

# Wetland Invasive Species



Image from cks.ca

## General Learning Outcomes

**S2-0-1c:** Identify STSE issues which could be addressed

**S2-0-7b:** Select the best option and determine a course of action to implement an STSE decision.

**S2-0-8a:** Distinguish between science and technology.

## Specific Learning Outcomes

**S2-1-07:** Describe potential consequences of introducing new species and species extinction on an ecosystem.

**S2-1-08:** Observe and document a range of organisms that illustrate the biodiversity within a local or regional ecosystem.

**S2-1-09:** Explain how the biodiversity of an ecosystem contributes to its sustainability.

**S2-1-10:** Investigate how human activities affect an ecosystem and use the decision-making process to propose a course of action to enhance its sustainability.

## Vocabulary

wetland, invasive species, native species, introduced species, ecosystem, equilibrium, biodiversity

The activities for Grade 10 students can be pulled from the Grade 11 or Grade 12 activities depending on what suits your class better. The activities are the same but the Learning Outcomes are specific to Grade 10.

There are **two** choices for Pre-visit activities:

## Wetland Invasive Species Trivia!

Students are introduced to wetlands, invasive species and their effects on the environment, economy and society through a trivia game. Through a series of questions, they will become familiar with these concepts. *See the Grade 11 section of the website.*

## Common Carp Trivia!

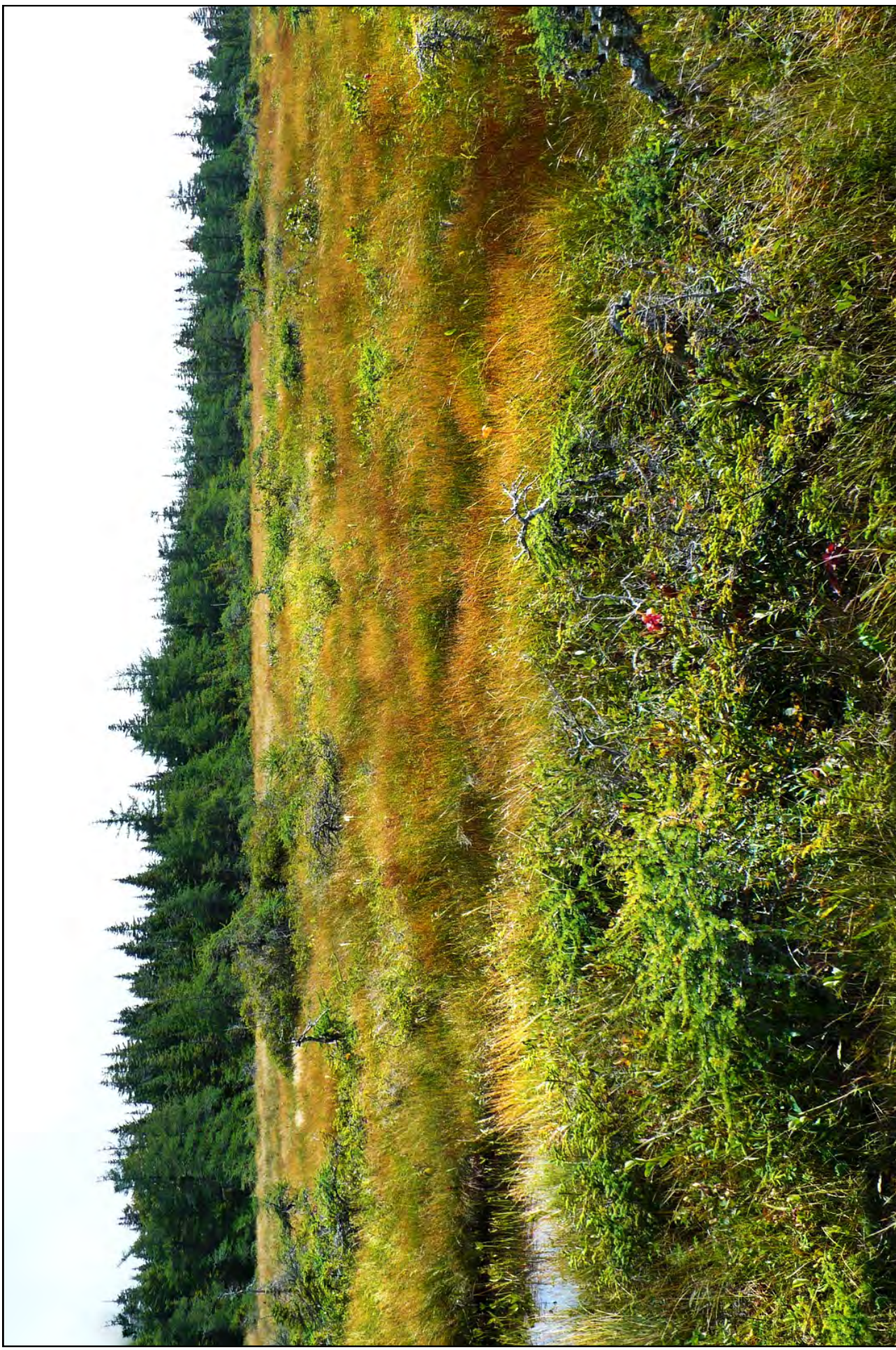
Students are introduced to wetlands, invasive species, common carp and Delta Marsh through a trivia game. Through a series of questions, they will become familiar with these topics. *See the Grade 12 section of the website.*

**A wetland** is an area of land that holds shallow water, with a maximum depth of two metres. The water makes the soil very moist, so water-loving plants will grow in and around the wetland; this is why a wetland can not be deeper than two metres, because otherwise these kinds of plants drown and do not receive enough sunlight. The water moves slowly because there are so many plants that slow the flow, absorbing some of the water like a sponge and filtering it as it moves through.

**Invasive species** is an introduced species or organism that causes damage to biodiversity, agricultural production or human health. They have no natural enemies/predators and outcompete native species.



# Wetland—Bog



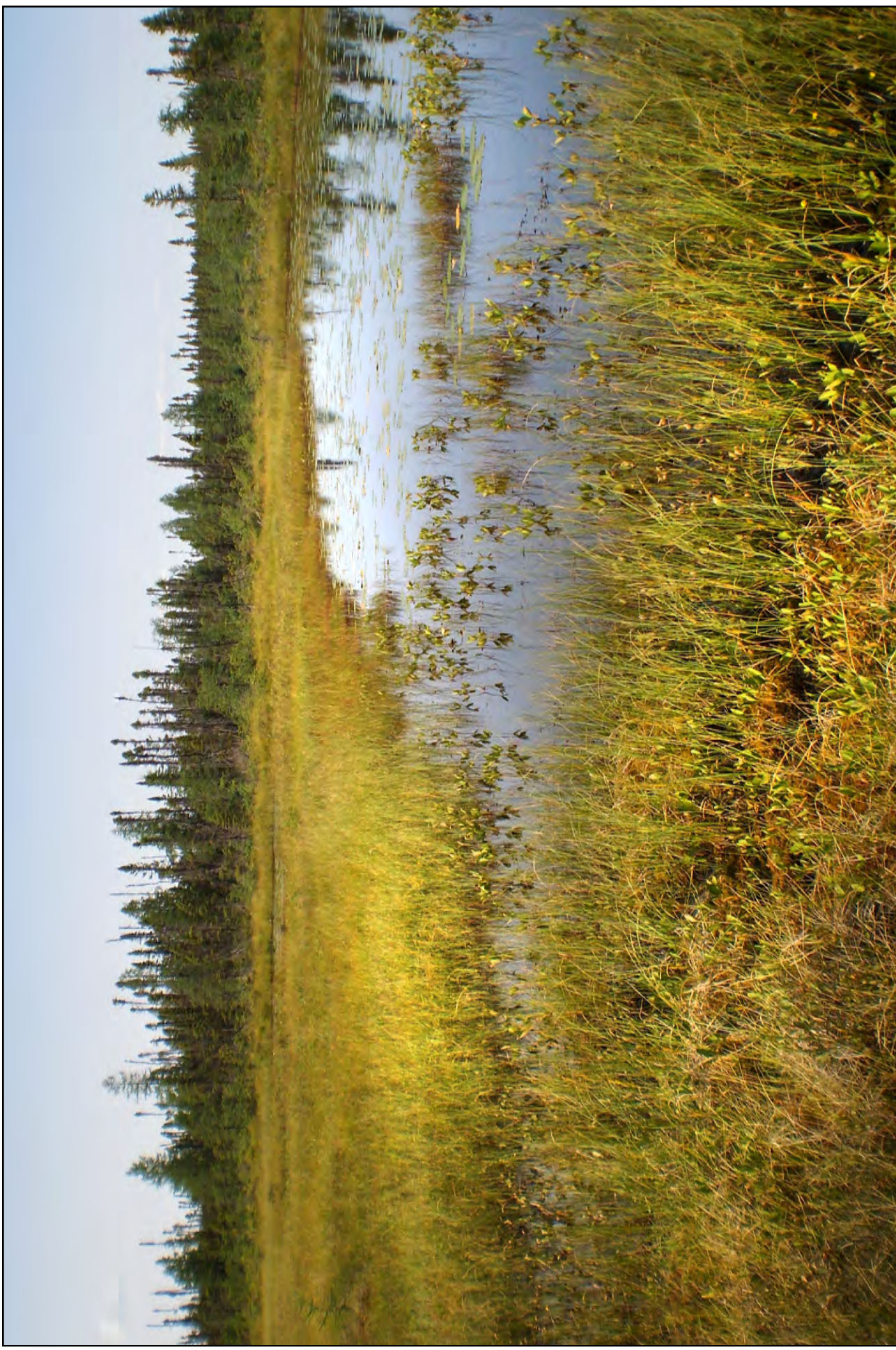
*Image from Wikipedia.*



### **Key Characteristics of Bogs:**

- Peat-covered (peat is a brown, soil-like substance made of decaying *Sphagnum* mosses )
- Isolated from ground water
- Rain-fed
- Low nutrients in the water and acidic
- Dominated by *Sphagnum* mosses with tree, shrub or treeless vegetation cover

# Wetland—Fen



*Image from Ducks Unlimited Canada.*

### **Key Characteristics of Fens:**

- Peat-covered (peat is a brown, soil-like substance made of decaying *Sphagnum* mosses )
- Exposed to ground water; water at surface is moving
- Fed by rain, streams and groundwater
- More nutrients in the water than bogs and is less acidic
- Greater variety of plants than bogs: grass meadows, shrubs, and trees



# Wetland—Swamp



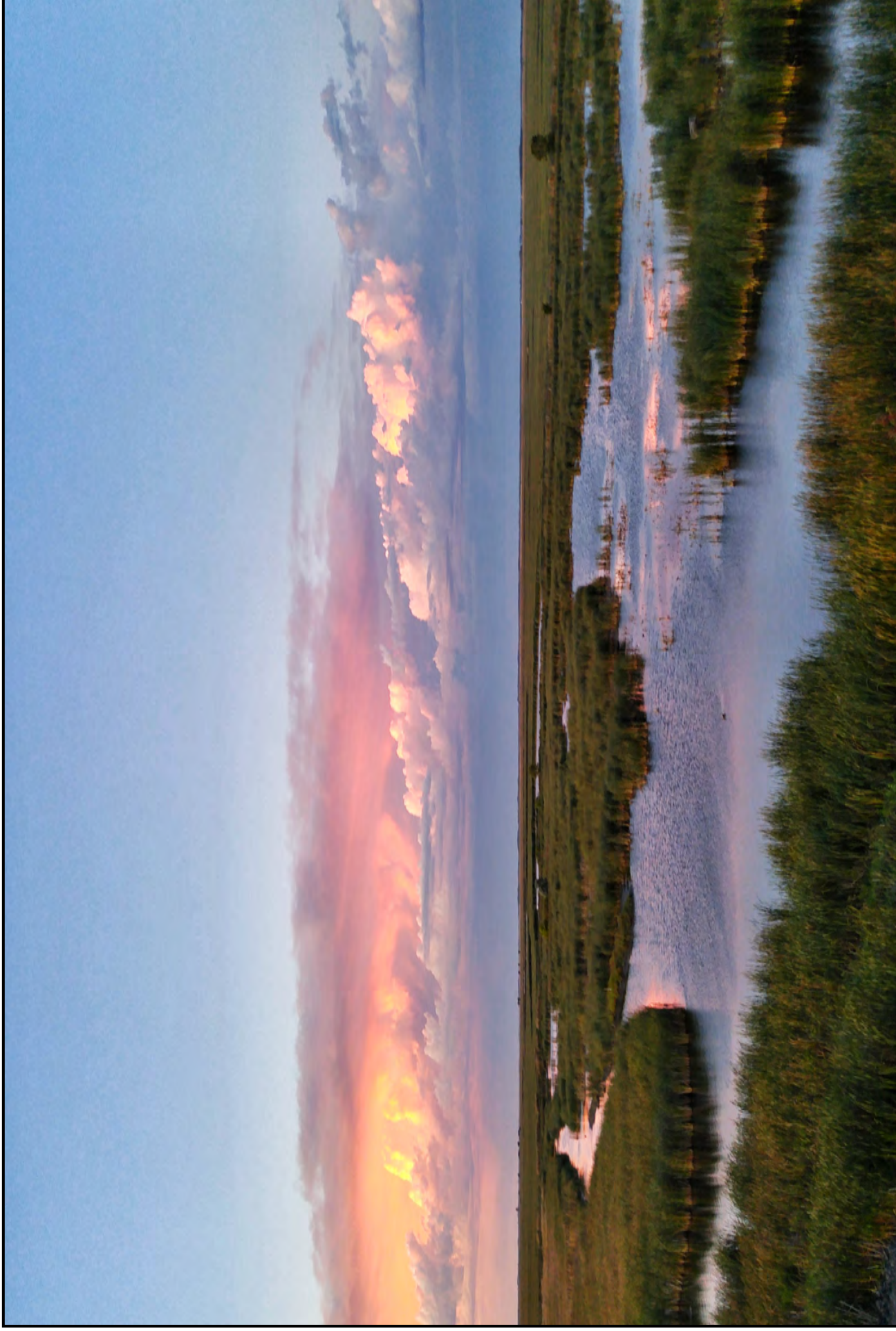
*Image from Ducks Unlimited Canada.*



### **Key Characteristics of Swamps:**

- Non-peat forming wetland
- Has flowing water; flooded for the majority of the growing season
- Waterlogged soil, often standing water
- Vegetation is dense, and can include coniferous or deciduous trees, or tall shrub thickets

# Wetland—Freshwater Marsh



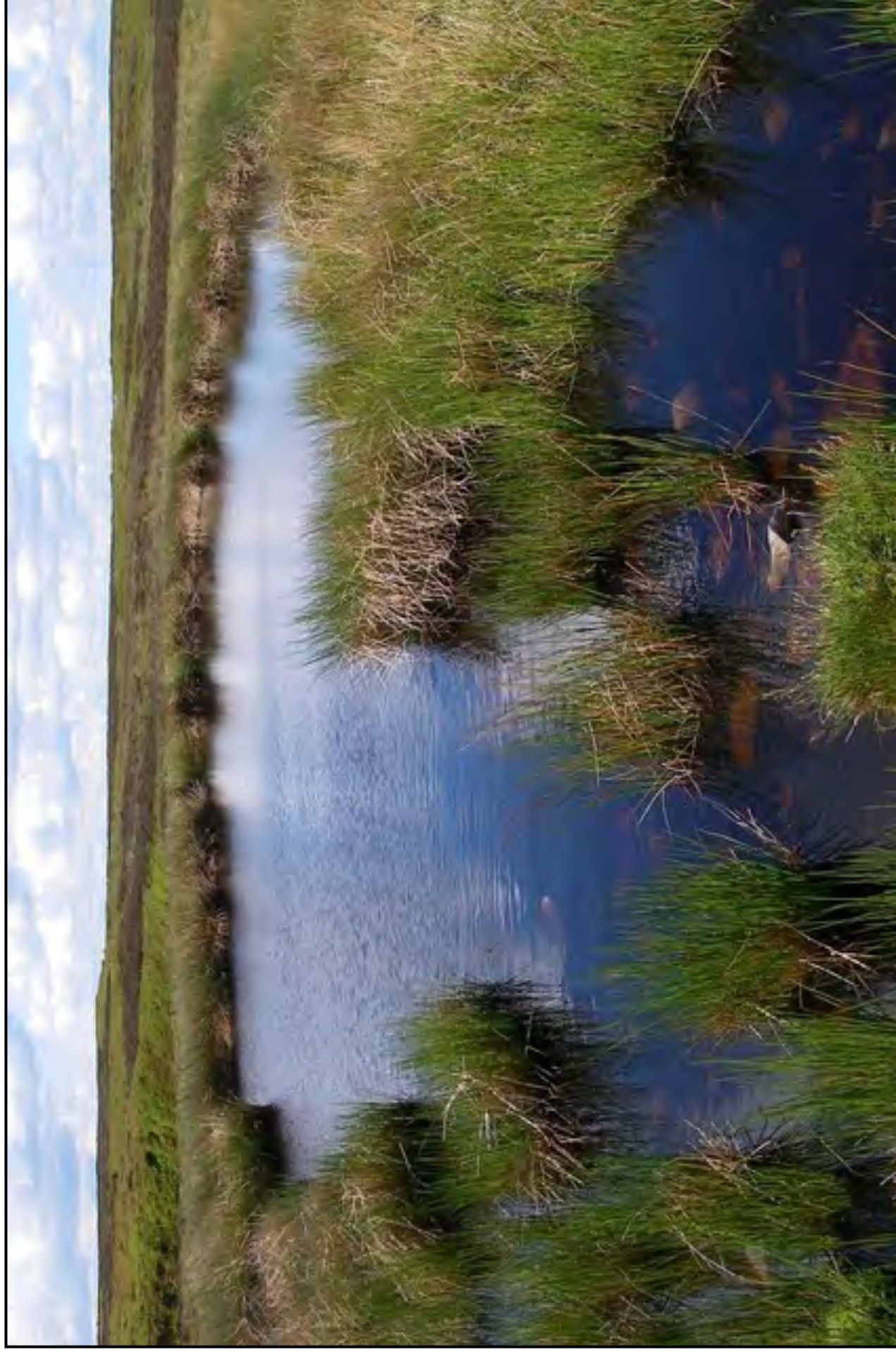
*Image from Ducks Unlimited Canada.*



### **Key Characteristics of Freshwater Marshes:**

- Non-peat forming wetland
- Frequently or continually flooded with shallow, slow moving water
- Waterlogged soil that is oxygenated, which allows for plants to form roots
- Nutrient rich water offers greater plant diversity, such as cattails, reeds, rushes, or sedges
- No trees

# Shallow Open Water





### **Key Characteristics of Shallow Open Water Wetlands:**

- Locally known as ponds, sloughs and marshes
- Non-peat forming wetland
- Standing water, often a transition between lake and marsh
- Fewer emergent plants, but submersed plants may be present