

Creating a Shared Vision for the Mackay-Whitsunday- Isaac Region

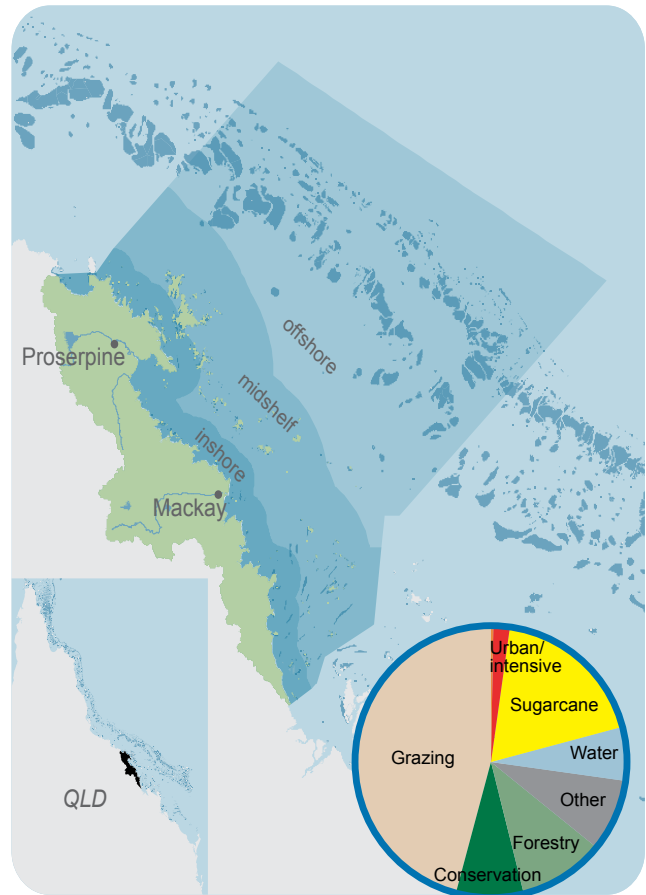
Productive landuse sustaining great lifestyles on the Great Barrier Reef

The Mackay-Whitsundays-Isaac region is diverse, with rainforests, ranges, creeks and rivers, wetlands, beaches, islands and reefs which support high biodiversity. The region supports productive agriculture, particularly grazing and sugarcane, as well as expanding urban centres.

The Mackay-Whitsundays-Isaac region is rapidly developing due to economic development, climate, livability and natural beauty. This region is expected to double in population within twenty five years. These population pressures combined with climate change produce environmental challenges for the region. The Healthy Waterways Alliance was created to engage a wide range of stakeholders in charting a future which promotes sustainable development with resilient waterways and ecosystems.

The unique features of the region include tropical rainforests, productive agricultural land, islands with beaches and reefs--all in close proximity (see photo montage below). The extensive scenic coastline attracts boating and fishing, tourism, and residential development focused on outdoor lifestyles.

This Vision overview was created in a workshop convened by Reef Catchments in Mackay, April 2011



Map of the Mackay-Whitsunday-Isaac region, with catchment and marine boundaries depicted (top). The marine inshore waters (dark blue), mid-shelf (blue) and offshore waters (light blue) within the Great Barrier Reef Marine Park are denoted. Relative land use of catchment depicted in pie diagram (inset).

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The Vision for our Region: productive and liveable with resilient waterways and ecosystems

Aligning agriculture, urban and ecosystems

Healthy Waterways is both a name for the alliance and an aspirational goal for the community. A vision for the Healthy Waterways Alliance was created around the themes of agricultural and urban practices that result in healthy waterways.

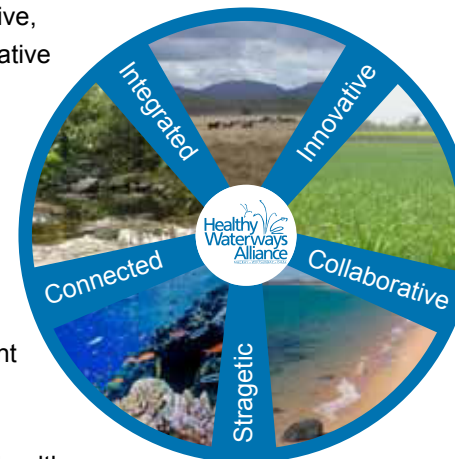
The vision for the region includes implementation of agricultural practices to reduce nutrient, sediment and chemical losses to waterways, improved irrigation practices to allow environmental flows and improve water use efficiency, green cane trash blanketing to reduce sediment loss and pesticide use, stocking practices that maintain riparian buffers and enhance productivity, and advanced farming practices utilising best available planning, technology and practices.

The vision also includes urban practices to improve waste management and recycling, advanced sewage treatment and reuse, urban planning guidelines and advanced industrial technologies that reduce sediment, nutrient and toxicant inputs to waterways.

The ecosystem outcomes of this vision include the ecosystem protection and restoration, resulting in healthy, functioning wetlands, estuaries, mangroves and marine habitats.

Vision Wheel

An integrated, innovative, connected, communicative and strategic future “Vision Wheel”, facilitated by the Healthy Waterways Alliance was developed. This vision includes agricultural and urban development practices to reduce sediment, nutrient and toxicant loads so that healthy waterways and ecosystems can be maintained.



Case Studies

Integrated

Automated water quality sampling from both agricultural and urban sites in the catchment collect integrated samples for analyses of nutrients, suspended sediments, and various toxicants. Integrated samples provide cost effective and representative water quality data.



Innovative

The use of Global Positioning Systems (GPS) on farm equipment allow innovative agricultural practices like variable fertiliser and pesticide application rates to match crop needs. Innovative planting regimes (cane interspersed with peanuts, variable row spacing) are also being tested.



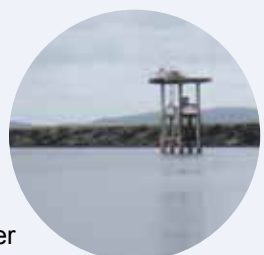
Collaborative

The restoration of Sandringham Lagoon was a collaborative project between several government departments and private landholders. Exotic weeds choking the lagoon were removed to restore water quality and fish habitat.



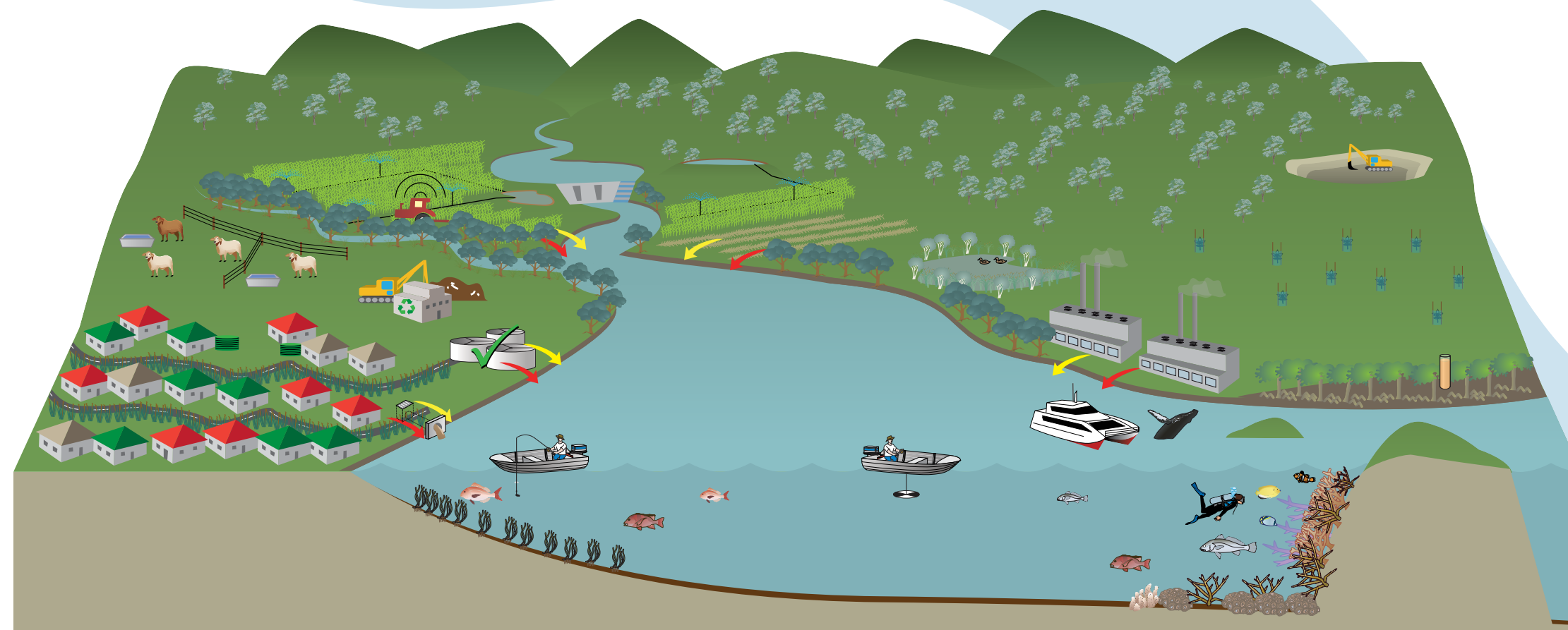
Connected

The Kinchant dam pumps water from the Pioneer River into the reservoir and this water is connected to the agricultural fields via a reticulated water distribution system. Irrigation water connects the state (dam owner) with the farmers (via SunWater, funded by irrigators to operate the water allocations).



Strategic

A water allocation scheme was converted from a regulatory basis to a market based system in the Pioneer River catchment. This strategic shift has created opportunities for water trading and a reduction in government bureaucracy.



Agricultural practices

- Reduced nutrient and sediment inputs
- Improved irrigation practices
- Green cane trash blanketing
- Fenced stock, offstream watering and riparian buffer
- Advanced farming technologies

Urban practices

- Improved waste management and recycling
- Advanced sewage treatment technologies and reuse
- Urban planning guidelines
- Advanced industrial technologies

Ecosystem outcomes

- Protection and restoration
- Healthy, functioning wetlands
- Healthy functioning estuaries
- Healthy diverse marine environment supporting human uses
- Healthy mangroves with acid sulphate soil testing

Achieving the Vision for the Mackay-Whitsunday-Isaac Region

Management recommendations

Overall program objectives and interim achievable goals need to be set by the whole of community. These objectives and goals need to include actions that individuals, organisations, corporations and government can implement. The focus on solutions with practical applications that lead to positive outcomes needs to be effectively communicated to the full range of stakeholders. Efficient water use across all sectors of society is a priority for maintaining healthy waterways.

Agricultural practices: Increased precision of fertiliser and chemical application, improved soil and ground cover management, transparent tracking through an ABCD management practice framework.

Urban practices: Regional planning with compact urban development, sustainable building codes, transparent tracking through an ABCD management practice framework.

Ecosystem/water quality practices: Prioritised actions in 33 catchments based on indicators in Water Quality Improvement Plan, High priority catchments receiving initial implementation, transparent tracking through an ABCD management practice framework.

The importance of creating opportunities to celebrate the waterways through various community events was stressed. In addition, the importance of celebration of best practices through awards and other public acknowledgement was recommended. Innovation and excellence in various applications related to the achievement of healthy waterways vision is important. Creating healthy waterways champions by empowering and rewarding people in various sectors was also recommended.

Participants

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Carl Mitchell, Reef Catchments



Healthy Waterways Alliance Launch

Research recommendations

Agricultural research on crop requirements and application rates of fertiliser and pesticides is needed to reduce impacts. Urban stormwater research applicable to wet tropical regions would help inform councils on strategies to reduce runoff. Social research on effectiveness of communication and willingness to change behavior would also be useful. Ecosystem research on catchment restoration techniques and efficacy would help guide restoration.

Monitoring recommendations

Environmental monitoring to track ecosystem health and provide timely feedback on management practices is needed. Social monitoring to track community understanding and behaviour change is also important. The interpretation and effective communication of results of monitoring needs to occur regularly.



Science Communication workshop participants

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