. Unfortunately, this recovery was short-lived due to the introduction of certain pesticides, such as DDT and PCBs, into the Great Lakes aquatic food chain.

In the 1940s to the 1960s, tons of chemical compounds were deposited into the Great Lakes, either by direct application or through transportation by air or water. These chemicals settled into the sediment of lake bottoms and from there spread to the tiny aquatic plants and organisms and then into the bodies of fish and fish-eating birds through a process termed "bio-magnification" or "bio-accumulation".

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Because animals do not excrete toxins, but store them in their tissues, tiny concentrations are bio-magnified up the food chain. Bald eagles, like humans, are at the top of the food chain and when they consume fish or fish-eating birds, large concentrations of chemicals accumulate in their tissues.

This accumulation of chemicals in the eagles' bodies caused severe eggshell thinning. Eggshells were so thin that the incubating birds often crushed the eggs in the nest. For those eggs that did hatch, the young often had life threatening deformities.

Canada and the United States have since restricted the use of DDT and tightened regulations for disposing of industrial chemicals. The populations of Bald Eagles are slowly rebounding; there are a few nests located throughout Elgin County.

### Other Eagle Facts:

- Eagles have more than 7,000 lightweight and extremely strong and flexible feathers covering their body- assisting in regulating their core temperature and manoeuvre around prey.
- In Southern Ontario, Bald Eagles favour nesting territories near large water bodies and nest in a variety of tree species.
- Eagles feed primarily on fish, mammals, and aquatic birds, but will scavenge dead prey when necessary. Bald Eagles will attempt to obtain food by whatever means possible, including stealing from other birds (i.e., Will chase and steal from Ospreys) or even scavenging fish killed through hydro turbines, or even road killed deer.