

CATCHMENTS

Overview of topics and year levels

Select relevant topics for your class year level. For example, materials with the Mary Rowlands' video interview, cover water quality in a catchment, and are suitable for Years 4 through 7. Choose from the fact sheets, interviews, unit plans and activities to match your allocated time, curriculum, student interests, and as part of a field trip to the Cattana Wetlands.

	Mary Rowlands	Russell Wild	Michele Dale	Terry Genever	Tania Cobham
Year					
1					
2					
3			I planted a Tree!		
4	Water Quality in a Catchment				
5					
6					
7				Revegetation at the Cattana Wetlands	
8			Revegetation and ecosystem management		Water Management at Cattana Wetlands
9		Planning for a passive recreation reserve			
10					

Meet **Mary Rowlands**
Waterwise Educator

Topic **Catchments and water quality**

Suitability Years 4 - 7 SOSE, Science

Interview Mary introduces catchments, importance of water quality, human impact on water quality, how communities can help catchments remain healthy, being water wise and reducing our use of water.

Fact sheet Identifying aspects of catchments, such as plants, animals, & pollutants.

Qld Govt Three Dept. of Natural Resources sets of materials provide information about catchments. Suitable for teacher background, or student use.

Unit Plan A 6-week SOSE unit plan, developed by pre-service teachers for Year 7 (can be adapted for other years) for a study of Cattana Wetlands and the value of wetlands for North Queensland. Decision making, values, developing action plans.

Meet **Russell Wild**
CRC Coordinator for Natural Area Management

Topic **Planning for a passive recreation reserve**

Suitability Year 9 SOSE and Technology

Interview Drive with Russell on a virtual tour of Cattana Wetlands, as he discusses infrastructure planning for a recreational community site, revegetation, hydrology, walking tracks, picnic sites, conservation of fauna and flora.

Unit Plan "Choose the best bench for the Cattana Wetlands" 9 lessons about product design for a seating bench at recreational site.

Fact sheet "Choose the best bench for the Cattana Wetlands".

Meet **Michele Dale**
Plant Biologist

Topic **Revegetation and ecosystem management**

Suitability Years 8 - 10 Science OR Year 3 – 5 Science
 Interview Years 8 - 10 Michele talks about revegetation projects, functioning ecosystems, weed management, schools revegetation projects, endemic species, and gene pool preservation. She establishes the importance of local species.
 Fact sheet Years 3 - 5 “I planted a tree!” certificate with instructions for successful planting
 Activity Years 3 - 5 “Powerful planting” provides lesson plan for tree planting, with diagram for successful planting. Supports the Fact sheet.

Meet **Terry Genever**
Land Management Officer
 Topic **Revegetation at the Cattana Wetlands**
 Suitability Years 6 - 8 Science, SOSE
 Interview Terry talks about the types of plants CRC nursery has propagated for the revegetation, including epiphytes, rare plants, ground cover, water plants.
 Activity A powerpoint presentation about revegetation at Cattana, most appropriate species, importance of and scope of the Cairns Regional Council project.
 Fact sheet “Tilapia the Cane Toad of the Estuaries” examines tilapia species, and the threat from fish invaders, how to report tilapia, their impact on wetlands ecosystems.

Meet **Tania Cobham**
Environmental Engineer with ARUP Cairns.
 Topic **Water Management at Cattana Wetlands**
 Suitability Years 8 - 10 Science, SOSE
 Interview Tania talks about the design of the Cattana Wetlands water management, water flow, pollutants, nutrients, role in ecosystems, sediment, measuring water quality, the value of wetlands in urban environments
 Activity Teacher guide to construct a poly-pipe apparatus to study the effect of velocity on the capacity of water to carry sediment.
 Fact sheet “Cattana Wetlands and Water Quality” introduces key terms, has introductory level discussion-starter activity. Best used before the video is viewed.

PLANTS AND ANIMALS

Overview of topics and year levels

Select relevant topics for your class year level. For example, materials with the John Seale video interview, cover birds in a catchment, and are suitable for Years 4 through 7. Choose from the fact sheets, interviews, unit plans and activities to match your allocated time, curriculum, student interests, and as part of a field trip to the Cattana Wetlands.

	John Seale	Anja Bakker	JCU Team	John Winter	Petrina Johnson	Hilary Whitehouse
Year						
1						
2			Dragonflies			
3		Butterflies				
4				Mammals		
5	Birds					
6						
7						
8					Mosquitoes	Frogs
9						
10						

Meet **John Seale**
Activities organiser for Cairns birding group

Topic **Birds of the Cattana Wetlands**
 Suitability Years 4 - 7 Science
 Interview John talks about his interest in birds, local species and what makes Cairns a bird-watchers paradise, and how to get started in bird watching. He focuses on how Cattana Wetlands will benefit bird species,
 Fact sheet “Bird watching at Cattana Wetlands” introduces bird watching: the best time to view, common species, and the importance of wetlands for birds.
 Activity 1 “What bird is that?” Introductory activity to identify general bird types such as doves, bitterns and darters seen during a field trip.
 Activity 2 “Birds of the Cattana Wetlands” lists over 100 species so students can record sightings, date and number seen during a field trip/s.

Meet **Anja Bakker**
Manager of the Australian Butterfly Sanctuary Kuranda
 Topic **Butterflies**
 Suitability Years 3 - 5 Science
 Interview Anja talks about the sanctuary, butterfly identification, life cycle, environmental threats to butterflies, how butterflies protect themselves by colouration and poisons, and how we can protect butterflies by planting foods for them.
 Fact sheet “Butterflies of the Cattana Wetlands” introduces butterfly facts, how we can help them, and illustrations of the lifecycle of the Cairns Birdwing.
 Activity Students cut out and sequence life cycle of the Cairns Birdwing by matching captions to illustrations.
 Teacher guide Lesson plan for the activity.

Meet **JCU Team**
Preservice teachers
 Topic **Dragonflies and the Cattana Wetlands**
 Suitability Years 2 - 3 Science and English
 Interview JCU preservice teachers talk about dragonflies as insects, lifecycle, what they eat, what eats them, and why the Cattana Wetlands are important as an ecosystem.
 Fact sheet Information on life cycle, water quality indicators, food webs and predators, as told by the Darcy the Dragonfly character.
 Teacher guide Lesson plan and 2 Worksheets for the Report Genre, and understanding the links between dragonflies and wetlands.

Meet **John Winter**
Wildlife ecologist
 Topic **Mammals of the Cattana Wetlands**
 Suitability Years 3 - 5 Science
 Interview John describes the mammals and marsupials of the wetlands: agile wallabies, rats, possums and bandicoots; how to detect their presence from droppings, and food remains; how animals adapt to humans as they populate urban habitat wetland areas;
 Teacher guide Lesson Plan for CSI activity with Worksheet 1 and 2, and labels.
 Fact sheet “A new home for Angie the Agile Wallaby and her friends” introduces the agile wallaby, long-tailed pygmy possum, water rat, white-tailed rat, and bandicoot, as illustrations and character names. Provides information for the CSI Activity.
 Activity Powerpoint presentation for the CSI (Crime Scene Investigation) to identify mammals from evidence (see Lesson Plan).

Meet **Petrina Johnson**
JCU Research Officer
 Topic **Mosquitoes, diseases and vectors**

Suitability	Years 7 - 10 Science, Health
Interview	Petrina talks about mosquitoes and impact on human health, life cycles, species, dengue mosquito as a major vector that transmits viruses, mosquito-borne diseases including malaria, current research directions in reducing disease impact.
Fact sheet	“Mosquitoes, diseases and vectors” provides illustrations and information on mosquito lifecycles, species, vectors and current research.
Meet	Hilary Whitehouse <i>JCU Science Educator</i>
Topic	Frogs and frog ponds
Suitability	Years 6 - 9 Science
Interview	Hilary talks about Cairns’ frog species, natural and unnatural threats, specific instructions to build a frog pond habitat.
Fact sheet	Introductory level, illustrated life cycle, frog facts, diagram, and information on building a frog pond.

PEOPLE AND PLACES

Overview of topics and year levels

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	Andrew Wood	Moni Carlisle	Elaine Harding	George Skeene
Year				
1				
2			Biodiversity	
3				
4				
5				Bush Tucker
6				
7		Community Systems and Wetlands		
8	Water Quality and Acid Sulfate Soils			
9				
10			Biodiversity	
11				
12				

Meet	Andrew Wood <i>Scientist with CSR Sugar Industry</i>
Topic	Water Quality and Acid Sulfate Soils
Suitability	Years 8 - 9 Science, SOSE
Interview	Andrew talks about sugar industry farmers using nutrient test strips to manage water quality. He links this to water quality in the Cattana Wetlands: catchments, sources of pollution, urban development. Soils, acid-sulfates, and effects on coastal and marine environments.
Fact sheet	“Water Quality and Acid Sulfate Soils” provides steps for Community Water Testing of samples for pH, nitrates and clarity. Reviews the interview about acid-sulfate soils, cane farming and environmental pollution.
Teacher guide	Preparation for Community Water Testing activity.
Activity	One page worksheet as discussion starter, with questions on saving water and reducing water pollution.

Meet **Moni Carlisle**
Program Leader Community Development

Topic **Community Systems and Wetlands**

Suitability Years 7 – 9 SOSE, Science Technology

Interview Moni explains about the importance of human resilience and capacity to respond to changes in climate and the quality of our environment; biodiversity, Cairns as part of a global community. The benefits of wetlands for coastal management and water quality, as well as a sense of place in urban environments.

Fact sheet “Cutting the cost of climate change” presents Moni’s ideas, and develops understanding of benefits of wetland preservation, how they function to limit erosion, and enhance biodiversity.

Unit plan “Cutting the cost of climate change: Why we need wetlands.” 9 lessons and marking criteria for key questions about human population, severe weather, built environments, and floodplains.

Teacher guide “Wetland Habitat Survey” provides background information when using the Writing with Symbols 2000 software symbols for students with disabilities.

Activity “Wetland Habitat Survey” for students with disabilities, during a Cattana Wetlands field trip.

Meet **Elaine Harding**
Ecologist and Conservation Biologist

Topic **Biodiversity and the Cattana Wetlands**

Suitability Years 10 - 12 Interview and Years 2 - 4 Fact Sheet.

Interview Years 10 - 12 Elaine critically analyses our use of the terms conservation, biodiversity, populations, species, habitats, communities, and how all species need consideration. She explains the role of legislation, restoration projects and the functional aspects of the Cattana Wetlands.

Teacher guide Years 10 - 12 Lesson plan and activity for using the video interview.

Fact sheet Years 2 - 4 “Biodiversity and the Cattana Wetlands” has information on biodiversity, food webs, connections between plants and animals in a wetland. Web links for further research.

Lesson plan Years 2 - 4 Students use the Fact Sheet to create food webs linking producers and consumers.

Meet **George Skeene**
Yirrganydji elder

Topic **Traditional use of Cattana Wetlands**

Suitability Year 5 Science, SOSE

Interview George explains how his family used the wetlands area for food and ceremony. He describes bush tucker of the area, how this has been lost due to urban development, and how important restoration projects like Cattana Wetlands are so important.

Fact sheet “Cattana Wetlands Indigenous Connection” provides extracts from the interview with George, about the Cattana Wetlands. It shows pictures of bush tucker: palms, hibiscus, quandong and native ginger.

Teacher guide “Cracking Nuts” is a science investigation about Macadamia nuts. Includes Lesson plan and Worksheets.

Risk “Cracking Nuts” Risk Assessment.