

Long-term effects of flooding events on the resilience and recovery of tropical seagrass habitats

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Abstract. In the summer of 2010/2011 Queensland experienced some of the worst floods on record. Flood plumes have the potential to negatively impact seagrass habitats through nutrient loading, burial, sediment destabilization and reducing light availability. Over the last 17 years a network of long-term monitoring sites have been established around Queensland to examine the condition and trend of the state's seagrass habitats. Results of the program have shown major declines in seagrass across Queensland and that seagrass loss was linked to the 2010/2011 floods. However there were regional differences with seagrasses along the urban east coast highly impacted, but in the Torres Strait and the Gulf of Carpentaria they remained in good condition.

Previous examination of recovery rates at our sites indicates seagrass meadows have a capacity for recovery between 4 months to 5 years depending on species and location, however many of these seagrass communities along the urban east coast of Queensland were in decline prior to the 2010/2011 floods meaning that these communities were likely to be less resilient to further impacts and may have had a reduced capacity for recovery. The vulnerable state of seagrass habitats on the east coast of Queensland and differences between regions underscores the need for monitoring across regions to ensure the long-term viability of these ecologically important habitats and their appropriate management. Monitoring programs play an important role in providing data on seagrass status which can assist managers to make decisions on how to respond with greater confidence.

I prefer an oral presentation