

4 LESSONS

TERM ONE

THREATS TO WETLANDS

- Learning Objectives
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Photo credit: Dr Donald McKnight





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LEARNING OBJECTIVES

Here you will find the learning objectives for this lesson

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CLASSROOM ACTIVITIES

There is one activity for this lesson.

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BACKGROUND INFORMATION

Learn more about threats to wetlands

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CURRICULUM

See how this lesson maps with the Australian curriculum

Learning Objectives

At the end of the lesson, students will be able to:

(1) Describe the threats to wetland environments.



Describe

Background Information:

Threats to wetland environments

(1) Habitat loss and degradation

Human activities, such as urban development, agriculture, and infrastructure projects, contribute to the alteration and destruction of wetland habitats. Wetland environments may be drained to meet the demand for residential or industrial infrastructure. This loss leads to a decline in biodiversity and disrupts critical ecological processes.

(2) Water extraction and altered hydrology

Excessive water extraction for agriculture, industry or urban water supply can reduce water levels in wetlands. Altered water flow, such as changes in river regulation and the construction of dams can impact the availability and timing of water inputs to wetlands.

(3) Invasive weeds and animals

Invasive species pose a threat to wetland environments by outcompeting native flora and fauna, disrupting natural ecosystems, and altering the structure of wetland habitats. These non-native species often lack natural predators, allowing them to multiply rapidly. Their behaviour may often lead to the displacement of native species, resulting in the loss of vital ecological functions and reducing the overall resilience of wetland ecosystems to environmental changes. Additionally, invasive species may introduce new diseases and parasites into wetland environments.



(4) Climate change

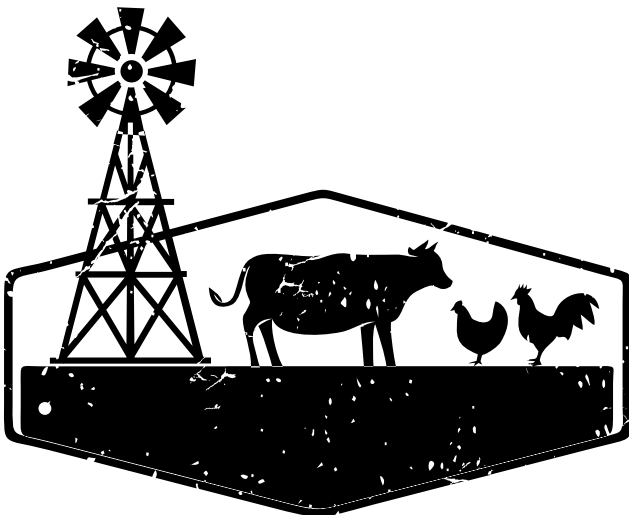
Climate change poses a multifaceted threat to wetland environments by influencing temperature patterns, precipitation levels, and sea levels. Rising global temperatures can alter the hydrological cycle, leading to changes in precipitation and evaporation rates, affecting water availability in wetlands. Additionally, increased frequency and severity of bushfires can directly impact wetlands, causing habitat destruction, soil erosion, and altering the composition of vegetation in the riparian habitat.

(5) Livestock

Livestock can physically damage wetland habitats through trampling of riparian vegetation and disruption of soil structure leading to the erosion of the riparian habitat and increased sedimentation. Trampling can also negatively impact the breeding and nesting sites of various aquatic species (i.e. turtles). Overgrazing by livestock can lead to changes in the structure and composition of plants in the riparian habitat and reduce the availability of food and shelter for aquatic and terrestrial species.

(6) Pollution

Elevated levels of pollutants, such as nutrients, chemicals, and sediments, can lead to water quality degradation, negatively impacting the health of wetland organisms.



Classroom Activities

ACTIVITY 1

(1A) As a class, discuss potential threats to wetland habitats.

(1B) Divide students into small groups and assign each group a threat to research.

(1C) Students should propose ways to mitigate their assigned threat.

(1D) Instruct the students to create a presentation (poster, PowerPoint or short skit) highlighting their findings.



Discuss



Present

Australian Curriculum addressed in this Lesson



Science

Strand: Science Understanding (Year 5)

Sub-strand: Biological Sciences

AC9S5U01: examine how particular structural features and behaviours of living things enable their survival in specific habitats.

Strand: Science Understanding (Year 6)

Sub-strand: Biological Sciences

AC9S6U01: investigate the physical conditions of a habitat and analyse how the growth and survival of living things is affected by changing physical conditions.



English

Strand: Literacy (Year 5)

Sub-strand: Analysing, interpreting and evaluating

AC9E5LY04: navigate and read texts for specific purposes, monitoring meaning using strategies such as skimming, scanning and confirming.

AC9E5LY05: use comprehension strategies such as visualising, predicting, connecting, summarising, monitoring and questioning to build literal and inferred meaning to evaluate information and ideas.

Sub-strand: Creating texts

AC9E5LY07: plan, create, rehearse and deliver spoken and multimodal presentations that include relevant, elaborated ideas, sequencing ideas and using complex sentences, specialist and technical vocabulary, pitch, tone, pace, volume, and visual and digital features.



English - continued

Strand: Literacy (Year 6)

Sub-strand: Analysing, interpreting and evaluating

AC9E6LY04: select, navigate and read texts for a range of purposes, monitoring meaning and evaluating the use of structural features; for example, table of contents, glossary, chapters, headings and subheadings.

AC9E6LY05: use comprehension strategies such as visualising, predicting, connecting, summarising, monitoring and questioning to build literal and inferred meaning and to connect and compare content from a variety of sources.

Sub-strand: Creating texts

AC9E6LY07: plan, create, rehearse and deliver spoken and multimodal presentations that include information, arguments and details that develop a theme or idea, organising ideas using precise topic-specific and technical vocabulary, pitch, tone, pace, volume and visual and digital features.