

**Question 1****(12 marks)**

- (a) Draw a food chain for the cane toad that includes at least **three** organisms. (2 marks)

Description	Marks
Valid food chain with arrows in the correct direction.	2
Valid food chain but arrows in wrong direction.	1
<b>Total</b>	<b>2</b>
Answer could include but is not limited to:  Sugar cane → cane toad → lungworm <b>or</b> producer → cane beetle → cane toad	

- (b) (i) Identify the missing group of organisms. (1 mark)

Description	Marks
Decomposers.	1
<b>Total</b>	<b>1</b>

- (ii) Explain why the group of organisms identified in part (b)(i) is considered to be an important part of the ecosystem. (2 marks)

Description	Marks
Explains the role of decomposers in regards to energy flow.	2
States the role of decomposers.	1
<b>Total</b>	<b>2</b>
Answer could include but is not limited to: <ul style="list-style-type: none"><li>decomposers recycle matter that is used by plants to make plant tissues that provide food/energy for consumers</li><li>decomposers recycle matter to return nutrients to the soil/food chain.</li></ul> Accept other relevant answers.	

**Question 2****(19 marks)**

- (a) Based on the information above, complete this food web to include the mosquito fish. (2 marks)

Description	Marks
Mosquito fish eating zooplankton and marron - arrow correct direction	1
Mosquito fish being eaten by turtles – arrow correct direction	1
<b>Total</b>	<b>2</b>

- (b) From the food web, draw a food chain that includes at least four organisms. (2 marks)

Description	Marks
Any valid food chain which includes four or more organisms	2
Valid food chain but arrows in wrong direction	1
<b>Total</b>	<b>2</b>
Answers may include, but are not limited to the following: <ul style="list-style-type: none"> <li>• rushes → insects → pigmy perch → turtles</li> <li>• detritus → zooplankton → insects → pigmy perch → turtles</li> <li>• phytoplankton → zooplankton → insects → pigmy perch → turtles</li> </ul>	

- (c) Do you think the population of cobblers would increase, decrease or stay the same after the introduction of mosquito fish? Explain your answer. (3 marks)

Description	Marks
Decrease	1
Explains clearly the reason is competition for a food source - marron	2
States information about a decrease in food source	1
<b>Total</b>	<b>3</b>

- (d) Using your food web, predict **two** effects that the mosquito fish might have on organisms in the web other than the cobbler. (2 marks)

Description	Marks
One mark for each effect.	
Answers may include, but are not limited to the following: <ul style="list-style-type: none"> <li>• marron population falls</li> <li>• zooplankton population falls</li> <li>• turtle population increases</li> </ul>	1–2
<b>Total</b>	<b>2</b>