

## 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. The irrigation need was still there 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.

#### Australian Curriculum

Learning Area HASS and Geography	Content Descriptions
<b>ACHASSI097</b>	Sequence information about people’s lives, events, developments and phenomena using a variety of methods including timelines
<b>ACHASSI099</b>	Examine different viewpoints on actions, events, issues and phenomena in the past and present
<b>ACHASSI100</b>	Interpret data and information displayed in a range of formats to identify, describe and compare distributions, patterns and trends, and to infer relationships
<b>ACHASSI102</b>	Work in groups to generate responses to issues and challenges
<b>ACHASSK113</b>	The environmental and human influences on the location and characteristics of a place and the management of spaces within them
Mathematics	
<b>ACMNA105</b>	Compare, order and represent decimals (locating decimals on a number line)
<b>ACMSP119</b>	Construct displays, including column graphs, dot plots and tables, appropriate for data type, with and without the use of digital technologies
<b>Cross-curriculum priorities</b>	Sustainability
<b>General capabilities</b>	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

... describe the significance of people and events/developments in bringing about change ... They identify and describe the interconnections between people and the human and environmental characteristics of places, and between components of environments ... Students sequence information about events.

### Mathematics

... interpret different data sets ... pose questions to gather data, and construct data displays appropriate for the data.

## Adjustments / strategies to include all students

	Enabling	Extending
<b>Content:</b>	Spend time introducing students to the language of the Lagoon of Islands video	Compare and contrast another organisations sustainability projects
<b>Process:</b>	Assist students one-to-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
<b>Product:</b>	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> <a href="https://www.youtube.com/watch?v=TYTy_n8Jqtgw">https://www.youtube.com/watch?v=TYTy_n8Jqtgw</a>	
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 Coordinator at [education@hydro.com.au](mailto:education@hydro.com.au)