

## Student Progress Reporting Form WAMSI Top-up Scholarship

<b>STUDENT:</b>	Adam Gartner	<b>DATE:</b>	NOVEMBER 2008
<b>SUPERVISOR:</b>	Dr Paul Lavery		

<b>PROJECT TITLE:</b>	Trophic Implications of Seagrass Habitat Disturbance from Reduced Light
<b>NODE LEADER:</b>	John Keesing
<b>PROJECT NUMBER:</b>	

REPORTING REQUIREMENTS	
1	<p><b>PROGRESS REPORT FROM SUPERVISOR</b></p> <p><b>Overall aims of research:</b></p> <ol style="list-style-type: none"> <li>(1) <i>determine whether the intensity, duration and timing of light reduction to seagrass ecosystems influences the composition and abundance of macroinvertebrate assemblages;</i></li> <li>(2) <i>determine the effects of shifts in structural complexity of seagrass habitats and the availability of food resources on epifaunal composition and abundance; and,</i></li> <li>(3) <i>apply qualitative and quantitative modelling techniques to predict the likely trophic responses to disturbances associated with shading.</i></li> </ol>
	<p><b>Progress in 2008:</b></p> <p>Adam has made excellent progress on the project. The project has been framed in three phases, with Phase 1 a major field experiments requiring a large amount of post-field sample sorting and analysis. Adam has fully completed the experimental phase. He has undertaken analysis of the epifauna samples and one of three manuscripts from this phase has recently been submitted to Marine Ecology Progress Series.</p> <p>Adam has also initiated detailed discussions with modellers associated with WAMSI Node 1 and Node 3 and has reached agreement on the development of an appropriate sub-model to link to the Jurien ECOPATH/SIM model that will allow extrapolation of the empirically observed impacts on macroinvertebrate fauna to higher trophic levels. He has provided significant amounts of data on invertebrate fauna to the Node 3 project to facilitate development of the existing ECOPATH model in preparation for the sub-model development.</p> <p>Adam has attended several meetings (SRFME/WAMSI and European Marine Biology Symposium), presenting results at the recent EMBS, where he was awarded the student prize, 2<sup>nd</sup> for Best Oral Presentation.</p> <p>At this point, the project is meeting all of the milestones with excellent quality data being produced and with Adam showing a highly developed awareness of the ways in which the data will be applied to answer the research questions.</p>

<b>REPORTING REQUIREMENTS</b>	
	<p>2009 will be a challenging year will several manuscripts to be completed and quantitative and qualitative modelling to be undertaken.</p>
	<p><b>Any major risk issues:</b></p> <p>No major risks that could compromise the whole project are envisaged. However, the focus of the next 2-3 months, and the strength of the modelling aspect of this project will depend upon continued collaborations with key researchers at the CSIRO (in particular Dr Hector Lenzano and Dr Jeffery Dambacher)</p>
2	<b>PROGRESS REPORT FROM STUDENT</b>
	<p><b>Progress:</b></p> <p>Comments and feedback for Manuscript 1: <i>Light reductions drive faunal changes in Amphibolis griffithii seagrass habitat</i> have been incorporated into the draft and it has been submitted to Marine Ecology Progress Series.</p> <p>Multivariate data analysis has been completed for Manuscript 2: <i>Effect of light reduction on epifauna community composition (note: title yet to be confirmed)</i> and the draft manuscript has been commenced.</p> <p>Univariate data analysis has been completed for Manuscript 3: <i>Recovery of seagrass fauna following disturbance from light reductions (note: title yet to be confirmed)</i> and the draft manuscript has been commenced.</p> <p>Completed all field work for Manuscript 4: <i>The role of seagrass structure in shaping epifauna communities (note: title yet to be confirmed)</i>. An experiment to separate out the relative of importance of food versus habitat for seagrass fauna has been completed. Data are currently being processed. A second experiment, which was replicated in the Marmion Marine Park and in the Canary Islands (Spain) has also been completed, data are currently being processed. Some biomass data is yet to be completed (although a minor task compared to initial sorting for abundance).</p> <p>Manuscript 5: Initiated collaboration with Dr Hector Lenzano (CSIRO) to assess higher order trophic effects of shading to seagrass systems. To date, work has commenced to develop a qualitative model, as a prelude to developing Ecopath/Ecosim (quantitative) models for the seagrass ecosystems within Jurien Bay.</p>
	<p><b>Results – See attached draft manuscripts.</b></p> <p>Note: Manuscript 1 has been recently submitted to Marine Ecology Progress Series and I am awaiting comments from reviewers.</p> <p>Manuscripts 2 and 3 are in in draft form, but should be submitted for review in the near future.</p>
	<p><b>Presentations made at workshops &amp; conferences:</b></p> <ul style="list-style-type: none"> <li>- AMSA Annual Student Workshop, Rottenest, 2006</li> <li>- AMSA Annual Conference, paper presentation, Melbourne 2007</li> <li>- Funding Bodies and collaborators from CSIRO and Department of Environment and Conservation</li> <li>- AMSA WA Show and Tell, Fremantle, Feb 2008</li> <li>- WAMSI Node 1 Symposium, paper presentation, CSIRO Floret, Feb 2008</li> <li>- AMSA Annual Student Workshop, Rottenest, 2008</li> <li>- 43<sup>rd</sup> European Marine Biology Symposium, Azores, Portugal, 2008</li> </ul>

<b>REPORTING REQUIREMENTS</b>		
<b>3</b>		<b>OTHER REQUIREMENTS</b>
		Major findings to be reported immediately [ to be used for media, website, increased funding opportunity]
		Supervisor & student present at a minimum of one WAMSI organised event
		Node Leader, supervisor and student to meet at a minimum of 2 times yearly [preferably more]
		Final report to be placed on WAMSI website