

## Snappers and Ladders Activity

### Prep:

#### Overview of biodiversity

Nova Scotia is home to 12 different species of reptiles! We have five different species of snakes, all of which are non-venomous and are not a threat to humans. Our biggest snake can grow to just under one meter, and they're more scared of us than we are of them. We are also home to seven different turtle species. Three types of sea turtles and four terrestrial turtle species call Nova Scotia home. Each one of these species plays a very important role in our ecosystem and helps keep Nova Scotia happy and healthy!

Snakes play many different roles in our natural world. They are both predator and prey, feeding on small animals like rodents, insects, frogs, and salamanders, while also being predated by mammals and birds. Being in the middle of the food chain means that snakes keep prey populations, like rodents, in check, while also being a food source for larger animals that require a higher abundance of food. Snakes are also an indicator species, which means if they are present in an area, that is a good sign of a healthy ecosystem. The Eastern ribbonsnake (*Thamnophis sauritus*) is listed as threatened in Nova Scotia, and one of their major threats is the destruction of wetlands, which is their natural habitat.

All four of our terrestrial turtle species are listed as at-risk, endangered, or threatened by the provincial government. The four species of turtles in Nova Scotia are the snapping turtle, Eastern painted turtle (both listed as at risk), Blanding's turtle (endangered), and wood turtle (threatened). Turtles are excellent at recycling nutrients in ecosystems like wetlands by eating vegetation, algae, detritus, and deceased animals. Like snakes, their presence is also an indicator of a healthy ecosystem. The presence of wood turtles can indicate a balanced and functioning riparian system. This game focuses on snapping turtles, their life cycle, and the current threats they face in their environments.

Snapping turtles are a semi-aquatic species that spend most of their life in lakes, ponds and rivers, usually only surfacing to nest and bask in the sun for warmth. In the winter months, snapping turtles will bury themselves in mud or silt at the bottom of lakes, ponds, or rivers, and stay there from October to April in a process called brumation. Snapping turtles have very long life spans, around 40-50 years, and reach sexual maturity between 15 and 20 years old. This means mature adults are very important to the population because they are the ones contributing to the future of the population.

A baby snapping turtle's journey starts when a female turtle lays her eggs in a nest. After the female is done nesting, she leaves and does not protect the nest, leaving the eggs susceptible to predators like skunks, foxes and raccoons. If the nest is not predated, then hatchlings emerge any time between August and October, and must watch out for predators like mammals, chain pickerel, small-mouth bass, and birds. As the turtle grows up, their chances of being eaten decline, but they face many other threats. As turtles try to get to wetlands or bodies of water, they can be hit by cars when trying to cross the road. Snapping turtles' habitats, like wetlands,

are also shrinking in size due to humans, making it harder for them to find a home and forcing them to be on or near roads for longer. Turtles can be caught by fishing gear, which can injure and impact their swimming abilities. They can also be stolen from their homes and sold to the pet trade, where they will never be able to contribute to their home ecosystem and reproduce. While snapping turtles face many threats, they are a very resilient animal, and we can help them by protecting their land and slowing down on roads to avoid hitting them.

- Overview of reptiles and turtles, how they are important to biodiversity
- Lifecycle overview and threats to populations

<b>Snapping turtle - Background information</b>	
<b>Identification</b>	One of the largest freshwater turtles in Canada, the snapping turtle has an earthy coloured shell and hooked upper jaw. Spiky scales on its tail give it a prehistoric appearance.
<b>Lifespan</b>	Snapping turtles are generally long living with a lifespan of 40-50 years
<b>Habitat</b>	Snapping turtles live in many habitat types and can most often be found in water that is moving slowly, with a mud bottom and lots of aquatic plants
<b>Hibernation</b>	In the fall, snapping turtles will travel to find water bodies suitable for hibernation, where they will bury themselves in the mud and spend the winter in a primarily dormant state
<b>Diet</b>	Snapping turtles feed on both plants and animals (also known as omnivorous). They also help to keep waterways clean and healthy by scavenging large amounts of dead plant and animal matter
<b>Survival</b>	Only a small percentage of hatchling turtles survive to maturity. Therefore, high survival rates of adult individuals are essential to maintain healthy populations.
<b>Threats</b>	<ul style="list-style-type: none"> <li>● Listed as a vulnerable species under the Nova Scotia Endangered Species Act, snapping turtles face threats including habitat loss, pollution, road mortality and persecution</li> <li>● Water pollution, such as agricultural runoff, is a major threat as polluted water bodies cannot sustain a significant snapping turtle population</li> <li>● Turtles are threatened when habitats such as wetlands, streams, and nesting sites are altered or lost to urban and agricultural development</li> </ul>
<b>Aggressive behavior (dispelling myths)</b>	Snapping turtles can be aggressive on land to defend against predators as they are unable to retreat into their shells. However, they are docile underwater and pose no threat to people swimming.

<b>Turtles and First Nations</b>	Turtles are very important to First Nations as they play a large role in ceremonies and cultural beliefs. For example, the continent of North America is referred to as Turtle Island and it is believed that the world was created on the turtle's back.
<b>What to do if you see a snapping turtle?</b>	If you see any turtles, you can observe them from a distance and avoid handling or removing them from their home.

## **Snappers and Ladders**

**Instructions:** This is a team building game that aims to teach participants about the life cycle of the snapping turtle. Participants must line up at the start. Each participant will take a turn on the board until they step in the wrong direction. Participants must wait for their turn in line to get on the board. After the participant chooses their square on the board the instructor will read the corresponding note. Participants can move forward backwards and sideways on the board but not diagonally. If the participant has stepped in the right direction they can continue their turn, however if they stepped in the wrong direction they must get off the board and go to the back of the line. The game will continue until the correct path is found.

**Goal:** The goal of the game is to encourage teamwork and collaboration while teaching participants about the snapping turtles' life cycle and threats.

**Materials:** This game only requires a game board and an answer key. The game board can be made using packing tape and a tarp.

**Ages:** this game can be adapted to various age groups but works best with ages 9 and up.

A hungry raccoon ate the eggs	1. Congrats you successfully hatched	Your egg was laid in a construction zone	Wops! the egg was crushed	Predators attack! Again...
Oh no! you were born on the side of a busy highway	2. You're now a hatchling: start on your journey towards the nearest wetland	You were spotted by a hungry crow	You became a human's pet because you're 'too cute'	A dog thinks you are a fun toy
You're here but the wetland is gone.	3. You made it to the wetland!	4. You're now a juvenile turtle.	A great blue heron thought you were delicious meal	The neighborhood kids thought you would make a fun pet
Your pond was turned into a golf course	You injured your shell	5. You're successfully adopting to your life in the pond	6. Your pond has plenty of your favorite foods: plants and aquatic insects	7. You enjoy sitting on your favorite rock to regulate your body temperature
Chemical runoff from the golf course has made you sick	You are captured by poachers	Your wetland habitat is lost	Predators attack!	8. Now it is late fall and time to find a place to hibernate for the winter.
Your wetland habitat is lost	You crossed the road in the wrong place!	11. You're safe, keep going!	10. You made it through your first winter	9. You find a nice cozy mud bed at the bottom of a lake. A perfect place to hibernate!
You crossed the road in the wrong place!	You ate a fishing hook	12. You're safe, keep going!	15. You survived the winter and have continued to thrive for the next 5 years (Optional)	16. Congrats! you made it to adulthood (Optional)
You lost a piece of your shell	Chemical runoff from the golf course has made you sick	13. You're doing good, keep going!	14. You're safe, keep going! (Possible game ending)	You're kidnapped by illegal poachers