

# Russell - Mulgrave Rivers Catchment

## Catchment Information

### Description

<b>Area (km<sup>2</sup>)</b>	1983
<b>% Gauged</b>	48
<b>Mean Discharge Yr (km<sup>3</sup>)</b>	3.6
<b>Rainfall (mm)</b>	3016
<b>Runoff (mm/m<sup>2</sup>)</b>	1836
<b>Runoff/Rainfall Ratio</b>	61

### Land Use

<b>Population</b>	75400
<b>Clearing (km<sup>2</sup>)</b>	277
<b>% Cleared</b>	14
<b>Area under Grazing (km<sup>2</sup>)</b>	55*
<b>Area under Sugar (km<sup>2</sup>)</b>	232*
<b>Area under Horticulture (km<sup>2</sup>)</b>	8

### Pesticide Application

(Kg Active Ingredient/Yr)

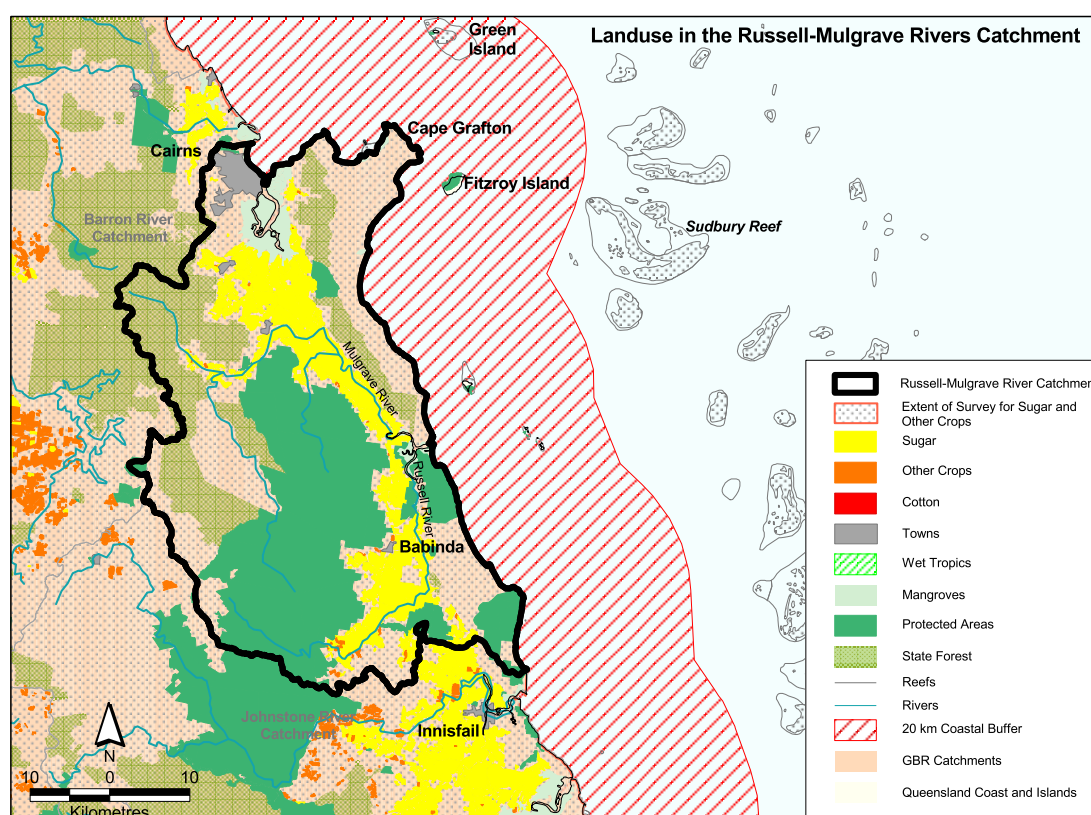
<b>Atrazine</b>	34068
<b>Diuron</b>	4702
<b>2-4D</b>	13937
<b>Chlorpyrifos</b>	9021
<b>MEMC</b>	202

Source: \*Russell et al., 1996a

## Catchment Targets

	<b>1850 T/yr</b>	<b>Current T/yr</b>	<b>Current T/ km<sup>3</sup></b>	<b>ratio</b>	<b>2011 % Red'n</b>	<b>2011 T/yr Target</b>	<b>2011 T/ km<sup>3</sup> Target</b>
<b>Sediment Export</b>	37000	222425	60989	6	33	149025	40863
<b>Total N Export</b>	489	1441	396	2.9	50	721	198
<b>Total P Export</b>	24	153	42	6.4	33	103	28

Data Confidence Index = 2



## Russell - Mulgrave Rivers Catchment

The Russell-Mulgrave Rivers catchment covers an area of 1983 km<sup>2</sup>. Approximately 1137 km<sup>2</sup> of the catchment is in the Wet Tropics World Heritage Area. State forests and timber reserves occupy 346 km<sup>2</sup> and protected areas cover approximately 1200 km<sup>2</sup>. Other land uses include sugarcane 232 km<sup>2</sup> and 8 km<sup>2</sup> of horticultural land. Grazing occupies a small proportion of the catchment, approximately 55 km<sup>2</sup>. Sediment and total phosphorus exports are classified as medium risk whilst total nitrogen export is classified as high risk in the Russell-Mulgrave catchment.

### *Issues in the catchment:*

- Cultivation land has a high risk of erosion and losses of nutrient and pesticides.
- Cultivated areas dominated by sugar production
- Approximately 60% loss of coastal wetlands.
- High contribution on nutrient and pesticides.
- There is significant pressure on the sand resources of the Mulgrave River.
- Concerns existing within the catchment area include flooding siltation, drainage of wetland, river course management techniques, de-snagging and channel straightening.
- Fauna species are threatened in the catchment.
- Approximately 60% of the catchment is within protected areas.
- Close proximity to inshore reefal areas.
- Commercial and recreational fisheries.
- Marine tourism.
- Growing land based tourism.

Opportunistic water sampling was conducted by AIMS at upstream and downstream sites on both the Russell and Mulgrave Rivers, from 1989 to 1995. The Great Barrier Reef Marine Park Authority sampled the rivers in the late 1990's.

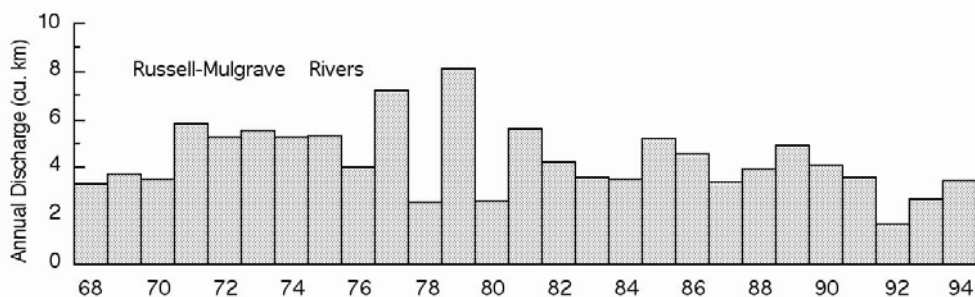


Figure 11. Water discharge patterns in the Russell- Mulgrave Rivers