

Year 5 – HASS, Geography and Mathematics

Teacher Guide: Rehabilitating an ecosystem

Hydro Tasmania continues to progress the rehabilitation of Lagoon of Islands in Tasmania's central highlands.

Originally a unique ecosystem characterised by floating islands of vegetation, Lagoon of Islands was flooded in 1964 to deliver irrigation water to property owners along the Ouse River.

Insufficient water was available during the drought in the 1970s and in 1984 the Ripple Canal was constructed to divert more water into the lagoon. Ultimately this development proved to be unsustainable, with significant and ongoing water quality problems.

Hydro Tasmania explored and implemented a number of remedial actions to improve water quality and ecosystem health, but none provided a long-term solution to the significant and ongoing problems with water quality.

During the 2006–08 drought, low inflows (rainfall) combined with existing poor environmental conditions prevented any water releases for irrigation purposes. There was still a need for irrigation water and Hydro Tasmania was able to meet this by water releases from *yingina* / Great Lake.

In response to the poor health of the Lagoon of Islands ecosystem, Hydro Tasmania established an ambitious project to decommission the dam and rehabilitate the lagoon to a natural, healthy and self-sustaining wetland.

In April 2013, the 320-metre long, six-metre high earth wall dam and associated infrastructure were removed and the area replanted with native vegetation. Comprehensive monitoring of water quality, vegetation, invertebrates, weeds and algae is tracking the progress of the lagoon's recovery.

Rehabilitation of Lagoon of Islands is a long-term undertaking. However, Hydro Tasmania has already

seen significant improvements and it is confident that the lagoon is on the path to recovery. The site is closed to vehicles to protect the vegetation that is recolonising the site.

Recently the endangered Australian Bittern has returned to Lagoon of Islands.

Australian Curriculum

Learning Area HASS and Geography	Content Descriptions
AC9HS5K05	The management of Australian environments, including managing severe weather events such as bushfires, floods, droughts or cyclones, and their consequences.
AC9HS5K04	The influence of people, including First Nations Australians and people in other countries, on the characteristics of a place.
AC9HS5K02	The impact of the development of British colonies in Australia on the lives of First Nations Australians, the colonists and convicts, and on the natural environment.
AC9HS5K08	Types of resources, including natural, human and capital, and how they satisfy needs and wants.
AC9HS5S01	Develop questions to investigate people, events, developments, places and systems.
Mathematics	
AC9M5N01	Interpret, compare and order numbers with more than 2 decimal places, including numbers greater than one, using place value understanding; represent these on a number line.
Cross-curriculum priorities	Sustainability
General capabilities	Literacy, Critical and Creative Thinking, Personal and Social Capability

Learning goals

Know:

- This history and timeline of Lagoon of Islands.
- The influence human activity had on this unique ecosystem.

Understand:

- Humans can influence the characteristics of their environment.
- We monitor and record data to make decisions and track progress.
- Different people have different views and these can change over time.

Do:

- Complete KWL Chart and/or create a timeline.
- Examine three viewpoints in small groups.
- Review and analyse data to look for patterns, answer questions and create simple graphs.

Achievement standard

By the end of Year 5, students

HASS

...explain the influence of people on the characteristics of places and in the management of spaces. They explain the nature of resources, and how they meet needs and wants.

Mathematics

...plan and conduct statistical investigations that collect nominal and ordinal categorical and discrete numerical data using digital tools. They interpret and compare data represented in line graphs.

Adjustments / strategies to include all students

	Enabling	Extending
Content:	Spend time introducing students to the language of the Lagoon of Islands video	Compare and contrast other organisations' sustainability projects
Process:	Assist students one-on-one with their glossary	Ask students to email Hydro Tasmania's Education Coordinator as part of research for a newsletter article they will write on Lagoon of Islands

	Enabling	Extending
Product:	Label a map and images of Lagoon of Islands	Research and create a map, images, data representation and explanation of the restoration of Lagoon of Islands as a product for the school newsletter. Include quotes from Hydro Tasmania personnel

Learning sequence

1. Lesson Plan 1 An ecologist's view of Lagoon of Islands.

Explore the first 1:16 minutes of video resource. Students examine viewpoints and commence activities that span the three lessons.

2. Lesson Plan 2 Reflecting on decisions of the past.

Resume viewing and watch until 2:00 minutes. Students continue activities and explore new information.

3. Lesson Plan 3 Working towards a sustainable future.

Resume and finish the video. Students finalise their activities from lessons 1 and 2. An activity sheet is provided to investigate and analyse data from the area.

Assessment

Refer to *Options for assessment and extension* in each Lesson Plan.

Evidence of student learning

- Describe the interconnections between people and the human and environmental characteristics of places.
- Interpret data.
- Sequence information about events.

Group reflection

Refer to *Elaborate and Review* in each Lesson Plan.

Teaching and learning resources

Hydro Tasmania website

<https://www.hydro.com.au/environment/environmental-water-management/lagoon-of-islands>

Materials	No.
Smart board or projector	1
Internet connection	1
YouTube video <i>The Restoration of Lagoon of Islands</i> https://www.youtube.com/watch?v=TYTy_n8Jqtgw	
KWL Chart	1 each
Glossary template	1 each
Activity – Monitoring the Lagoon of Islands	1 each

It is recommended that the video is set up prior to class or student viewing.

Teacher reflection

- What went well?
- What could be improved?
- How might you deliver this lesson differently next time?

Feedback

If you would like more information or to provide feedback please contact our Education team at education@hydro.com.au

[Endangered 'Bunyip' bird returns to restored wetland Lagoon of Islands](#)

(youtube video)

[Endangered 'Bunyip' bird returns to restored wetland](#)

(article)