

Russell - Mulgrave Rivers Catchment

Catchment Information

Description

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

Land Use

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

Pesticide Application

(Kg Active Ingredient/Yr)

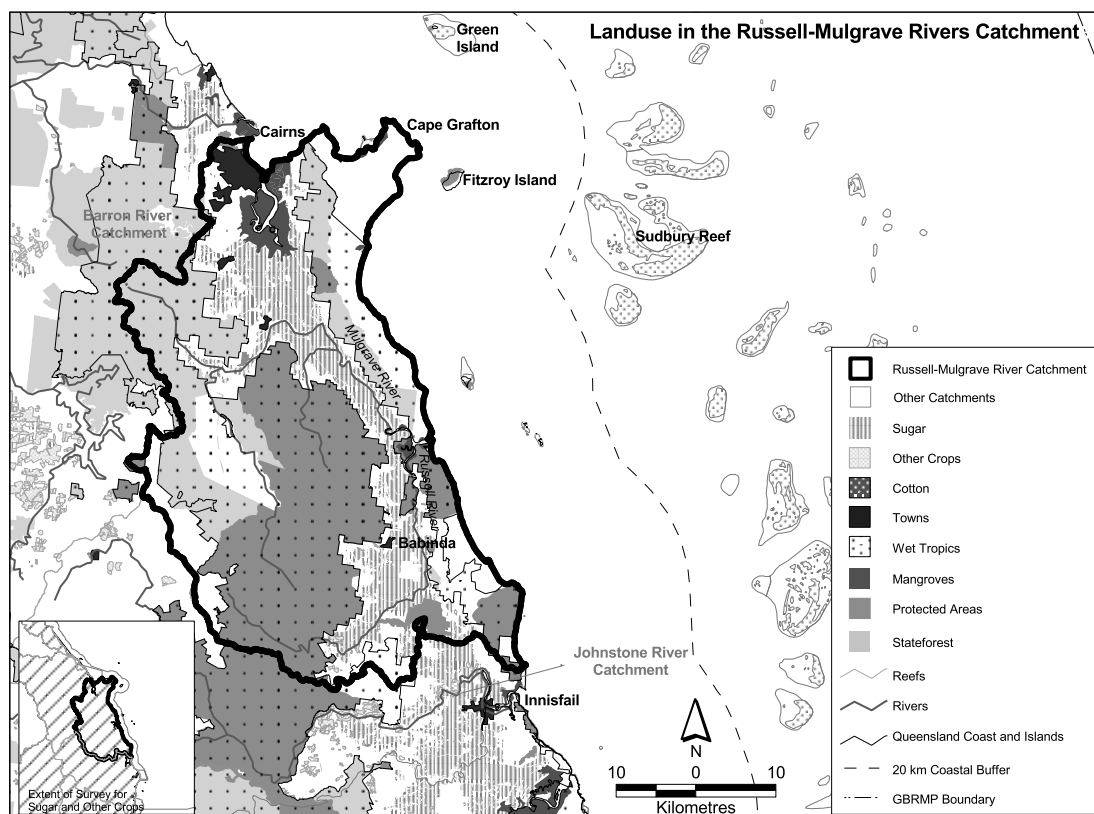
Atrazine	34068
Diuron	4702
2-4D	13937
Chlorpyrifos	9021
MEMC	202

Source: *Russell et al., 1996a

Catchment Targets

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

Data Confidence Index = 2



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The Russell-Mulgrave Rivers catchment covers an area of 1983 km². Approximately 1137 km² of the catchment is in the Wet Tropics World Heritage Area. State forests and timber reserves occupy 346 km² and protected areas cover approximately 1200 km². Other land uses include sugarcane 232 km² and 8 km² of horticultural land. Grazing occupies a small proportion of the catchment, approximately 55 km². 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.

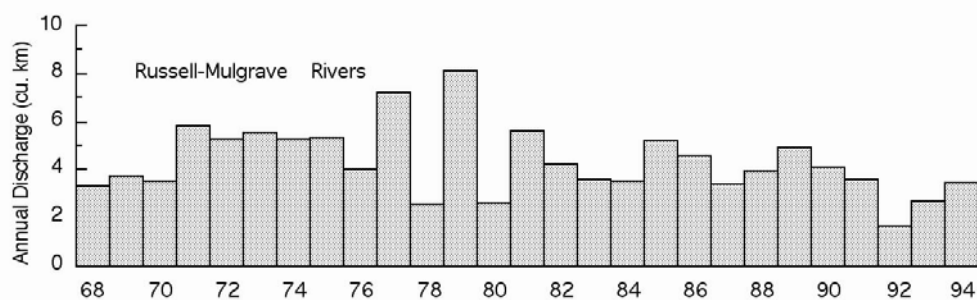


Figure 11. Water discharge patterns in the Russell- Mulgrave Rivers