



Task Number	1	Task Name	Field Study and Recommendation Report
Course	Year 11 Biology	Faculty	Science
Teachers	Mr S.Allen	Head Teacher	Mr Yates
Issue date	Term 1 Week 2	Due date	Term 2 Week 2 Thursday 8 th May 2025 3.00pm
Focus (Topic)	Modules 3 & 4	Task Weighting	40%

Outcomes

- describes biological diversity by explaining the relationships between a range of organisms in terms of specialisation for selected habitats and evolution of species BIO 11-10
- analyses ecosystem dynamics and the interrelationships of organisms within the ecosystem BIO 11-11
- conducts investigations to collect valid and reliable primary and secondary data and information BIO11/12-3
- selects and processes appropriate qualitative and quantitative data and information using a range of appropriate media BIO11/12-4
- analyses and evaluates primary and secondary data and information BIO11/12-5
- solves scientific problems using primary and secondary data, critical thinking skills and scientific processes BIO11/12-6
- communicates scientific understanding using suitable language and terminology for a specific audience or purpose BIO11/12-7

Task description

1. Students will engage in a range of activities (Part I) to collect first hand data while on a fieldwork excursion to a range of ecosystems in the Brunswick Heads coastal region.
2. Students will then use this first hand data and second hand information they gather about past, present and future environmental management of the area to make a final Recommendation Report (Part II) regarding the Brunswick Heads area.

Students will be:

- provided with time and opportunities throughout the fieldwork day to record their data and to respond to some questions from a provided booklet.
- encouraged to perform research prior to and following the excursion to gain further knowledge about the Brunswick Heads region and the management decisions that have taken place in the past, present and to come in the future.
- required to reference the research that they have performed using an appropriate referencing style.

Marking Guidelines

CRITERIA	Grade
<p>Outstanding- Students can:</p> <ul style="list-style-type: none"> • effectively use scientific equipment accurately and responsibly to collect all first-hand data • record detailed, neat and accurate first-hand data in appropriate forms • display evidence of effective research that is accurate, well referenced and extensive in nature. • clearly define their chosen environmental impact using technical language and diagrams where appropriate. • explains in detail how environmental impacts occur and from where. • propose a well-planned, thoroughly researched and justified future management decision that clearly links improved environmental outcomes with proposed actions. • use technical language regularly and appropriately as well as following all conventions for the recommendation report. 	O
<p>High- Students can:</p> <ul style="list-style-type: none"> • use scientific equipment accurately and responsibly to collect most first-hand data • record neat and accurate first-hand data in appropriate forms • display evidence of research that is somewhat accurate, referenced and general in nature. • define their chosen environmental impact using some technical language and some diagrams. • explain how environmental impacts occur and from where. • propose a researched and somewhat justified future management decision that links some improved environmental outcomes with proposed actions • use technical language regularly as well as following most conventions for the recommendation report. 	H
<p>Sound- Students can:</p> <ul style="list-style-type: none"> • use scientific equipment responsibly to collect most first-hand data • record first-hand data in appropriate forms • display evidence of research that is somewhat referenced and general in nature. • define their chosen environmental impact using informal language and some diagrams. • analyse some management decisions including a description of the decision or some points for and against the decision or an explanation of the outcome. • describe how environmental impacts occur and from where. • attempts to propose a recommendation for future management of the area. • use some technical language and attempts to follow conventions for the recommendation report. 	S
<p>Basic- Students can:</p> <ul style="list-style-type: none"> • use scientific equipment to collect some first-hand data and records some of this first hand data. • display some evidence of research undertaken • attempt to define their chosen environmental impact using informal language or some diagrams. • attempt to describe how environmental impacts occur and from where. • attempt to propose a recommendation for future management of the area or reproduces an already existent course of actions. • follow some conventions for the recommendation report 	B
<p>Limited- Students can:</p> <ul style="list-style-type: none"> • attempt to use scientific equipment and records some first-hand data. • display some evidence of research undertaken • attempt to describe something relevant to an environmental impact. • attempt to describe how environmental impacts occur and from where. • attempt to recommend a course of action for the future. 	L
<ul style="list-style-type: none"> • Late submission with no misadventure - Parental notification • Assessment not submitted 	0

2025 PRELIMINARY BIOLOGY FIELDWORK STUDY & RECOMMENDATION REPORT

Context

The Biology course examines the interactions between living things and the environments in which they live. It explores the application of biology and its significance in finding solutions to health and sustainability issues in a changing world. Biology uses Working Scientifically processes to develop scientific investigative skills. It focuses on developing problem-solving and critical thinking skills in order to understand and support the natural environment. Through the analysis of qualitative and quantitative data, students are encouraged to solve problems and apply knowledge of biological interactions that relate to a variety of fields. By practicing the skills outlined in the Scientific Method and applying these skills to local issues, students can not only gain an understanding of the importance of ecosystem biodiversity in the Local Area but also in the World.

Task description

This assessment task will have 2 main sections and collectively they will form your assessment task and grading.

SECTION I

In Section I, students will attend and participate in mandatory fieldwork activities on an excursion to Ballina. During the excursion, students will be guided by their classroom teachers and other local experts in the collection of first-hand data from a range of ecosystems. A booklet will be provided that will contain data collection tables, diagrams and questions that need to be completed during and following the excursion. **Non-attendance on this excursion without an approved misadventure form may lead to the individual not achieving all the course outcomes, which can be grounds for a 'N' Award warning. If there are significant barriers to prevent attendance on the excursion, please discuss these with your teacher or Boden Yates, Head Teacher Science, before the excursion to discuss alternative arrangements.**

SECTION II

In Section II, students will need to undertake research on the Ballina region to determine the management issues that have existed in the past, in the present and potentially could occur into the future. Students will choose ONE (1) management issue from the list below which have been identified in the region by Ballina Shire Council. Students will then prepare a report detailing the history, current situation and future management decisions surrounding this issue in similar ecosystems around the country. The management issue list is detailed below:

- Water quality
- Riverbank erosion
- Loss of riparian vegetation
- Depleted fish stocks
- Human usage (Commercial and Recreational)
- Other (discuss the possibility of this with your teacher)

Students will need to alphabetically reference their sources of information during their research using a consistent formatting style. A format guide that is endorsed by RRHC can also be obtained from the library front desk.

RECOMMENDATION REPORT TEMPLATE

Writer's name	Your Name
Location	Ballin Region
Period of Study	[insert relevant dates]
Introduction	<p>Provide a brief and informative description of the area. Include:</p> <ul style="list-style-type: none"> • A bird's eye view image of the Ballina's Flat rock area (Google Maps) with relevant labels e.g. study location, township • Geographical location e.g. GPS Coordinates, location in Australia., proximity to large bodies of water, elevation, latitude, etc. • Summary of the current Ballina area e.g. population, size, uses • Description of the environment e.g. climate, vegetation types, endangered species • Historical settlement of the Ballina area
Management Issue	<p>Describe your one (1) chosen management issue (water quality, riverbank erosion, loss of riparian vegetation, depleted fish stocks, human usage, other). Include:</p> <ul style="list-style-type: none"> • A brief description of the management issue. • Photos or relevant diagrams of the management issue e.g. graphs, example photos, tables. • Outline who and how the sources contribute to the management issue in Australia e.g. agriculture, tourism, residential development. • Specific details of how this management issue affects biotic and abiotic interrelationships within similar ecosystems in Australia. • Analysis of at least one strategy that is currently being used around Australia to mitigate the management issue.
Future recommendation	<p>Propose a future recommendation as to how the Ballina Shire Council could improve upon/remedy your one (1) chosen management issue. Include:</p> <ul style="list-style-type: none"> • Explanation of how your recommendation would improve environmental outcomes. • Justification of your recommendation by using data from fieldwork study or from research to support your decision.
Conclusion	Finalise your report by restating the key components from each of the above portions of the report.
References	Acknowledge at least 3 sources of information you have used.

In terms of research avenues, we recommend visiting the following websites for general information, however, more sources will need to be researched to meet all assessable outcomes:

- Ballina Shire Council website <http://www.ballina.nsw.gov.au/> and use the 'Search' function for terms related to Ballina e.g. Ballina Richmond river or Emigrant creek
- NSW Environment website <http://www.environment.nsw.gov.au> and use the 'Search' function for terms related to Ballina e.g. Richmond river or Emigrant creek

SPECIFIC MARKING CRITERIA

<u>Assessment criteria</u>	<u>Action</u>	<u>Marks assigned</u>	<u>Marks achieved</u>
<i>participate in the collection and recording of reliable and accurate first-hand data</i>	See marking criteria in fieldwork booklet	5	
<i>research effectively to gain valid and reliable second hand information along with relevant references.</i>	-Image/photo/snapshot of study area with relevant labels	2	
	-All details of Geographic location .	2	
	-Summary of the current Ballina area including: population, geographical size, uses.	3	
	-Description of the environment including climate data, vegetation types, endangered species.	3	
	-Details of historical settlement of the Ballina area include dates and description of activities at the time	2	
	-A brief description of the environmental impact including at least 2 ways that this impact influences the species found/environments studied during the fieldwork.	2	
	-At least 2 photos or relevant diagrams of the management issue	2	
	-At least 3 references.	3	
<i>identify and communicate biotic and abiotic relationships and the influence of environmental impacts on these relationships.</i>	- Specific details of how this management issue affects at least 1 biotic and 1 abiotic interrelationships within similar ecosystems in Australia.	4	
<i>use scientific and critical thinking to analyse the sources of environmental impacts.</i>	Outline who and how the sources contribute to the management issue in Australia.	4	
	Analysis of at least 1 strategy that is currently being used around Australia to mitigate the management issue including 2 sets of evidence to support your analysis.	3	
<i>propose future management decisions using justification with support from first and second-hand information</i>	Identification of and explanation of how your recommendation would improve environmental outcomes.	3	
	Justification of your recommendation by using at least 2 pieces of data/evidence from fieldwork study or from research to support your decision.	3	
<i>use technical language and correct conventions in communicating scientific understanding to audience.</i>	References are correct in format	1	
	Structure of the report follows the provided format	1	
	Uses technical language where possible	1	
	Correct spelling and grammar throughout report	1	
<i>Total</i>		45	
<i>Percentage</i>			
<i>Limited= 0-9 Basic= 10- 21 Sound= 22-33 High= 34-39 Outstanding= 40-45</i>			

Feedback: _____
