WATER RESOURCES

OF

THE GWYDIR VALLEY

SURVEY OF THIRTY N.S.W. RIVER VALLEYS.

REPORT Nº 5 — SEPTEMBER 1966

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PREFACE

BY THE HON. J.G. BEALE, M.E., A.S.T.C. Mech. Eng.,
M.I.E. Aust., M.ASCE., M.A.S.M.E., M.A.S.A.E., M.L.A.
MINISTER FOR CONSERVATION
NEW SOUTH WALES

In accordance with the policy of the New South Wales Liberal-Country Party Government announced prior to its election to office at the May, 1965 State Elections, I directed the Water Conservation and Irrigation Commission to undertake a survey of the State's water resources on an individual valley basis as a basic prerequisite for the formulation of a balanced and soundly based programme of water conservation.

The survey will be the largest of its kind ever undertaken in Australia. It will cover thirty major river valleys and will involve a study of each valley's physiographic features, climate, groundwater potential and surface water resources together with an appraisal of current and future water requirements.

Each valley is being studied separately and as the overall survey will not be completed for some time, it has been decided to prepare and issue reports for the individual river valleys.

This report dealing with the water resources of the Gwydir River Valley is the fifth of these reports to be completed.

Jack G. Beale

JACK G. BEALE. M.L.A.

15th September, 1966.

WATER RESOURCES OF THE GWYDIR VALLEY

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WATER RESOURCES OF THE GWYDIR RIVER VALLEY

1. INTRODUCTION.

A modern civilization makes huge demands on water for domestic, agricultural and industrial purposes. An average of 1,000 pounds of water is required to produce a single pound of food while in the production of a ton of steel, about 60,000 gallons of water is used. Consequently a major factor in the development of any country is its water resources.

The gross water resources available are normally considered to be the amounts of rainfall and snow which fall on the land. Surface water resources are considerably less than the gross water resources, being only that portion of rainfall and snow which eventually appears as streamflow.

Australia is the world's driest continent. The average annual rainfall is only about $1\frac{1}{2}$ feet compared with the averages of about 2 feet for Africa, Asia and Europe and almost $4\frac{1}{2}$ feet for South America.

In contrast to many other continents, none of the streams on the Australian mainland are permanently snow fed. Furthermore over an area of about 70 percent of the Australian continent the rainfall does not exceed the evaporation loss in any month of the year. It is not surprising therefore that our surface water resources compare rather unfavourably with those of the other continents.

The average annual surface water resources of the Australian mainland have been assessed at about 240 million acre feet which is equivalent to less than 2 inches of rainfall occurring without loss over the continent. The corresponding average annual values for Africa, North America and South America are about $\frac{1}{2}$ foot, 1 foot and $1\frac{1}{2}$ feet respectively.

The average annual rainfall for New South Wales is about 20 inches while the average annual surface water resources of the State have been assessed at about 30 million acre feet which is equivalent to about 1.8 inches of rainfall occurring without loss over the whole of the State.

Water resources are not evenly distributed over New South Wales. Average annual rainfalls range from more than 70 inches in some areas on the north coast to only about 6 inches in the far north west of the State.

The average annual runoff from Coastal New South Wales has been estimated as being equivalent to about 7 inches of rainfall occurring without loss over the whole of the coastal area. In comparison the estimate for Inland New South Wales is only about 1 inch.

The average annual rainfall of the Gwydir Valley has been assessed at about 21 inches which is approximately the same as the average value for New South Wales. However within the valley the average annual rainfall varies from 38 inches in the higher areas of the south eastern section to about 17 inches in the western section near the junction of the Gwydir and Barwon Rivers.

The average annual surface water resources of the Gwydir Valley have been assessed at about 670,000 acre feet per annum which is equivalent to an average of about 1.3 inches of rainfall occurring without loss over the whole of the valley. On a square mile of catchment area basis the surface water resources of the Gwydir Valley are about two thirds of the average values for both mainland Australia and New South Wales. However they are slightly greater than the average water resources of Inland New South Wales.

2. PHYSIOGRAPHIC FEATURES.

The Gwydir River is one of the major tributaries of the Barwon-Darling River system and drains an area of about 10,000 square miles extending from Guyra and Uralla westward to Collarenebri.

The Gwydir River rises in country over 3,500 feet above sea level in the elevated plateau which forms the Great Dividing Range west of Armidale and flows in a north-westerly direction towards the township of Bingara. In its passage downstream to this point it is joined by several significant tributaries, the principal of which are Cope's, Moredun, George's and Laura Creeks.

Some fifteen miles downstream of Bingara the Gwydir River is joined on the left bank by its main tributary, the Horton River, which rises in country above 4,500 feet in the Nandewar Range north-west of Barraba. Below Bingara the river enters the plains and flows generally westward,

eventually entering the Barwon River about twelve miles upstream of Collarenebri.

The first major effluent of the Gwydir River is the Meehi River. This stream, which is also known as the Meei or Mehi River leaves the main river at a point about twenty river miles upstream of Moree and rejoins the Gwydir about fifteen river miles downstream of that town.

Downstream of Moree, the Gwydir is a slow moving stream with a well developed and complex pattern of effluents and tributary creeks. A remarkable feature of this area of the valley is the Raft, an immense obstruction of timber, debris and sediment which has formed in the Great Ana Branch of the Gwydir River.

The Raft is believed to have been formed during the latter part of last century possibly as a result of a tree falling across the river channel. Since that time the obstruction has extended upstream and now has a length of about 9 miles. Over most of this distance it has completely filled the river channel.

The effect of the obstruction is to cause the river to overflow one or both banks in proportions which vary from time to time according to the profile of the stream banks and the location of the upstream end of the Raft. Under present conditions a substantial area generally to the north of the Gwydir River and along the Gingham Watercourse is subject to flooding.

Only a small percentage of water passing Moree in a normal season enters the Barwon as flow in the main channel of the Gwydir River. However, during floods, a wide area of flood plain is inundated and flow enters the Barwon River at a number of points. The catchment area below Moree is largely non-contributory except in very wet seasons.

The elevation of the Gwydir River Basin varies from over 4,500 feet on some of the higher areas of the Great Dividing Range and the Nandewar Range to less than 500 feet at the western extremity of the valley near Collarenebri. At several points on the Nandewar Range north west of Barraba the elevation is nearly 5,000 feet.

West of Pallamallawa the valley can be classified as almost entirely flat with land slopes less than three degrees. This area comprises about

50% of the total area of the valley. Below Moree the valley boundary is not clearly defined and is generally less than 700 feet above sea level.

In contrast with the lower valley, a wide range of topographic features is represented in the valley above Pallamallawa. This half of the valley is comprised of about equal areas of flat country with slopes less than 3 degrees, undulating to hilly country with slopes between 3 and 8 degrees and hilly to mountainous country with slopes greater than 8 degrees. About one third of the hilly to mountainous country has slopes exceeding 15 degrees.

Soil types of the lower valley are predominately self-mulching grey-black soils of basaltic origin. This soil type, which offers considerable potential for irrigation, extends along both sides of the river from a point upstream of Biniguy to the Barwon River confluence. In the elevated sections of the catchment above Gravesend the predominant soils are the podsolised types which have developed principally from decomposed granite.

The principal features of the Gwydir Valley river system are shown at Figure 1 whilst the generalised land slopes are shown at Figure 2.

3. CLIMATIC FEATURES.

Rainfall.

Rainfall in the Gwydir Valley in general decreases with decreasing elevation and hence shows a fairly uniform decrease from a maximum along the eastern catchment boundary and over the high ground in the vicinity of Mt. Lindsay on the central southern border, to a minimum in the west.

Annual median rainfalls of greater than 30 inches occur over the headwaters above 3,000 feet. For the area around the junction of the Gwydir and Barwon Rivers, which is generally below 500 feet, the median is about 18 inches. (The median is that value experienced or exceeded on 50 per cent of occasions). Highest annual rainfall totals are recorded over the Mt. Lindsay area where the annual median exceeds 36 inches. The distribution of annual median rainfalls over the catchment is shown at Figure 3 whilst the distributions of monthly median rainfalls are shown at Figures 4 to 15 inclusive.

On the average, the catchment receives more than 50 per cent of its annual rainfall in the five months from November to March. A short secondary wet spell is generally experienced during June-July when a further 17 per cent of the annual rainfall is received. These two wet seasons are separated by two relatively dry periods, April - May and August - September, each of which receives about 12 per cent of the annual average.

The catchment can be divided into three broad sections, namely, the headwaters (the area above 3,000 feet including the Mt. Lindsay area), the central reaches (the area between 1,000 and 3,000 feet) and the plains (the area below 1,000 feet). Monthly median rainfalls in the wet periods from November to March and June and July are at least $1\frac{3}{4}$, $1\frac{1}{2}$ and $\frac{3}{4}$ inches for the abovementioned areas respectively and are as high as 4, 3 and 2 inches respectively in the months of December and January.

Monthly and annual rainfalls recorded at Bingara, Bundarra, Bunna Bunna, Collarenebri, Crinolyn, Edgeroi, Myall Downs, Guyra, Inverell, Iolanthe, Moree, Mt. Lindsay, Uralla, Wandsworth and Warialda are given in Appendices 1 to 15 respectively.

High monthly rainfall totals are recorded throughout the catchment particularly in the months from November to March. All stations have experienced a monthly total exceeding 9 inches. The highest monthly total on record in the catchment is 20.63 inches at Keera in January 1910. Such totals are associated with the formation of depressions to the north of the catchment in a trough extending from south eastern Australia to the north of the Continent. These depressions cause a very moist north to east air stream to occur west of the Great Dividing Range.

Under the conditions mentioned in the above paragraph, heavy 24 hour rainfall totals have been recorded. Falls of nearly 5 inches in 24 hours have been experienced even in the driest parts of the catchment. The highest 24 hour total to 9 a.m. on record for a station in the catchment is 9 inches which occurred at Gravesend on 11th February, 1941. These intensities, however, are much lower than those experienced in catchments east of the Great Dividing Range.

The tables at Appendix 16 show on a monthly and annual basis for Bingara, Bundarra, Bunna Bunna, Collarenebri, Crinolyn, Edgeroi, Myall Downs, Guyra, Inverell, Iolanthe, Moree, Mt. Lindsay, Uralla, Wandsworth and Warialda the following data:

(i) The maximum and minimum rainfalls.

(ii) The 10th, 30th, 50th, 70th and 90th percentiles.

(A rainfall observation less than the 10th percentile value can be expected once in ten years on the average. Similarly a rainfall observation less than the 70th percentile can be expected in seven years out of ten or alternatively, a rainfall observation greater than the 70th percentile can be expected on an average of three years in ten).

Dry spells occur frequently over the central reaches and plains areas of the catchment. Minimum recorded rainfalls for periods of up to 12 months at Bingara, Bundarra, Collarenebri, Edgeroi, Myall Downs, Guyra, Moree, Uralla and Warialda are shown in the tables at Appendix 17. These tables indicate the minimum cumulative rainfalls commencing in any month of the year and continuing for up to 12 months, which have occurred at the selected stations.

For most months of the year, monthly totals of less than 0.25 and 0.75 inches over the plains and headwaters respectively are experienced on 10 per cent of occasions. Dry spells extending over six months are common. For the six month period April to September, on an average of one year in ten, totals of less than $4\frac{1}{2}$, $6\frac{1}{2}$ and $8\frac{1}{2}$ inches are recorded over the plains, the central reaches and the headwaters respectively. The corresponding median values for this period are approximately $7\frac{1}{2}$, 10 and 12 inches. For the six month period October to March, which includes the summer maximum, the above areas record totals of less than 7, 11 and 14 inches on an average of once in ten years. The corresponding median values are 13, 16 and 19 inches respectively.

Temperature.

The temperature regime of the valley is well recorded. The average monthly and yearly temperatures for selected stations are listed in Tables 1 to 5 as follows:

Uralla, Table 1, which is representative of the headwaters of the region above 3,000 feet.

Bundarra and Bingara, Tables 2 and 3, which are representative of the central reaches.

Moree and Collarenebri, Tables 4 and 5, which are representative of the plains.

TABLE 1

URALLA (Elevation 3,337 feet)

Average Temperature (^{o}F) Based on 12 years of Record.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Average Maximum	80.7	78.5	75.2	67.3	61.0	54.5	53.3	56.2	62.7	68.4	74.6	79.0	67.6
Average Minimum	54.4	53.9	51.0	42.2	37.4	32.8	30.0	32.0	36.4	42.2	48.0	51.9	42.7
Highest on Record 100.6						Lowest on Record 15.0							

TABLE 2

BUNDARRA (Elevation 2,000 feet)

Average Temperature (^{o}F) Based on 29 years of Record.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Average Maximum	86.9	85.4	81.7	73.8	66.5	60.2	58.4	61.5	67.9	74.1	80.3	83.6	73.4
Average Minimum	58.3	57.6	53.4	45.1	38.0	33.5	32.6	33.7	38.9	44.7	51.8	56.1	45.3
Highest on Record 106.6						Lowest on Record 14.0							

TABLE 3

BINGARA (Elevation 1,200 feet)

Average Temperature (^{o}F) Based on 14 years of Record.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Average Maximum	93.5	91.3	86.6	79.4	71.5	63.8	62.7	66.1	74.4	81.3	86.8	91.3	79.1
Average Minimum	65.4	63.1	59.1	50.8	43.2	39.0	35.5	37.6	42.7	50.2	57.4	62.4	50.5
Highest on Record 113.0						Lowest on Record 16.0							

TABLE 4

MOREE (Elevation 686 feet)

Average Temperature (^{o}F) Based on 30 Years of Record

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Average Maximum	96.0	94.2	89.7	81.7	73.0	65.8	64.8	69.2	76.3	83.9	90.5	93.8	81.6
Average Minimum	67.4	66.6	62.6	53.4	46.3	40.7	39.0	40.7	46.2	53.9	60.9	64.9	53.5
Highest on Record 117.0						Lowest on Record 22.0							

TABLE 5

COLLARENEBRI (Elevation 477 feet)

Average Temperature (^{o}F) Based on 30 Years of Record

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Average Maximum	97.7	96.0	90.8	82.2	73.7	66.3	65.1	69.9	77.4	85.0	91.5	95.2	82.6
Average Minimum	60.3	68.9	63.1	54.1	46.5	41.0	39.6	41.6	47.9	55.8	62.2	66.5	54.7
Highest on Record 118.0						Lowest on Record 19.0							

From Tables 1 to 5 it is seen that the lower parts of the valley experience hot to very hot weather during summer. In winter, mild to cool days are experienced on the plains while over the headwaters days are cold on the average.

Overnight minima during summer range from the mid fifties on the highlands to the high sixties on the plains. Winter minima are quite low, all stations having an average of less than 40^{o}F for at least one of the winter months. Above the 3,000 feet contour, average minima fall below 33^{o}F in each of the winter months (June to August).

Very hot days occur frequently over the catchment during summer particularly over the plains where air temperatures exceeding 110^{o}F are common. Even above the 3,000 feet contour temperatures of 100^{o}F or more have been recorded. Collarenebri, on the western boundary of the valley, has recorded a temperature of 118^{o}F.

In winter under conditions of clear skies and light winds, extremely low temperatures occur throughout the catchment. All regions have experienced air temperatures lower than 23^{o}F while in the higher areas, air temperatures as low as 14^{o}F have been recorded.

Frost

The whole of the catchment is subject to frost during the cooler months of the year. Over the plains around the western border of the valley about 25 frosts are experienced per year while the higher regions in the headwaters experience more than 80 frosts per annum.

These frosts may be extremely severe particularly over the headwaters and central reaches of the catchment. Table 6 gives the average dates of the first and last occurrences of a screen temperature of 36°F, the accepted threshold temperature for light frosts in the Australian region, together with the date of earliest and latest occurrence on record for selected stations in the valley.

TABLE 6

Occurrence of Air Temperatures of 36°F or Less.

Station	Extreme Earliest	Average Earliest	Average Latest	Extreme Latest
Guyra	Jan. 6th	April 1st	Oct. 30th	Dec. 29th
Bingara	April 15th	May 9th	Sept. 23rd	Oct. 17th
Collarenebri	April 14th	May 25th	Sept. 5th	Oct. 12th

Sunshine.

Estimates of the duration of bright sunshine in hours per day, for the headwaters, the central reaches and the plains, are shown in Table 7. These estimates are based on cloud observations. Under easterly air stream conditions, some cloud would be expected to spill over the Great Dividing Range and hence of the three areas, the headwaters area has the smallest duration of bright sunshine on the average. Only a slight increase in duration of sunshine occurs between the central reaches and the plains areas.

TABLE 7

Average Duration of Bright Sunshine in Hours Per Day.

Area	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Headwaters	9.0	8.8	7.9	7.8	7.3	6.0	6.6	7.7	8.3	8.6	9.5	9.7	8.1
Central Reaches	9.8	9.5	8.6	8.5	7.6	6.5	7.3	8.2	8.8	9.2	10.0	10.5	8.7
Plains	10.2	10.0	8.9	8.8	7.9	6.8	7.6	8.4	9.0	9.5	10.5	10.7	9.0

Evaporation.

Estimates of the average monthly and annual evaporation (from a sunken pan) and standard deviation for the headwaters, the central reaches and the plains are shown in Table 8.

TABLE 8

Estimated Average Monthly and Annual Evaporation in Inches for the Gwydir Valley.

		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Head-Waters	Average	7.0	5.2	5.0	3.3	2.6	1.6	1.5	2.5	3.1	4.1	6.0	6.8	48.7
	Standard Deviation	1.0	0.9	0.7	0.4	0.3	0.3	0.3	0.4	0.4	0.7	1.2	1.2	4.6
Central Reaches	Average	8.5	5.9	5.9	4.3	3.0	2.0	1.9	2.9	3.9	5.1	6.6	8.2	58.2
	Standard Deviation	1.3	1.1	0.8	0.6	0.4	0.3	0.3	0.4	0.6	0.9	1.3	1.3	6.0
Plains	Average	11.3	6.8	6.7	4.8	3.4	2.4	2.3	3.2	4.3	5.9	7.6	9.5	68.2
	Standard Deviation	1.4	1.3	1.1	0.7	0.5	0.4	0.4	0.5	0.8	1.1	1.4	1.5	7.6

Wind

The wind speed in the Gwydir Valley would rarely exceed 45 miles per hour. However, violent squalls may be experienced over a limited area on rare occasions in association with severe local storms such as thunderstorms or frontal squalls. Under these conditions gusts could reach 90 miles per hour. Table 9 shows the extreme wind gust likely to be experienced in the catchment for various return periods.

TABLE 9.

Extreme Wind Gust to be Expected with Given Return Periods.

Return Period (Years)	10	20	50	100
Wind Gust Equalled or Exceeded (m.p.h.)	70	75	85	90

4. GROUNDWATER POTENTIAL.

The principal geological features of the Gwydir River Valley are shown at Figure 16.

The eastern half of the valley is one of considerable elevation and high relief and is underlain by relatively hard, jointed rocks such as slates, tuffs, granites and basalts. In contrast to this, the western part of the valley is an almost featureless black soil alluvial plain built up over a million or more years by the Gwydir and its tributaries and effluents.

Between these two contrasting areas a sequence of sandstones and shales of Jurassic age outcrop, forming, in the main, gently undulating country with an occasional sandstone or basalt capped mesa occurring in the area south of the Gwydir River. These sandstones and shales outcrop over only a small part of the valley but they extend far to the west beneath the plains where they comprise part of the geological sequence of strata which make up the Great Artesian Basin.

Groundwater potential in the Gwydir River Valley is influenced by the disposition and nature of the rock types and alluvial deposits. In the jointed rocks, water occurs in cracks, bedding planes and partings in otherwise impervious rock. In the porous rocks, such as occur in the Great Artesian Basin, water is held in the pores or spaces between the cemented grains of the sandstones, whilst in the alluvial deposits the water bearing material consists of various mixtures of unconsolidated sands and gravels. Each group gives rise to very different hydrogeological conditions and it is therefore convenient to discuss the groundwater potential of the valley under the three groupings (i.e. Jointed Rocks, Porous Rocks, and Alluvial Deposits).

Jointed Rocks.

The area of rather rugged country comprising the eastern part of the Gwydir catchment is believed to have been uplifted several million years ago, not long after great outpourings of basalt, remnants of which still cap a good deal of the higher country. This uplift resulted in increased activity by the streams but the hardness of much of the underlying rock has prevented rapid erosion and in most cases the

valleys are fairly steep sided with pronounced gradients and little opportunity for the development of alluvial flats.

The steep western margin of this area, which is considered to be in part the result of faulting, is the edge of a strongly folded belt of continental and marine sediments and lavas of Carboniferous age, occupying a sub-meridional belt varying in width from about twelve miles in the north to twenty miles or more in the south. In the south these sediments and lavas are obscured by the Tertiary volcanics of the Nandewar Range.

Devonian shales, tuffs, mudstones, limestones and lavas form a zone of similar extent to the east of the Carboniferous strata and these in turn are followed by a third sub-meridional belt of Silurian rocks which include slates, jaspers, tuffs and occasional limestones.

The rocks of all three systems have been extensively folded and faulted and are probably best described as meta-sediments (a series of sedimentary strata which have undergone various degrees of metamorphism or alteration), so that any original porosity has largely vanished and jointing and fracturing of the rocks has become a prominent feature.

Portion of the New England granite batholith underlies the eastern part of the catchment. It has been responsible for the occurrence of a number of minerals including copper, lead, molybdenum, tin and gemstones. However, economically these minerals are of little or no importance in this area.

An oval shaped area in the vicinity of Bundarra is comprised of sandstones, shales and conglomerates of Permian age. The relationship of these beds to the granite establishes that the latter was intruded after the deposition of these sediments, so setting a lower limit on the geological age of the granite.

Extensive basalt flows cap much of the more elevated sections of the divide between the Gwydir and the adjacent river valleys. There is a considerable area of basalt extending from Uralla through Guyra to Glen Innes (in the adjacent Macintyre Valley) and thence westward towards and to the north of Warialda, where the basalt overlies sandstones of Jurassic age. Other cappings of basalt on sandstone are present in the headwaters of Weah Waa and Gurley Creeks.

In all these strata, groundwater if present is contained in the joints or other fractures and partings. The rock type, degree of development and interconnection of the openings, and the topography are the main factors controlling the depth, yield and quality of underground water supplies.

In the Carboniferous, Devonian and Silurian rocks, the results of boring have been very variable, slightly less than half the bores recorded being failures. On favourable sites quite shallow (less than 100 feet) supplies have been obtained and the percentage of successful bores is quite high. However in areas of high relief, bores over 300 feet deep have failed to obtain water. Yields rarely exceed several hundred gallons per hour and most waters are fairly hard, although the salinity is usually only about 100 parts per hundred thousand.

An analysis of water from a well in Carboniferous rocks near Horton indicated a total saline content of 109 parts per hundred thousand and a hardness of 20 parts per hundred thousand (as Calcium Carbonate), whilst water from a bore in tuffs of Silurian age had a salinity of 98 parts per hundred thousand and a hardness of 25 parts per hundred thousand.

Prior to the 1964/1966 drought there was no record of bores in the Permian sequence of shales, sandstones and conglomerates but recently a number of successful bores have been put down. All of these bores have been less than 100 feet deep and have produced yields ranging from 250 to 1,000 gallons per hour. The water is described as potable and it is understood that it is proposed to irrigate with water from the highest yielding bore. However, analyses are not available to verify this good quality.

Much of the New England granite country is rough and undeveloped and because of the presence of springs and the near permanence of many streams, relatively few bores have been constructed. However where boring has been undertaken the results have been variable. In elevated areas of high relief where the weathered granite is rapidly removed, useful supplies are rare. Elsewhere yields are usually poor although an occasional bore has produced 500 or more gallons per hour. Depths of most bores are less than 150 feet.

Of the jointed rocks, the basalts are most favourable to the occurrence of useful supplies of groundwater. Depending on local conditions water may be obtained from sources ranging from springs through shallow wells to bores over 300 feet deep. Yields ranging from 500 to 1,000 gallons per hour are common and several quite shallow wells near Delungra have yielded more than 3,000 gallons per hour. The township of Delungra, which is located some 18 miles east of Warialda obtains its town water supply from a well in basalt. The well is 21 feet deep and has been tested at 5,700 gallons per hour.

Unfortunately a representative analysis of water from basalt within the valley is not available but it is known that the total saline content is usually less than 100 parts per hundred thousand while the hardness is relatively high.

Porous Rocks.

As mentioned above, the sandstones and shales which underlie the intermediate zone between the high country and the plains form only a small part of the geological sequence in the Great Artesian Basin. As these strata are an important source of groundwater in the western half of the Gwydir Basin, a description of the sequence occurring in the Moree district in relation to the Great Artesian Basin in New South Wales and Queensland is given in the following sections.

The sequence contains strata ranging throughout most of the Mesozoic Era and consists of an alternating series of sandy and shaly formations, the former usually containing aquifers. The oldest beds are shales and thin sandstones of early Triassic age above which there are two sandy formations of doubtful age which contain thin aquifers in New South Wales, but which provide some of Queensland's largest flowing supplies. The Walloon coal measures, which include shales, tight sandstones and coal seams, form an aquiclude (impervious formation) and a fairly thick sandstone formation containing some very porous strata comes next in the sequence. This sandstone is variously referred to as the Pilliga or Gubberamunda sandstone and is the main aquifer in the Great Artesian Basin in New South Wales.

Above the main aquifer there is a series of sandstones and shales known as the Transition beds. These beds are so named because they mark the transition from strata believed to have been deposited in a fresh water environment to a thick sequence of blue and grey shales of Cretaceous age which are of marine origin.

The Jurassic outcrops shown on the geological map include some Walloon, Pilliga and Transition strata, the rest of the sequence being obscured either by these beds or by alluvial deposition. The thickness of strata represented by the outcrops is probably less than 800 feet, whereas the total thickness of the Artesian Basin sequence beneath the Moree district exceeds 4,000 feet.

Near Warialda and to the north, the Warialda sandstone (the equivalent of the Pilliga sandstone in the Great Artesian Basin sequence) contains some very permeable zones which are quite widespread. Yields of up to 1,000 gallons per hour from depths ranging down to 600 feet are common and although some bores have failed to obtain supplies in the sandstones it has usually been because they are not deep enough, the sites being somewhat elevated. A few bores to the north-west of Warialda have failed because they were located in areas where bedrock ridges occur and there has been little or no development of the sandstones.

The quality of the water from the Warialda sandstone is excellent. The total saline content is usually of the order of 30 parts per hundred thousand, and salinities less than 20 parts per hundred thousand are not uncommon. A low hardness together with a high residual alkalinity is typical of almost all the waters from these sediments.

Some quite large supplies are obtained from bores in these sandstones, an example being the 107 feet bore from which Yallaroi Shire Council pumps 8,000 gallons per hour to provide Warialda with a water supply. In the original test a yield of 12,000 gallons per hour was obtained for a drawdown of 41 feet, over a period of 48 hours.

To the south of Biniguy the Warialda sandstone is not as well developed, and in fact the logs of a number of bores in the catchments of Weah Waa and Gurley Creeks suggest they are either not present or

are much less permeable. This lack of uniformity is probably due to irregular deposition between bedrock ridges. Some very good quality waters have been obtained and yields in excess of 500 gallons per hour are usual.

The Transition beds overlie the Warialda sandstone. In this sequence of sandstones and shales, the former are, in the main, not very porous. Yields are normally less than 750 gallons per hour and the water can be slightly brackish. Depths range from less than 100 feet to more than 600 feet, and whilst it is practically certain that the Warialda sandstone is present at depth, few deep bores have been drilled because the water from the shallower aquifers is normally suitable for stock, having a salinity of less than 250 parts per hundred thousand.

Further west alluvium obscures the thick sequence of marine shales, and outcrops are rare. Within these Cretaceous beds there are several widespread sandstone layers which contain salty water and it is usually necessary to continue boring into the Transition beds or the Pilliga sandstones in order to obtain useful stock water.

Many bores in the deeper aquifers of the Artesian Basin yield flowing supplies and special precautions are taken in the construction, completion and utilization of flowing bores to ensure that undue wastage or pollution of aquifers by more saline shallow waters does not occur. The eastern limit of flowing bores in the Artesian Basin is shown at Figure 16. This limit has been moving gradually westwards as pressures have declined over the 60 or so years that the Basin has been tapped.

The quality of the water from the main aquifer, which occurs at some 3,500 feet beneath Moree, is good for most purposes as the salinity is usually less than 60 parts per hundred thousand. However the residual alkali content is very high (greater than 30 parts per hundred thousand) while the hardness is very low. This sodium imbalance makes the water unsuitable for irrigation.

Alluvial Deposits.

As the Gwydir and the other westward flowing streams leave the more elevated country comprising the eastern half of the valley, each

has built up an extensive alluvial fan. The fans merge into the vast black-soil plain which extends westward to the Barwon River. The present drainage pattern of the various distributaries in the valley gives a good indication of the variations to be expected in the disposition of the clays, silts, sands and gravels which were deposited by the ancestral streams as they built up the alluvial plain. To date, the maximum depth of alluvium proved by boring is only 220 feet, although experience in other western river valleys suggests that greater depths are likely.

Over the whole of these flood plains it is usually possible to obtain adequate supplies of stock water from depths less than 150 feet. In the east the water quality is usually good, the salinity being less than 100 parts per hundred thousand but in the lower reaches towards the confluence of the Gwydir with the Barwon, the groundwater is often brackish and sometimes too saline even for sheep. It is of interest that, as a general rule, the quality of the water improves with depth. In Table 10 details are given of a bore in the alluvium near Biniguy which exhibits this phenomenon, even though the shallow water is of quite low salinity.

TABLE 10

Depth of Aquifer	Water Quality in Parts Per Hundred Thousand		
	Total Salts	Total Alkalinity (as $Na_2 CO_3$)	Hardness (as $Ca CO_3$)
32 to 34 Feet	60	30	36
43 to 51 Feet	39	17	26
60 to 68 Feet	22	15	16
70 to 75 Feet	20	12	12
79 to 83 Feet	20	17	9

It will be noted that the water from the deepest aquifer has a high alkalinity as compared to the total salts, a relationship which is usual in most of the waters from the alluvial deposits and especially so in the case of low salinity waters from the deeper aquifers.

As well as variation in salinity with distance from the source, there appears to be a lesser, but none the less appreciable, change in water quality which can be related to the size of the catchment of the stream contributing recharge to the sands and gravels and it seems that the smaller the catchment, the poorer is the quality of the water in the section of alluvium built up by the stream.

The area of the valley where evidence from bores and wells has indicated that the groundwater potential is good enough to warrant the construction of bores to obtain water for irrigation is indicated at Figure 16. From Biniguy where the alluvium is relatively confined, the area expands downstream, the aquifers becoming thinner and less permeable towards the west. The downstream limit for supplies suitable for irrigation may be further than is shown at Figure 16 but favourable conditions beyond the indicated limit would be very sporadic.

In general, there appear to be two main groups of fairly clean aquifers, one between 50 and 80 feet and the other between 110 and 150 feet. As mentioned earlier the free-yielding deeper aquifers almost invariably contain better quality water than those at the shallow level. The waters from below 100 feet usually contain less than 25 parts per hundred thousand total salts whilst in the case of those in the 50 to 80 feet zone the salinity is usually appreciably higher. However in the area of shallow basement upstream of Moree a salinity of less than 25 parts per hundred thousand is not uncommon in the shallow aquifers.

The highest yield recorded is from a bore 171 feet deep which encountered five aquifers and is stated to yield 43,000 gallons per hour (drawdown unknown). In most production bores constructed to date the yields have ranged from 10,000 to 30,000 gallons per hour and there seems little doubt that if yields in excess of 20,000 gallons per hour are sought, it is essential that the alluvium be fully prospected by boring until the underlying rock, usually shale, is encountered.

It should be stressed that even though the area delineated is believed to have good potential, it cannot be assumed that every bore will yield irrigation supplies. The ratio of test bores to production bores in the Moree district is probably not less than 3 to 1, and

towards the downstream end of the zone this ratio would be even higher.

It is of interest that the static water level in the alluvium becomes progresively deeper with distance downstream ranging from 20 to 30 feet near Biniguy to 70 to 90 feet in the lower reaches of the Gwydir.

Examination of the limited data on the alluvial fans of the smaller streams to the north and south of the Gwydir suggests that there is limited, but valuable local potential. Mosquito, Hall's, Weah Waa, and Courallie Creeks have deposited "shoe string" sands and gravels from which small supplies suitable for spray irrigation have been obtained. Most of these supplies are taken from depths less than 120 feet.

5. STREAM GAUGING STATIONS.

Streamflow is a governing consideration in the engineering and economic aspects of schemes for the development of water resources. Irrespective of whether the scheme is concerned with irrigation, hydro-electric power generation or town or commercial water supply, proper appraisal of the scheme is largely dependent upon the adequacy of the basic streamflow data.

It is therefore desirable to collect records of streamflow at key locations within a valley. This is done by establishing stream gauging stations at which river heights are recorded and regular and systematic measurements of flow are made. These data enable continuous records of streamflow to be derived.

The measurement of streamflow in the Gwydir River Valley commenced in 1891 when a gauging station was established at Pallamallawa. No further stations were established in the valley until 1924 when a station was established on Cope's Creek at Copeton. This was followed by the establishment of stations on the Gwydir River at Copeton in 1925 and on the Meehi River at Moree and the Gwydir River at Yarraman in 1928.

The gauging stations on the Gwydir River at Copeton and Cope's Creek at Copeton were both discontinued during 1929 in favour of alternative sites. In 1931 the original station at Pallamallawa was also discontinued.

Additional stream gauging stations have since been established at a number of locations and at the present time the Water Conservation and IrrigationCommission is operating a total of 19 stations in the valley. These stations include the original station at Pallamallawa which was re-established in 1951. They are strategically located so as to measure streamflows in the Gwydir River, its principal tributaries and effluents and to provide reasonable data for use in the investigation of future water resources proposals for the valley.

The present network of 19 stations includes 3 equipped with automatic float recorders, 10 equipped with automatic pressure recorders and 6 equipped with staff gauges from which daily readings are obtained. The locations of all existing and discontinued stations in the valley are shown at Figure 17. Details of the catchment area, type of gauge and period of operation of each station are given in Table 11.

TABLE 11

Stream	Station	Catchment Area in Square Miles	Type of Gauge	Period of Operation
Boorolong Creek	Yarrowyck	120	Pressure recorder	1965 to date
Gwydir River	Yarrowyck	330	Staff gauge	1954 to date
Roumalla Creek	Kingstown	190	Pressure recorder	1965 to date
Laura Creek	Laura	120	Pressure recorder	1965 to date
George's Creek	Clerkness	200	Pressure recorder	1965 to date
Moredun Creek	Bundarra	250	Pressure recorder	1965 to date
Gwydir River	Bundarra	1,580	Staff gauge	1936 to date
Gwydir River	Strathmore*	1,700	Staff gauge	1929 to 1939
Gwydir River	Copeton*	1,800	Staff gauge	1925 to 1929
Cope's Creek	Kimberley*	100	Staff gauge	1929 to 1931
Cope's Creek	Copeton*	180	Staff gauge	1924 to 1929
Gwydir River	Below Gwydir Dam Site	2,070	Pressure recorder (Manometer Servo)	From 1966
Keera Creek	Keera	220	Pressure recorder	1964 to date
Gwydir River	Pinegrove	2,450	Float recorder	1945 to date
Gwydir River	Bingara*	2,460	Staff gauge	1936 to 1951
Hall's Creek	Bingara	60	Pressure recorder	1965 to date
Myall Creek	Molroy	325	Pressure recorder	1964 to date
Horton River	Rider	760	Float recorder	1957 to date
Warialda Creek	Warialda	175	Pressure recorder	1964 to date
Gwydir River	Gravesend No. 1 *	4,200	Float recorder	1936 to 1951
Gwydir River	Gravesend No. 2	4,150	Float recorder	1950 to date
Gwydir River	Pallamallawa	4,870	Staff gauge	(1891 to 1931 (1951 to date
Gwydir River	Above Meehi River Offtake *	4,950	Float recorder	1936 to 1951
Meehi River	Moree	Effluent Stream	Staff gauge	1928 to date
Gwydir River	Camurra (Boolooroo Bridge) *	Below Effluent Streams	Staff gauge	1936 to 1963
Carore Creek	Bell's Crossing *	Effluent Stream	Staff gauge	1939 to 1950
Gwydir River	Yarraman (Pioneer Bridge)	Below Effluent Streams	Staff gauge	(1928 to 1937 (1964 to date
Grawan Creek	Old Pokataroo	Effluent Stream	Staff gauge	1965 to date

* Discontinued stations.

The density of existing gauging stations in the Gwydir Valley is about 1.9 stations per thousand square miles. This density is comparable with the density of about 2.1 stations per thousand square miles on the adjacent but considerably smaller valley of the Macintyre and Severn Rivers (above the junction of the Macintyre and Dumaresq Rivers) and is considerably greater than the densities of 1.4 and 0.5 stations per thousand square miles for Inland New South Wales and Australia respectively.

Notwithstanding the favourable present density, the Commission plans to operate a total of about 24 stations in the Gwydir Valley by the end of 1967. This network has been designed so as to yield adequate streamflow data for the investigation of all future water resources proposals in the valley.

6. CATCHMENT YIELDS.

The water yield of a catchment is related to a combination of characteristics of its topography, area, type of vegetation and precipitation. The relationship between these factors and the water yield is extremely complex and consequently it is the continuous measurement of streamflow which provides the basic information for determination of the water yield of a valley.

Relatively long periods of records of streamflow are available for a number of locations in the Gwydir River Valley. Stations for which more than twenty complete years of records are available include Pallamallawa, Bundarra, Pinegrove and Gravesend on the Gwydir River and Moree on the Meehi River.

The stream gauging station on the Gwydir River at Pallamallawa has the longest period of streamflow records in the valley. They extend from 1892 to 1931 and from 1951 to date and comprise in all a total of 46 complete years. Although the catchment area of 4,870 square miles above Pallamallawa is slightly less than half of the total area of the valley, it provides almost the entire runoff of the valley.

Over the period of 46 years of complete records, the average annual discharge at Pallamallawa has been about 665,000 acre feet. This discharge is equivalent to an average flow of about 910 cusecs

or 341,000 gallons per minute.

Upstream at Gravesend which has a catchment area of more than 85 percent that of Pallamallawa, the average flow over a period of 25 complete years of record commencing in 1937 has been about 514,000 acre feet per annum or 700 cusecs (264,000 gallons per minute).

A comparison of the yield of the Gwydir River at Pallamallawa and Gravesend with the yield of other gauged catchments and effluents in the valley is given in Table 12.

TABLE 12

Stream	Station	Complete Years of Computed Record	Average Annual Yield over Period of Complete Years of Record		
			Acre Feet per Annum	Cusecs	Gallons per Minute
Gwydir River	Yarrowyck	11	81,900	110	42,000
Gwydir River	Bundarra	29	337,900	460	173,000
Gwydir River	Strathmore*	9	258,100	350	132,000
Gwydir River	Pinegrove	29	491,900	670	252,000
Horton River	Rider	9	140,500	190	72,000
Gwydir River	Gravesend	25	513,900	700	264,000
Gwydir River	Pallamallawa	46	664,800	910	341,000
Gwydir River	Above Meehi Offtake*	8	309,500	420	159,000
Meehi River	Moree ∅	27	53,500	70	27,000

* Discontinued station.

∅ The average annual yield given for the Meehi River at Moree is for a period of 27 years prior to 1961 at which time the Meehi River offtake was deepened to enable flow to commence at lower levels in the main river.

Details of maximum, minimum and mean discharges for each month of record for the above stations are given in Appendices 18 to 26.

7. AVERAGE ANNUAL RUNOFF.

The current estimate of the long term average annual runoff from the Gwydir River Valley is based on both actual and derived

streamflow records at Pallamallawa over a period of 74 years.

On this basis the average annual runoff from the whole of the Gwydir River Valley has been assessed as being of the order of 670,000 acre feet per annum. This runoff is equivalent to an average flow of about 920 cusecs or about 340,000 gallons per minute. It is also equivalent to an average runoff of about 67 acre feet per annum per square mile from the catchment.

The previous estimate of the long term average annual runoff of the Gwydir River Valley as given in the 1963 publication "Review of Australia's Water Resources" was 632,000 acre feet per annum. This estimate was based on 41 complete years of record to 1961 and did not include estimates of discharges during early years.

In the following Table 13 the long term average annual runoff from the Gwydir River Valley is compared with the corresponding averages for the adjacent valleys of the Macintyre River above the Macintyre-Dumaresq River junction and the Namoi River above Gunnedah.

TABLE 13

River Valley	Catchment Area in Square Miles	Estimated Long Term Average Annual Runoff		
		Acre Feet	Acre Feet per Square Mile	Percentage Runoff
Gwydir	10,010	670,000	67	6%
Macintyre above Dumaresq River	3,250	370,000	114	7%
Namoi above Gunnedah	6,600	575,000	87	6%

While the percentage runoff from each of the above valleys is fairly similar, the Gwydir valley has a lower runoff per square mile of catchment than either of the other two valleys. This can probably be attributed to the relative sizes of the three valleys as runoff per square mile is normally inversely proportional to area.

Estimates have also been made of the long term average annual runoff from several sub-catchments of the Gwydir Valley. The estimates for the catchments above the stream gauging stations on the Gwydir River at Yarrowyck and the Horton River at Rider are compared in Table 14.

TABLE 14.

Catchment	Catchment Area in Square Miles	Estimated Long Term Average Annual Runoff		
		Acre Feet	Acre Feet Per Square Mile	Percentage Runoff
Gwydir River above Yarrowyck	330	65,000	197	11%
Horton River above Rider	760	180,000	237	15%

The above comparison indicates that a higher percentage runoff can be expected from the 760 square mile catchment of the Horton River above Rider than from the 330 square mile catchment of the Gwydir River above Yarrowyck. This result is probably due to differences in the topographic features and average annual rainfalls over the headwater areas of the two catchments. The Horton River rises in very steep country which receives a higher average annual rainfall than the relatively flat tableland areas forming the headwaters of the Gwydir River.

8. VARIABILITY OF STREAMFLOWS.

Streamflows in the Gwydir River Valley are subject to a high degree of variability. Actual and estimated streamflow records over a period of 74 years indicate that the annual runoff from the valley can range from less than 1 per cent to more than 500 per cent of the estimated long term average annual runoff of 670,000 acre feet.

A comparison of the variation of the annual flows at the gauging stations on the Gwydir River at Pallamallawa and Pinegrove and on the Horton River at Rider is shown at Figure 18.

At Pallamallawa over a period of 46 years the annual flow has varied from about 1 per cent to about 490 per cent of the average annual flow. Further upstream at Pinegrove the annual flow over a period of 29 years has varied between 4 per cent and 490 per cent of the average.

Over a period of only 9 years, the annual flow of the Horton River at Rider has varied from about 11 per cent to about 310 per cent of the average annual flow.

On a monthly basis the variability is even more marked. The monthly flow of the Gwydir River at Pinegrove has varied from zero to almost eighteen times the monthly average while a variation from less than one two-hundredth to nearly fifteen times the average has been recorded for the Horton River at Rider.

A comparison of the monthly streamflow variations at the stream gauging stations on the Gwydir River at Bundarra, Pinegrove and Yarrowyck is shown at Figure 19. The monthly streamflow variations for the stations on the Meehi River at Moree, the Gwydir River at Gravesend and the Horton River at Rider are shown at Figure 20.

The valley generally experiences its lowest monthly rainfall during the periods April-May and August-September. A comparison of the average monthly rainfalls at Guyra, Bingara and Moree is shown at Figure 21. Guyra can be considered representative of the higher rainfall headwater areas, Bingara representative of the central reaches and Moree representative of the plains.

The distribution of average monthly streamflows is similar to the distribution of average monthly rainfall and streamflows in the valley are generally lowest in April and May. The average monthly streamflows at Pallamallawa and Pinegrove over the respective periods of available records are compared in Figure 22.

There is extreme variability between maximum and minimum instantaneous flows. The February, 1955 flood produced the highest flows which have been recorded in the Gwydir Valley. No records are available of the flows at Pallamallawa in this flood but at Gravesend which measures more than 85 percent of the catchment area of Pallamallawa, a peak flow of 225,000 cusecs was recorded.

An indication of the variation in recorded maximum and minimum instantaneous flows at selected gauging stations in the valley is given in Table 15.

TABLE 15

Stream	Station	Period of Computed Records	Recorded Discharges		
			Maximum	Minimum	Mean
Gwydir River	Yarrowyck	January 1955 to December 1965	52,500 cusecs (20,000,000 g p.m.)	0	110 cusecs (41,000 gpm)
Gwydir River	Bundarra	January 1937 to December 1965	150,000 cusecs (56,000,000 g.p.m.)	0	460 cusecs (172,000 gpm)
Gwydir River	Pinegrove	January 1937 to December 1965	160,000 cusecs (60,000,000 g.p.m.)	0	670 cusecs (250,000 gpm)
Horton River	Rider	January 1957 to December 1965	115,000 cusecs (43,000,000 g.p.m.)	0	190 cusecs (71,000 gpm)
Gwydir River	Gravesend	January 1937 to December 1965	225,000 cusecs (84,000,000 g.p.m.)	0	700 cusecs (262,000 gpm)

9. PERSISTENCE OF STREAMFLOWS.

The persistence of the dry weather flow of the Gwydir River at Yarrowyck, Bundarra, Pinegrove, Gravesend and Pallamallawa and of the Horton River at Rider is indicated by the respective flow duration curves for the stations at Figures 23 to 28 inclusive. A comparison of the flow duration characteristics at Pallamallawa and Pinegrove for flows up to 9,000 cusecs is shown at Figure 29.

The flow duration curves for Bundarra, Pinegrove and Gravesend have been based on records extending over twenty-nine years while the curves for Yarrowyck, Pallamallawa and Rider have been based on twelve years, fifty-one years and nine years of records respectively.

A summary of the flow duration characteristics at these stations is given in Table 16.

TABLE 16

Percent of Time Flow Equalled or Exceeded	Corresponding Flows in Cusecs *					
	Gwydir River					Horton River
	Yarrowyck	Bundarra	Pinegrove	Gravesend	Palla-mallawa	Rider
10	155	630	1,000	1,500	1,650	228
30	28	110	200	335	370	65
50	12	36	72	125	156	30
70	5	9	25	46	53	19
90	0	1	4	15	4	3
95	0	0	1	5	0	1
100	0	0	0	0	0	0

* One cusec is equivalent to about 375 gallons per minute.

The above table indicates that streamflows in the Gwydir River do not exhibit a high degree of persistence during dry periods. However a comparison of the flow duration characteristics of the stations listed in Table 16, on a flow per square mile of catchment area basis, indicates that the Horton River has a better low flow persistence than the Gwydir River. The flow duration curves based on flow per square mile of catchment are shown at Figure 30.

10. OCCURRENCE OF FLOODING.

The Gwydir River Valley is not subject to frequent severe flooding. Available records of streamflow in the valley indicate that the Gwydir River at Pallamallawa has reached a peak flow exceeding 100,000 cusecs only three times since 1892.

An indication of the frequency of medium or major flooding in the lower valley may be obtained from the records of floods in the Meehi River at Moree where stream heights have been recorded since 1903. These records indicate that medium or major floods exceeding a gauge height of 29 feet at Moree have occurred on eight occasions in the last 62 years.

The peak flood level of 35 feet 8 inches which was reached by the Meehi River at Moree in the February 1955 flood is the highest flood level which has been recorded at Moree. The extent of damage to private property and public utilities in the lower valley in this flood was without precedent.

The February 1955 flood was also the highest which has been recorded at the upstream gauging stations on the Gwydir River at Gravesend, Pinegrove, Bundarra and Yarrowyck since the commencement of stream height measurement at these locations.

An indication of the magnitudes of the peak flow intensities at Gravesend, Pinegrove, Bundarra and Yarrowyck in the February 1955 flood may be gained from the comparison given in Table 17.

TABLE 17.

Stream	Station	Catchment Area in Square Miles	Peak Flow February, 1955 Flood	
			Cusecs	Cusecs per Square Mile
Gwydir River	Gravesend	4,150	225,000	54
Gwydir River	Pinegrove	2,450	160,000	65
Gwydir River	Bundarra	1,580	150,000	95
Gwydir River	Yarrowyck	330	52,500	159

The above comparison indicates that in the 1955 flood, the peak flow per square mile of catchment decreased progressively downstream from Yarrowyck. This situation can be attributed to the relative sizes of the catchment areas as peak flow per square mile of catchment is normally inversely proportional to size of catchment.

The highest flood recorded at the gauging station on the Horton River at Rider occurred in January 1964 when a peak flow of about 115,000 cusecs was reached. Although no records were obtained at Rider during the February 1955 flood it has been estimated that the peak flow of this flood was about 93,000 cusecs or 22,000 cusecs less than recorded in January 1964. On this basis the peak flow per square

mile of catchment of the Horton River at Rider would have been 122 cusecs per square mile in February 1955 and 151 cusecs per square mile in January 1964.

The maximum recorded flows per square mile of catchment in the Gwydir Valley are significantly greater than those recorded for similar sized catchments in the adjacent valley of the Macintyre and Severn Rivers. On the Macintyre River at Wallangra which has a catchment area of 780 square miles, the highest peak flow per unit area which has been recorded since the establishment of the station in 1936 is 61 cusecs per square mile in February 1955. This peak flow per square mile is less than half that which occurred from the 760 square mile catchment of the Horton River at Rider in January 1964.

The highest peak flow recorded for the 2,600 square mile catchment of the Macintyre River at Holdfast occurred during the February 1955 flood and was 33 cusecs per square mile. This flow is only slightly more than half the highest recorded flow per square mile for the 2,450 square mile catchment of the Gwydir River at Pinegrove.

11. DROUGHT PERIODS.

There is no universally accepted definition of the term drought. However, a general water shortage arising from below average precipitation and streamflow is a general indicator of drought conditions.

The annual rainfalls recorded at Guyra, Bingara and Moree from 1887, 1879 and 1880 respectively to 1965 inclusive are shown at Figure 31. These stations can be regarded as typical of the headwaters, central reaches and the plains respectively and their rainfall records indicate that the valley generally experienced extremely low rainfalls in 1888, 1898, 1902, 1918, 1919, 1935, 1940, 1944, 1957 and 1965.

At Guyra where the average annual rainfall is over $34\frac{1}{2}$ inches, annual totals of less than 23 inches have been recorded in 7 years since 1885. The lowest annual rainfall of 21.81 inches occurred in 1919 while totals of 21.84 inches, 22.36 inches and 22.38 inches were recorded in 1957, 1918 and 1940 respectively. In 1965 a total of 22.70 inches was received.

The lowest annual rainfall which has been recorded at Bingara since 1878 is the 1965 total of 14.41 inches. This total is about 15 inches less than the annual average of nearly 29½ inches. Other extremely low annual rainfalls were experienced at Bingara in 1944 (15.54 inches), 1898 (15.91 inches), 1918 (17.69 inches) and 1902 (17.99 inches), while in 1919, 1940 and 1957 the annual rainfall did not reach 19 inches.

The lowest annual rainfall which has been recorded at Moree since 1879 is the 1902 total of 7.97 inches. This annual total is nearly 15 inches less than the annual average of about 23 inches and more than 4 inches less than the next lowest annual total of 12.06 inches which was recorded in 1915. Other low rainfall years at Moree were 1957 (12.30 inches), 1918 (12.97 inches), 1940 (13.01 inches) and 1965 (13.69 inches). In 1919, a year of extremely low rainfall in the headwater and central reaches of the valley, a total of 16.91 inches was received at Moree.

The minimum rainfalls over a twelve monthly period are considerably less than the lowest calendar year totals. At Guyra the lowest twelve monthly totals are 17.01 inches occurring from December, 1964 to November 1965 inclusive and 18.05 inches occurring from March, 1918 to February, 1919 inclusive.

The lowest rainfall over a twelve month period at Bingara also occurred in the 1964-1965 drought. From November, 1964 to October, 1965 inclusive the total rainfall received at Bingara was only 10.20 inches while the next lowest twelve monthly total was 12.97 inches which was received in the period from February 1946 to January 1947.

At Moree the 6.42 inches rainfall for the period from December, 1901 to November, 1902 represents the lowest twelve monthly total recorded. In the 1964-65 drought the minimum twelve monthly total was 10.80 inches occurring in the period December, 1964 to November, 1965 inclusive.

The lowest streamflows which have been recorded in the valley over a twelve month period since the commencement of streamflow measurement in 1891 occurred during the 1901-1902 drought. In a twelve month period

from 2nd December, 1901 to 1st December, 1902 the total flow of the Gwydir River at Pallamallawa was only 4,300 acre feet which is about 0.6 per cent of the average annual flow. The minimum twelve monthly flows at Pallamallawa (or Gravesend since 1936) in the 1901-1902, 1918-1919, 1939-1940, 1957-1958 and 1964-1966 droughts are compared in Table 18.

TABLE 18.

Period	Streamflow		
	Total Volume in Acre Feet	Average Flow	
		Cusecs	Gallons per Minute
2nd December, 1901 to 1st December, 1902	4,300	6	2,200
1st January , 1919 to 31st December, 1919	4,760	7	2,400
6th December, 1964 to 5th December, 1965	30,330	42	15,600
2nd December, 1939 to 1st December, 1940	33,510	46	17,200
1st February, 1957 to 31st January, 1958	47,540	65	24,400

Available streamflow records indicate that the Gwydir River has ceased to flow for extended periods of time. At Pallamallawa the Gwydir River ceased to flow for 273 consecutive days in 1902 while upstream at Pinegrove (Bingara) and Bundarra which were established in 1936, periods of no flow of 56 and 200 consecutive days respectively were recorded in 1940. The gauging station on the Gwydir River at Yarrowyck was not established until 1954 and as a result no record is available of the duration of no flow in either 1902 or 1940. However in 1965 flow ceased at Yarrowyck for a period of 68 days.

The gauging station on the Horton River at Rider was established in 1957. Since that time the flow of the Horton River has ceased only once, in February 1961, for a total of two days. Although flow did not cease during 1965, it was less than 1 cusec for a period of 23 consecutive days in November.

Since 1928 the Meehi River at Moree has ceased to flow on five occasions for periods exceeding 12 months. Although the Meehi Offtake was deepened in 1961, flow ceased in 1965 for a period of 308 consecutive days.

12. THE 1964-1966 DROUGHT.

Since October, 1964, the Gwydir River Valley has experienced a lengthy period of low rainfall broken only by some useful falls in December 1965 and August 1966.

The recorded monthly rainfalls at Guyra, Bingara, Moree and Collarenebri for the period November 1964 to August 1966 are shown in Table 19.

TABLE 19

Month	Rainfall (Points)			
	Guyra	Bingara	Moree	Collarenebri
November 1964	379	67	204	86
December 1964	132	100	166	43
January 1965	290	176	168	80
February 1965	113	32	32	43
March 1965	6	38	27	0
April 1965	130	129	47	81
May 1965	75	48	4	4
June 1965	164	75	33	10
July 1965	208	41	46	41
August 1965	131	129	126	85
September 1965	196	70	142	22
October 1965	103	115	97	109
November 1965	153	144	192	74
December 1965	701	444	455	436
January 1966	51	86	66	138
February 1966	334	206	53	51
March 1966	402	267	93	65
April 1966	172	186	95	177
May 1966	149	20	21	10
June 1966	130	170	180	200
July 1966	41	99	89	68
August 1966	429	557	618	417
Totals November 1964 to August 1966	4,489	3,199	2,954	2,240
Totals January 1965 to December 1965	2,270	1,441	1,369	985
Minimum Twelve Monthly Totals During Period	1,701	1,020	1,080	592
Average Annual Rainfall over Period of Records	3,473	2,943	2,281	1,925

At Guyra, the total rainfall of 17.01 inches for the twelve months period from December 1964 to November 1965 is the lowest twelve monthly total which has been recorded in 80 years of rainfall measurement. Further west at Bingara in the central reaches, the total rainfall of 10.20 inches in the period November 1964 to October 1965 is the lowest twelve monthly total since measurement commenced in 1879 and is almost 3 inches less than the next lowest twelve monthly total of 12.97 inches for the period from February 1946 to January 1947 inclusive.

The minimum twelve monthly total rainfalls at Moree and Collarenebri in the 1964-1966 drought are among the lowest which have been recorded at these locations. At Moree the twelve monthly total of 10.80 inches for the period from December 1964 to November 1965 is about $4\frac{1}{2}$ inches greater than the lowest recorded twelve monthly total while at Collarenebri the twelve monthly total of 5.92 inches for the period from December 1964 to November 1965 is only 5 points greater than the lowest recorded twelve monthly rainfall of 5.87 inches which was recorded over the period from December 1901 to November 1902 inclusive.

Low streamflows prevailed in the valley for much of 1965 and in some streams the flow ceased entirely for extended periods.

The minimum twelve monthly flows recorded at the gauging stations on the Gwydir River at Yarrowyck, Bundarra, Pinegrove and Gravesend and the Horton River at Rider during 1964-1965 are given in Table 20.

TABLE 20

Stream	Station	Minimum Twelve Monthly Flow 1964-1965			Percentage of Average Flow
		Acre Feet	Average Discharge		
			Cusecs	Gallons/ Minute	
Gwydir River	Yarrowyck	2,640	3.6	1,350	3%
Gwydir River	Bundarra	2,770	3.8	1,420	1%
Gwydir River	Pinegrove	11,700	16	6,000	2%
Gwydir River	Gravesend	30,330	42	15,600	6%
Horton River	Rider	12,820	18	6,600	9%

The minimum total flows for 30 days, 60 days, 90 days and 6 months during 1965 at Yarrowyck, Bundarra, Pinegrove, Gravesend and Rider are given in Table 21.

TABLE 21

Stream	Station	Minimum Flow During 1965 (Acre Feet)			
		30 days	60 days	90 days	6 months
Gwydir River	Yarrowyck	0	0	16	499
Gwydir River	Bundarra	0	0	12	38
Gwydir River	Pinegrove	135	364	547	1,841
Gwydir River	Gravesend	212	1,146	3,220	8,316
Horton River	Rider	50	248	1,056	3,312

Although the Gwydir River ceased to flow at Yarrowyck and Bundarra for periods of 68 and 61 days respectively in the period February to April 1965, downstream at Pinegrove and Gravesend and in the Horton River at Rider, the minimum rates of flow for the 1964-1965 low flow period were not experienced until November 1965.

At Pinegrove the minimum rate of flow was 0.2 cusecs (75 gallons per minute) which was maintained for a period of 2 days. Downstream at Gravesend the minimum rate of flow of 1 cusec (375 gallons per minute) was maintained for 10 days while the Horton River at Rider maintained its minimum rate of flow of 0.3 cusecs (about 110 gallons per minute) for 22 days.

Flow ceased in the Gwydir River at Yarrowyck for a total of 30 days in October and November 1965 while at Bundarra no flow occurred on 29 consecutive days in November 1965.

The prolonged period of low streamflow ended early in December 1965 as a result of good general rainfalls over the valley during the period 30th November to 9th December. However by the beginning of 1966 streamflows had again receded to below average values. This trend continued during the early part of 1966 and by March streamflows were approaching the minimum 1965 values. The results of streamflow measurements made at Yarrowyck, Bundarra, Pinegrove, Gravesend and Rider since 1st March 1966 are given in Table 22.

TABLE 22

Stream	Station	Flow Measurements		
		Date	Measured Flow	
			Cusecs	Gallons per Minute
Gwydir River	Yarrowyck	3.6.66	2.7	1,010
		12.8.66	16.4	6,150
Gwydir River	Bundarra	4.3.66	1.4	520
		29.4.66	0.3	110
		2.6.66	0.2	80
		8.7.66	2.7	1,010
		12.8.66	4.1	1,540
Gwydir River	Pinegrove	4.3.66	0.9	340
		29.4.66	10.9	4,080
		31.5.66	3.2	1,200
		7.7.66	5.7	2,140
		10.8.66	6.3	2,360
Gwydir River	Gravesend	3.3.66	3.2	1,200
		28.4.66	166	62,200
		1.6.66	10.5	3,940
		7.7.66	22.6	8,500
		11.8.66	244	91,500
Horton River	Rider	3.3.66	0.4	150
		31.5.66	1.3	490
		10.8.66	39	14,600

Useful rains were received in the valley during August 1966. Falls of about one inch occurred over the eastern half of the valley in the second week of the month and as indicated in Table 22, resulted in minor increases in streamflows.

Further falls of about two inches occurred during the third week of August and again on the last day of the month with the result that some areas received more than 6 inches of rain during the month.

The rainfalls received during the latter half of August 1966 resulted in a marked increase in streamflows in the valley. On the

Horton River at Rider a minor flood occurred on 31st August 1966, the peak flow of about 8,000 cusecs being the highest flow recorded at this location since October 1964.

On the Gwydir River at Bundarra a maximum flow of about 1,600 cusecs occurred on 1st September 1966. This discharge is the highest flow recorded at this station since December 1965.

13. WATER REQUIREMENTS FOR CURRENT DEVELOPMENT.

The four main classifications into which land use in the valley may be grouped are sheep grazing, cattle grazing, wheat growing and intensive cultivation associated with horticultural activities.

In the lower valley below Moree where streamflow is often in short supply but where artesian water suitable for stock watering is readily obtainable, the land is almost entirely used for sheep grazing. However, in the valley above Moree, all four types of land use are practised.

The present demand on streamflow for irrigation is generally restricted to growing improved pastures, fodder crops, vegetables and fruit on lands fronting the Gwydir River, its tributaries and its principal effluents. Since 1945, the area authorised for irrigation by license under the Water Act has increased from about 920 acres to more than 5,100 acres at June, 1966. Over the same period the number of licenses for irrigation has increased from 23 to 144. A graph showing details of the variation in number of licenses and authorised area for irrigation is shown at Figure 32.

Between 1963 and 1965 there was a marked decrease in both number and total authorised area of licenses for irrigation in the valley. These decreases resulted from the expiry of some licenses which were issued during the dry years from 1957 to 1959 and which were not renewed by landholders.

As a result of the current drought however, there has been a substantial increase in both the number and the total authorised area of licenses for irrigation in the valley. The number of licenses for irrigation has increased from 125 to 144 between 30th June 1965 and 30th June 1966 while the total area authorised for irrigation has increased from 4,015 acres to over 5,100 acres.

Substantial quantities of water are drawn from the streams in the valley for various town, industrial and stock water supply purposes. At June, 1966 a total of 49 licenses permitting a total maximum diversion of about 42,700 gallons per minute (114 cusecs) were held for these purposes. These licenses comprise 5 town water supply licenses with a total licensed capacity of about 2,100 gallons per minute, 20 industrial licenses with a total licensed capacity of about 13,000 gallons per minute and 24 stock water supply licenses, with a total licensed capacity of about 27,600 gallons per minute.

Included amongst the licensed town water supply works is a weir on Kentucky Creek, a headwater stream of the Gwydir River near Uralla. This storage which is operated by Uralla Shire Council, has a capacity of about 50 million gallons (185 acre feet) and is capable of diverting a flow of up to 300 gallons per minute (0.8 cusecs).

Moree, the principal town in the valley, draws its water supply from underground supplies while the supplies for Collarenebri on the extreme western edge of the valley, are obtained from the Barwon River.

The estimated maximum demands on surface water in the valley under present conditions are given in Table 23.

TABLE 23

Type of Requirement	Estimated Maximum Demand	
	Cusecs	Gallons per Minute
Irrigation (5,108 acres at 2.5 feet per season)	26	9,800
Town, Industrial and Stock Water Supply	114	42,700
Riparian Usage	30	11,300
Total Present Demand	170	63,800

The estimated total maximum present demand for the whole valley of about 170 cusecs exclusive of transmission losses, represents about one fifth of the average flow at Pallamallawa. As a flow of 170 cusecs at Pallamallawa is only exceeded during about 50 percent of the time, the natural streamflows are frequently inadequate to meet even present requirements.

There is a significant demand for streamflow on the tributary and effluent streams in the valley. A comparison of the authorised areas for irrigation and the total water demand (including water supply and riparian usage) for the Gwydir River, its principal tributaries and its effluents is given in Table 24.

TABLE 24

Stream	Present Area Authorised for Irrigation (Acres)	Present Total Demand	
		Cusecs	Gallons per Minute
Gwydir River above Cope's Creek	207	4.5	1,690
Gwydir River below Cope's Creek	1,967	47.1	17,700
Rocky River and tributaries	3	12.6	4,720
Roumalla Creek and tributaries	10	0.1	40
Abington Creek and tributaries	6	0.1	40
Laura Creek and tributaries	30	1.9	710
George's Creek and tributaries	5	0.1	40
Moredun (or Clerk's) Creek and tributaries	25	0.2	70
Baker's Creek and tributaries	20	0.2	70
Cope's Creek and tributaries	60	17.9	6,720
Hall's or Bingara Creek and tributaries	180	1.9	710
Myall Creek and tributaries	153	1.8	680
Horton River and tributaries	554	6.5	2,440
Warialda Creek and tributaries	30	0.5	190
Mosquito Creek and tributaries	37	0.4	150
Weah Waa Creek and tributaries	103	1.9	710
Gwydir River Effluents	1,639	70.4	26,400
Miscellaneous tributaries	79	1.9	720
Totals	5,108	170	63,800

14. POSSIBLE IRRIGATION DEVELOPMENT.

It is envisaged that the most likely types of irrigation development which would follow regulation of flows in the Gwydir River Valley would be an increase in area under pastures and fodder crops by private irrigators and the possible introduction of large scale group schemes for cotton growing.

Apart from the tablelands area, the Gwydir Valley is generally steep and narrow as it descends from higher levels to the plains. Irrigable areas on this section of the river occur only in isolated pockets. It would therefore appear from topographic considerations that future irrigation development will be largely restricted to areas along the Gwydir River downstream from Biniguy.

Between Biniguy and Moree extensive areas suitable for development by private irrigators occur up to a distance of four miles from the river.

Approaching Moree, the valley widens to a riverine plain providing extensive areas of land suitable and commandable for irrigation development by group schemes. Excluding the watercourse country there is a total area of about 270,000 acres of first class land and some 60,000 acres of second class land in the vicinity of Moree. These lands which are situated on both sides of the Gwydir River have been indicated by soil surveys to be suitable for arable farming under irrigation.

In addition, large areas of suitable land are available for private irrigation development from effluent streams if diversions to the streams are effected by the provision of weirs and regulators. Approximately 60,000 acres of potentially irrigable land occur within a distance of $1\frac{1}{2}$ miles from Medgun Creek over a length of forty miles and a further 100,000 acres occur within a similar distance of Moomin Creek over its length of one hundred miles. Other effluents including the Meehi-Gwydir System from the Meehi Offtake to the Barwon River are relatively poor carrier streams in their present condition and cannot be regarded as having suitable channels for the passage of regulated flows. Considerable river improvement works would be required to provide the requisite carrying capacity in these effluents.

In Table 25 areas of potential irrigation are listed for the Gwydir River, its tributaries and the two effluents mentioned above.

TABLE 25

Stream	Approximate Area Suitable for Irrigation from Streamflow
Gwydir River above Cope's Creek	700 acres
Gwydir River below Cope's Creek	73,000 acres *
Rocky River and tributaries	50 acres
Roumalla Creek and tributaries	100 acres
Abington Creek and tributaries	150 acres
Laura Creek and tributaries	125 acres
George's Creek and tributaries	125 acres
Moredun Creek and tributaries	75 acres
Baker's Creek and tributaries	50 acres
Cope's Creek and tributaries	125 acres
Hall's or Bingara Creek and tributaries	300 acres
Myall Creek and tributaries	300 acres
Horton River and tributaries	2,200 acres
Warialda Creek and tributaries	500 acres
Mosquito Creek and tributaries	1,000 acres
Weah Waa Creek and tributaries	1,000 acres
Keera Creek	100 acres
Miscellaneous tributaries	100 acres
Medgun and Moomin Creeks	160,000 acres
Total	240,000 acres

* Generally within 2 miles of the river frontage.

Although there exist suitable sites for construction of storages of over two million acre feet on the Gwydir River, present indications are that the maximum size storage which could be economically justified for irrigation purposes could be substantially less than this volume.

Preliminary assessments indicate that storages with capacities for irrigation purposes of one million or two million acre feet on the Gwydir River near Copeton would give regulated flows of 200,000 and 270,000 acre feet per annum respectively. These regulated flows are equivalent to about 50 per cent and 70 per cent regulation of the estimated long term yield at the dam site.

It is evident from Table 25 that the total area of suitable and commandable land in the Gwydir Valley is considerably in excess of the area which could be irrigated by the regulated flow likely to be available in the river.

In view of the magnitude of the ultimate valley demand, consideration has been given to the provision of smaller storages which would supply only the assured flow necessary to meet the more immediate demands along the Gwydir and Horton Rivers.

Preliminary analyses based on available streamflow records have been undertaken to determine the storage volumes necessary to meet the more immediate demands on the Gwydir River below Copeton (including the Meehi River) and on the Horton River below Horton. The storage volumes required on the Gwydir River near Copeton and the Horton River above Horton to meet demands 100 per cent greater than the present requirements are given in Table 26.

TABLE 26.

River Valley	Level of Development	Requirement (Acre Feet/Annum)	Required Storage Capacity (Acre Feet)
Gwydir River	200% of present irrigation requirements	20,000	24,000
Horton River	200% of present irrigation requirements	3,000	5,000

15. INVESTIGATION OF STORAGE PROPOSALS.

Following a reconnaissance of the Gwydir River from Gravesend to Yarrowyck in 1936, six possible dam sites, numbered 1 to 6 on Figure 33, were selected as being topographically suitable sites for large storages and, of these sites, Nos. 1 and 2 upstream of Bingara were considered to offer the best possibilities because of their superior storage characteristics. However foundation testing by core drilling and shaft sinking revealed a great depth of alluvium and decomposed rock on the left abutment at both sites. Further undesirable aspects were the large areas of fertile land which would be inundated by the proposed storages.

Subsequent field investigation for the purpose of locating a more favourable site resulted in the selection of sites 5A and 5B in the vicinity of Copeton as being the most suitable for construction of a major storage dam

to provide a high degree of regulation of the Gwydir River. In contrast with the downstream sites 1 and 2 which are located on rather poor sedimentary rocks, sites 5A and 5B are located on the granite belt thus providing a much sounder foundation for construction of a major dam. At site 5B sound granite is exposed at surface level over almost the entire cross section, but at site 5A some weathering is evident to a depth of about ten feet.

Preliminary investigations including surveys, core drilling and material testing undertaken at these two sites have shown site 5B to be the more economic over the range of capacities most likely to be considered. This site is suitable for the construction of a major storage of capacity up to 2,000,000 acre feet.

By utilising a portion of this capacity for the storage of flood waters, some flood protection could be given to the town of Moree as well as to adjacent agricultural and grazing lands. In addition the site has a considerable hydro-electric potential due to a fall in the river bed in excess of 650 feet over a length of five miles immediately downstream.

However construction of a large dam involves considerable capital expenditure spread over a long period of time, during which heavy interest commitments are incurred and no benefit is derived from the investment. Water cannot be stored and the river flow regulated until the dam is almost completed.

On the other hand, construction of a smaller storage involves substantially less outlay from the limited funds available. The storage can be completed in a much shorter period of time to meet the urgent demand which exists for water, and production can be stabilised and expanded in the benefited area within a minimum period. Further, the construction of a smaller storage on a river system can result in other rivers receiving the benefits of regulation earlier than they otherwise would.

The funds available to any State for water conservation are not sufficient to permit major works to proceed on the scale which is desirable to meet requirements for maximum national growth. Therefore, it is necessary to use most effectively the limited amount that can be made available for dam construction.

The Government believes that it is in the best interests of the community as a whole to develop the resources of each river valley in planned stages. For this reason investigations have recently been undertaken to determine the most suitable site for stage construction of a dam to meet requirements in the Gwydir Valley.

These investigations have involved consideration of storage sites on the Gwydir River and on tributary streams.

Of the sites selected for detailed consideration site 5 would enable the construction of a small storage of sufficient capacity to meet riparian requirements, river losses and 100 per cent increase in existing irrigation requirements on the Gwydir River at less cost than any of the other sites. However, this site is not the most suitable available for the construction of a major storage and would be submerged if a major dam was constructed at site 5B.

The site selected for a small storage on the Horton River, (indicated in Figure 33) whilst not as satisfactory as Site 5B for construction of a dam to provide the requirements of the Gwydir River below the Horton River Junction, is nevertheless quite suitable for supplying the needs of the Horton River to its junction with the Gwydir.

Investigations during July 1966 have shown that site 5B is also the best available for stage construction in the Gwydir Valley. The initial small dam would ultimately serve as a coffer dam and toe wall for a larger structure.

Preliminary examination indicates that a storage of 24,000 acre feet capacity at site 5B would satisfy 200 per cent of present irrigation requirements, riparian rights and river losses to the Barwon River junction. Such a first stage dam could be subsequently enlarged and incorporated in a major structure to provide an ultimate storage capacity of up to two million acre feet.

16. ACKNOWLEDGMENT.

The Water Conservation and Irrigation Commission gratefully acknowledges the assistance given by The Director, Bureau of Meteorology, in providing the Section on Climatic Features, the Rainfall Statistical Data and the Median Rainfall Maps for inclusion in this report.

BINGARA RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1879	78	841	604	264	749	84	247	477	458	281	204	581	4868
1880	134	442	192	308	110	48	20	46	344	173	191	300	2308
1881	562	173	220	0	163	52	121	168	434	171	327	45	2436
1882	190	520	108	231	238	309	104	126	7	279	373	307	2792
1883	537	575	69	189	351	31	58	146	112	606	177	59	2910
1884	105	420	39	234	165	189	162	10	425	87	311	119	2266
1885						NO	RECORDS						
1886	195	3	53	301	576	510	402	741	75	486	581	408	4331
1887	681	485	343	182	55	181	353	524	109	130	205	777	4025
1888	358	936	108	0	136	41	0	0	123	144	20	229	2095
1889	282	329	184	427	449	358	124	167	32	384	356	270	3362
1890	550	710	782	242	522	394	124	93	181	394	257	245	4494
1891	844	227	198	136	94	279	240	227	410	102	287	299	3343
1892	134	56	403	205	276	321	244	37	458	605	200	655	3594
1893	115	384	412	541	140	379	231	232	5	402	398	20	3259
1894	316	291	1034	387	194	258	58	120	130	594	258	145	3785
1895	924	78	0	60	188	40	88	76	372	210	432	357	2825
1896	341	503	546	303	92	75	127	199	152	68	379	281	3066
1897	321	160	167	0	22	406	582	136	281	104	1	684	2864
1898	246	261	23	4	101	322	47	59	220	136	33	139	1591
1899	217	225	92	377	46	216	281	316	247	345	81	201	2644
1900	220	160	451	167	244	273	465	14	113	67	177	313	2664
1901	216	16	688	264	284	245	86	367	75	155	77	186	2659
1902	221	55	125	4	15	115	6	272	117	291	19	559	1799
1903	113	69	227	202	422	271	616	310	479	258	403	431	3801
1904	89	250	501	72	338	143	275	142	177	462	283	347	3079
1905	581	143	128	475	269	103	123	113	4	249	104	169	2461
1906	180	437	553	31	135	103	136	469	350	258	277	174	3103
1907	503	98	672	64	114	256	76	162	21	165	525	353	3009
1908	220	652	468	177	8	193	40	40	352	260	276	304	2990
1909	99	832	109	146	109	420	88	708	79	104	471	288	3453
1910	2187	111	643	102	81	288	216	149	16	383	242	269	4687
1911	969	592	259	56	260	18	152	201	188	79	368	65	3207
1912	101	204	468	3	7	630	328	128	101	432	129	167	2698
1913	725	315	347	182	596	356	59	35	144	362	59	367	3547
1914	392	255	853	140	377	32	137	17	10	404	124	561	3302

BINGARA RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1915	130	168	36	260	232	178	268	217	222	99	6	441	2257
1916	183	494	58	615	15	406	419	354	171	429	655	986	4785
1917	492	206	52	12	25	167	118	97	561	175	1090	660	3655
1918	659	16	8	91	102	60	117	459	7	89	64	97	1769
1919	219	263	10	5	475	56	27	85	90	175	155	253	1813
1920	303	329	76	175	169	690	406	190	254	204	102	396	3294
1921	108	169	452	220	566	515	630	85	223	423	460	617	4468
1922	107	204	0	76	39	151	383	52	320	150	110	503	2095
1923	245	46	111	17	159	424	201	27	181	180	176	329	2096
1924	124	511	99	341	38	150	269	327	231	268	580	315	3253
1925	566	121	144	0	326	46	155	133	5	66	710	254	2526
1926	85	232	170	213	258	222	223	79	174	47	13	371	2087
1927	486	72	254	293	11	173	0	71	31	454	346	180	2371
1928	361	779	362	287	65	407	328	14	19	171	176	117	3086
1929	109	661	133	631	8	131	74	416	201	312	117	49	2842
1930	536	47	407	211	76	419	203	157	143	345	676	84	3304
1931	12	224	1144	359	496	467	149	61	184	153	259	804	4312
1932	85	211	394	251	117	102	217	89	453	282	275	60	2536
1933	456	57	60	138	203	274	489	86	290	558	361	328	3300
1934	173	1012	0	221	62	159	358	235	238	515	175	311	3459
1935	627	111	43	109	45	51	313	124	272	152	76	74	1997
1936	100	280	178	40	250	79	414	214	219	25	61	306	2166
1937	269	382	691	84	28	84	150	139	157	146	450	210	2790
1938	267	80	64	34	608	97	129	314	102	288	300	40	2323
1939	401	3	336	185	19	262	240	216	20	143	162	134	2121
1940	164	237	352	144	33	43	6	83	120	98	149	466	1895
1941	534	371	459	26	8	289	34	55	17	144	334	50	2321
1942	168	386	92	0	115	242	441	31	68	374	261	554	2732
1943	371	51	71	198	108	207	120	151	224	272	737	182	2692
1944	227	73	7	20	309	14	156	427	55	75	51	140	1554
1945	233	561	20	62	59	479	199	171	87	31	162	142	2206
1946	830	244	34	91	41	57	51	0	330	85	96	154	2013
1947	114	665	228	112	28	80	171	240	199	387	208	649	3081
1948	257	278	297	65	291	522	239	90	88	59	270	254	2710
1949	231	486	71	124	48	323	113	75	330	537	276	175	2789
1950	167	431	192	276	198	449	910	99	207	742	757	0	4428

BINGARA RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1951	532	259	115	66	233	318	39	148	110	73	66	57	2016
1952	55	460	173	262	307	221	157	492	156	627	42	226	3178
1953	88	792	168	88	214	7	67	341	82	133	207	10	2197
1954	202	630	19	0	121	180	214	138	150	943	598	285	3480
1955	391	1262	0	202	124	234	192	167	112	623	194	306	3807
1956	405	1161	300	212	844	374	225	24	113	262	120	179	4219
1957	156	234	349	207	15	199	37	148	22	291	26	196	1880
1958	175	270	249	109	225	195	34	171	338	368	179	473	2786
1959	619	644	344	122	180	51	186	9	116	261	326	985	3843
1960	182	158	83	145	163	83	362	166	153	282	227	185	2189
1961	310	328	331	101	81	88	144	180	31	165	765	330	2854
1962	934	351	347	161	148	40	168	207	123	154	94	428	3155
1963	713	22	398	59	454	151	41	291	91	89	244	333	2886
1964	591	84	202	507	298	50	288	148	451	447	67	100	3233

BUNDARRA RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1883	NO RECORDS		65	341	333	18	10	20	186	434	156	253	
1884	88	153	10	129	152	185	295	48	408	110	335	86	1999
1885	281	614	156	181	65	399	72	66	283	42	194	430	2783
1886	463	20	321	225	444	463	203	580	73	503	578	242	4115
1887	528	299	217	281	78	137	206	366	172	123	312	665	3384
1888	450	416	102	0	97	60	0	0	227	189	34	327	1902
1889	266	192	198	520	509	323	151	113	144	177	387	379	3359
1890	627	506	523	NO RECORDS			141			NO RECORDS			
1891	904	220	135	147	92	299	231	222	424	131	228	371	3404
1892	172	114	387	281	257	320	225	170	592	670	222	562	3972
1893	203	520	478	476	146	81	226	147	10	324	283	112	3006
1894	714	28	882	244	187	242	87	72	116	381	139	235	3327
1895	810	101	20	44	105	52	42	2	341	262	571	792	3142
1896	168	353	228	144	84	94	162	260	164	152	281	482	2572
1897	445	221	114	1	28	588	421	75	201	161	77	589	2921
1898	392	400	53	3	126	343	40	124	296	128	56	195	2156
1899	301	65	100	366	74	216	145	234	172	428	201	230	2532
1900						NO RECORDS							
1901	156	66	326	316	290	195	126	426	67	200	269	221	2658
1902	136	35	106	0	54	128	0	243	194	395	72	564	1927
1903	43	21	469	328	273	228	399	468	501	270	449	488	3937
1904	41	75	678	205	289	106	309	162	228	418	288	88	2887
1905	381	267	420	573	224	72	100	113	3	196	143	337	2829
1906	515	329	458	52	144	113	106	400	334	224	216	199	3090
1907	480	173	709	99	76	276	30	188	48	527	392	324	3322
1908	304	529	593	187	43	209	64	230	463	178	334	168	3302
1909	152	713	211	193	107	386	86	493	48	87	465	174	3115
1910	1345	89	504	78	93	339	196	168	8	504	316	315	3955
1911	734	467	174	148	194	74	196	103	215	307	552	253	3417
1912	163	181	314	0	39	325	341	143	147	488	111	138	2390
1913	248	262	370	194	434	318	49	34	150	273	72	233	2637
1914	346	392	827	70	145	146	105	10	20	244	379	380	3064
1915	145	107	49	288	212	161	201	207	209	107	32	541	2259
1916	380	375	109	633	36	352	280	460	145	416	490	877	4553
1917	572	329	133	52	35	127	170	127	563	213	948	433	3702
1918	512	63	76	139	118	19	171	400	62	155	204	31	1950

BUNDARRA RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1919	191	104	98	13	227	40	40	99	13	187	52	244	1308
1920	146	330	128	56	186	704	297	195	173	256	112	458	3041
1921	340	277	346	203	596	519	390	82	243	497	400	890	4783
1922	230	235	379	130	17	129	293	59	257	160	136	717	2742
1923	269	110	205	18	29	430	166	51	239	100	170	271	2058
1924	262	324	125	389	42	289	328	317	224	363	475	187	3325
1925	399	223	186	16	306	19	145	232	3	113	693	246	2581
1926	209	185	178	293	164	253	192	114	181	40	39	630	2478
1927	492	124	163	552	15	128	22	10	19	272	576	167	2540
1928	532	774	267	289	109	370	271	62	30	148	212	173	3237
1929	96	275	181	388	41	104	77	366	224	503	108	149	2512
1930	342	107	339	95	85	435	286	192	153	344	278	110	2766
1931	123	108	966	263	420	485	170	101	231	201	227	613	3908
1932	151	105	331	180	59	92	245	94	616	254	428	226	2781
1933	612	55	29	60	221	261	427	88	276	533	454	265	3281
1934	311	625	9	397	22	92	331	171	146	460	301	343	3208
1935	466	224	27	106	26	46	320	103	323	231	114	90	2076
1936	200	251	187	67	199	106	369	199	226	56	104	459	2423
1937	290	120	499	102	50	89	134	311	146	152	191	259	2343
1938	315	143	27	106	350	72	166	307	98	276	568	20	2448
1939	557	38	156	182	3	260	162	154	17	156	308	523	2516
1940	73	355	449	112	41	59	2	52	145	103	256	330	1977
1941	598	266	738	66	34	348	61	53	31	257	444	16	2912
1942	383	486	156	2	139	254	461	34	87	415	291	362	3070
1943	445	139	42	180	125	153	147	258	236	218	665	223	2831
1944	560	166	26	18	247	21	368	359	101	129	216	482	2693
1945	331	494	10	76	150	330	202	265	156	54	313	85	2466
1946	824	345	252	108	80	42	42	2	312	41	444	309	2801
1947	87	675	282	291	100	53	191	234	293	362	450	474	3492
1948	521	193	237	86	208	378	210	69	146	91	320	190	2649
1949	262	556	114	118	101	307	153	371	320	637	425	208	3572
1950	321	361	229	139	184	523	796	144	300	688	753	85	4523
1951	437	197	238	54	271	384	79	260	107	22	93	193	2335
1952	114	560	294	159	379	234	175	529	210	710	155	172	3691
1953	182	748	203	92	199	18	75	359	94	200	246	290	2706
1954	363	590	23	21	115	158	129	159	206	839	572	220	3395

BUNDARRA RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1955	359	1443	25	180	208	295	154	179	324	661	213	249	4290
1956	521	899	344	195	672	411	128	44	152	390	103	448	4307
1957	264	217	300	166	4	113	128	195	55	183	73	287	1985
1958	260	394	235	66	233	151	54	338	372	300	151	372	2926
1959	536	498	470	109	139	56	305	0	210	294	497	827	3941
1960	121	302	62	221	230	116	381	216	132	230	703	202	2916
1961	169	439	248	206	94	96	165	288	46	242	948	237	3178
1962	837	157	314	175	185	64	313	226	134	349	69	576	3399
1963	532	74	458	63	549	157	86	375	48	144	436	479	3401
1964	618	98	444	412	120	112	314	111	360	439	199	71	3298

BUNNA BUNNA RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1889	156	196	129	457	606	238	267	175	25	266	482	415	3412
1890	296	791	671	118	315	422	119	32	226	366	171	161	3688
1891	712	162	196	127	84	212	114	229	268	87	256	141	2588
1892	112	50	227	69	357	129	92	8	274	475	139	179	2111
1893	308	156	250	161	98	319	101	218	70	95	232	36	2044
1894	210	65	1064	298	150	197	42	131	55	281	90	134	2717
1895	623	160	0	0	59	50	90	0	180	281	135	447	2025
1896	50	552	70	170	135	37	174	113	24	58	309	307	1999
1897	201	93	220	0	12	247	441	69	178	111	0	365	1937
1898	243	308	0	0	93	130	8	36	86	60	50	118	1132
1899	105	130	26	179	37	200	333	280	150	167	106	75	1788
1900	94	84	210	10	232	190	124	0	151	12	29	94	1230
1901	39	78	603	88	225	152	94	253	44	92	146	57	1871
1902	38	30	28	3	0	16	0	163	22	61	72	101	534
1903	88	0	147	147	257	137	377	284	265	225	196	358	2481
1904	108	686	309	8	174	50	66	55	97	224	58	121	1956
1905	275	171	118	574	264	24	85	28	0	148	102	34	1823
1906	124	238	202	38	69	201	44	233	455	134	71	14	1823
1907	491	25	468	107	46	137	75	125	0	75	364	519	2432
1908	109	815	640	234	18	76	23	149	146	94	178	218	2700
1909	247	698	0	136	75	283	93	330	50	90	129	148	2279
1910	904	0	349	50	24	238	77	63	58	215	212	125	2315
1911	447	449	96	70	139	16	76	53	80	26	271	160	1883
1912	91	10	192	0	0	359	127	68	60	148	83	142	1280
1913	157	46	162	261	476	289	26	0	39	57	37	212	1762
1914	123	287	223	310	272	156	100	0	9	223	56	279	2038
1915	34	47	0	193	234	56	180	102	48	108	0	1003	2005
1916	12	61	51	269	0	204	371	142	246	247	505	424	2532
1917	280	393	0	4	6	224	70	86	366	174	343	354	2300
1918	298	10	0	40	58	11	116	609	12	103	6	0	1263
1919	271	149	9	102	241	20	47	11	0	74	36	341	1301
1920	253	97	54	6	135	636	519	112	315	150	38	203	2518
1921	73	30	186	261	280	524	579	115	113	305	348	868	3682
1922	167	183	0	46	0	170	188	0	141	163	27	543	1628
1923	45	55	130	88	31	228	173	9	86	206	127	413	1591
1924	184	591	41	143	22	82	156	242	188	120	806	115	2690
1925	271	55	163	0	128	38	75	116	14	22	350	422	1654
1926	398	0	362	228	474	68	108	50	230	44	0	349	2311

BUNNA BUNNA RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1927	247	0	149	164	10	129	0	45	44	73	312	476	1649
1928	67	393	419	83	35	282	199	0	0	17	91	42	1628
1929	26	561	105	421	0	250	34	95	96	200	385	72	2245
1930	258	4	255	136	44	379	228	91	51	289	33	90	1858
1931	58	31	791	334	435	498	205	24	34	11	279	515	3215
1932	0	61	378	168	178	115	102	24	276	35	354	76	1767
1933	239	98	51	146	137	174	582	82	211	357	518	191	2786
1934	356	853	0	55	25	148	253	168	241	469	113	113	2794
1935	426	77	0	95	19	121	88	76	333	75	62	249	1621
1936	373	192	255	29	219	54	277	133	77	7	0	285	1901
1937	155	185	508	21	7	221	76	63	146	144	190	42	1758
1938	414	55	5	50	380	156	145	382	96	225	204	0	2112
1939	161	4	532	242	125	245	291	295	4	82	31	29	2041
1940	209	39	476	264	11	64	0	40	127	74	66	232	1602
1941	603	142	345	20	24	177	21	88	24	132	143	95	1814
1942	83	282	312	0	131	188	540	39	27	176	466	484	2728
1943	240	10	0	340	96	88	44	100	125	271	174	36	1524
1944	125	148	16	65	92	39	134	208	25	11	46	8	917
1945	206	520	32	56	340	387	95	191	65	65	53	112	2122
1946	363	205	45	0	64	29	28	0	331	98	156	113	1432
1947	73	673	224	22	94	38	56	187	104	174	357	337	2339
1948	139	26	349	103	219	357	113	46	175	79	166	99	1871
1949	139	500	216	102	21	151	83	65	388	636	277	78	2656
1950	633	631	246	511	92	464	641	61	139	534	584	201	4737
1951	296	89	151	13	117	166	4	204	94	30	30	31	1225
1952	25	346	85	84	88	202	154	274	0	324	84	96	1762
1953	136	590	102	60	552	0	123	252	29	120	137	0	2101
1954	318	776	30	10	67	63	190	46	135	542	378	235	2790
1955	552	468	30	286	194	159	122	212	73	534	121	321	3072
1956	304	1033	444	212	360	343	174	11	59	189	33	152	3314
1957	41	392	323	117	18	178	10	27	0	225	0	70	1401
1958	524	50	138	98	170	319	24	70	181	256	115	181	2126
1959	674	557	295	407	58	34	258	0	67	111	105	429	2995
1960	210	27	315	81	101	93	151	58	144	113	298	87	1678
1961	160	341	252	146	148	13	161	123	0	95	435	615	2489
1962	631	177	499	125	37	46	113	337	103	149	49	304	2570
1963	572	38	452	49	310	82	11	113	124	75	259	425	2510
1964	706	93	161	363	202	138	255	66	343	298	58	39	2722

COLLARENEBRI RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1885	59	244	179	59	89	229	4	9	73	51	70	222	1288
1886	253	52	0	269	556	211	404	367	29	268	261	290	2960
1887	150	382	272	40	33	121	167	352	4	276	184	192	2173
1888	349	461	0	0	28	47	0	7	35	8	16	110	1061
1889	107	282	40	260	227	154	262	165	0	206	471	204	2378
1890	260	595	413	67	316	321	111	15	265	130	109	90	2692
1891	603	225	144	245	18	182	56	211	183	38	62	60	2027
1892	109	195	72	97	562	127	83	0	236	459	175	208	2323
1893	380	112	188	0	92	484	78	257	0	182	333	0	2106
1894	152	147	1000	322	110	121	17	18	47	158	109	135	2336
1895	762	73	78	0	49	91	0	0	233	229	326	342	2183
1896	0	392	214	140	179	29	59	91	21	47	284	190	1646
1897	192	0	197	0	21	312	279	76	160	31	45	127	1440
1898	261	315	21	0	88	108	0	47	112	29	16	56	1053
1899	157	91	3	137	0	155	181	195	241	13	52	30	1255
1900	106	0	60	27	194	146	148	0	86	15	64	11	857
1901	22	75	435	190	205	65	114	168	47	46	241	18	1626
1902	12	74	5	9	0	4	0	234	16	130	85	114	683
1903	139	0	217	84	311	98	340	88	361	131	310	699	2778
1904	228	460	152	10	145	52	23	28	68	253	131	337	1887
1905	102	479	83	384	187	21	63	24	2	131	229	4	1709
1906	38	197	432	6	102	192	36	202	619	139	70	124	2157
1907	642	31	501	112	14	98	112	99	14	22	331	545	2521
1908	86	515	467	134	13	75	46	247	77	117	214	215	2206
1909	74	403	72	146	37	201	66	324	53	154	251	173	1954
1910	456	0	358	31	36	281	66	70	55	256	204	99	1912
1911	500	433	98	91	110	16	92	92	25	47	245	134	1883
1912	288	53	230	0	0	353	194	87	72	206	128	112	1723
1913	105	177	251	252	428	347	43	0	40	51	26	410	2130
1914	152	345	233	95	221	102	284	0	18	100	503	348	2401
1915	25	15	13	111	251	44	190	57	9	155	0	342	1212
1916	51	128	69	205	15	165	358	110	94	214	477	325	2211
1917	193	419	0	0	0	163	85	68	252	184	321	453	2138
1918	144	0	0	163	60	6	106	531	11	121	0	49	1191
1919	139	49	113	182	220	0	21	0	12	28	16	418	1198
1920	114	74	130	27	111	532	521	66	299	83	105	232	2294

COLLARENEBRI RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1921	110	0	612	247	276	357	585	86	123	158	250	550	3354
1922	123	171	5	27	0	148	127	0	163	184	23	485	1456
1923	98	14	123	55	15	184	95	6	39	35	53	272	989
1924	111	670	23	40	0	152	136	72	105	121	655	64	2149
1925	296	55	80	0	89	236	76	264	17	26	397	485	2021
1926	475	11	213	178	407	46	75	31	211	38	5	363	2053
1927	157	4	179	27	29	114	0	7	15	154	313	256	1255
1928	71	462	229	101	81	133	168	9	0	35	49	92	1430
1929	3	82	39	404	0	170	18	22	60	105	193	117	1213
1930	156	11	200	86	34	381	210	84	23	418	53	129	1785
1931	41	21	652	339	249	378	105	23	53	30	273	189	2353
1932	1	35	174	137	301	113	148	26	187	0	146	132	1400
1933	351	89	9	137	112	100	342	22	171	110	328	239	2010
1934	240	594	13	23	0	60	175	42	149	658	96	92	2142
1935	439	0	0	19	0	27	146	55	150	82	26	82	1026
1936	401	261	219	4	58	128	205	92	82	15	13	146	1624
1937	87	404	670	5	5	106	82	26	85	75	70	12	1627
1938	227	51	30	40	252	136	118	303	28	152	168	25	1530
1939	455	21	963	166	60	173	161	316	51	72	81	0	2519
1940	14	230	265	221	32	25	0	33	149	31	37	81	1118
1941	599	9	358	17	35	195	18	12	25	34	112	84	1498
1942	22	348	330	0	96	143	403	56	40	207	687	632	2964
1943	468	19	0	224	69	105	35	93	74	141	231	53	1512
1944	38	99	11	55	54	52	121	325	80	0	16	4	855
1945	91	282	61	67	325	229	174	156	1	50	186	95	1717
1946	288	89	29	9	27	29	18	0	243	42	119	49	942
1947	17	1059	347	20	89	37	58	180	126	169	348	828	3278
1948	134	295	417	91	341	431	74	38	85	65	129	174	2274
1949	283	330	334	125	54	211	67	31	205	451	244	53	2388
1950	434	645	200	506	103	393	628	29	45	601	448	0	4032
1951	690	316	242	8	127	224	2	102	106	4	32	25	1878
1952	93	264	97	151	89	85	89	192	6	182	87	174	1509
1953	103	679	30	81	435	2	41	156	14	126	108	10	1785
1954	291	445	0	8	6	65	298	62	116	353	179	196	2019
1955	487	405	58	316	174	89	107	160	36	644	143	111	2730
1956	798	845	375	98	201	240	232	10	101	176	60	159	3295

COLLARENEBRI RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1957	26	282	155	121	4	90	95	18	0	29	10	146	976
1958	596	55	100	172	145	360	13	52	98	222	65	149	2027
1959	497	581	251	838	77	42	176	0	54	103	102	52	2773
1960	169	84	260	45	73	90	133	35	84	131	195	31	1330
1961	143	243	155	183	93	26	148	77	0	49	230	210	1557
1962	704	122	676	122	50	52	89	251	116	40	190	298	2710
1963	628	144	668	94	329	83	4	67	67	42	216	109	2451
1964	707	120	89	519	172	16	165	54	472	373	86	43	2816

CRINOLYN RAINFALL STATISTICS.
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1913	268	119	150	235	462	318	45	0	65	82	20	240	2004
1914	17	277	403	115	243	121	88	11	0	265	62	366	1968
1915	11	47	0	57	188	57	140	81	20	52	0	327	980
1916	137	80	124	176	0	234	383	113	169	186	333	253	2188
1917	343	487	48	0	14	127	41	28	292	102	254	304	2040
1918	376	0	0	82	45	0	39	381	0	112	0	112	1147
1919	122	265	82	156	345	0	17	15	0	80	51	319	1452
1920	198	67	35	42	96	444	382	51	320	155	200	217	2207
1921	31	0	300	38	373	458	466	59	226	166	279	454	2850
1922	125	146	20	50	0	347	105	0	75	197	30	877	1972
1923	0	0	68	77	17	146	107	0	143	86	145	430	1219
1924	113	618	101	73	0	75	80	160	179	215	658	0	2272
1925	242	108	231	0	109	122	81	140	0	6	381	592	2012
1926	375	8	79	243	333	41	57	17	226	25	0	282	1686
1927	342	0	227	190	55	138	0	5	41	131	439	494	2062
1928	221	365	287	286	73	293	84	0	6	58	56	24	1753
1929	39	207	60	469	0	42	21	65	79	68	271	15	1336
1930	225	52	89	47	151	465	161	195	40	332	62	21	1840
1931	6	94	680	250	261	277	132	15	63	33	202	449	2462
1932	49	11	105	211	177	70	48	21	180	9	229	79	1189
1933	397	140	23	144	68	214	405	35	166	162	462	122	2338
1934	574	704	20	0	27	87	171	147	53	388	154	160	2485
1935	312	0	0	25	26	150	22	62	199	70	21	193	1080
1936	235	179	177	40	109	56	192	81	97	0	10	181	1357
1937	201	247	604	0	3	109	130	23	137	90	64	58	1666
1938	147	105	10	73	237	100	72	282	75	317	256	70	1744
1939	168	15	531	119	258	159	195	163	31	65	71	17	1792
1940	100	170	600	100	245	26	5	23	148	24	32	346	1819
1941	535	107	538	0	36	56	28	90	28	48	133	31	1630
1942	40	191	88	9	91	135	264	8	36	117	260	752	1991
1943	354	24	0	184	90	131	47	164	105	211	335	229	1876
1944	118	16	4	35	93	61	136	149	36	19	5	50	722
1945	195	412	47	25	150	178	143	96	16	64	59	45	1430
1946	498	10	78	8	18	29	10	0	290	6	103	95	1145
1947	60	858	223	39	84	39	75	200	112	263	391	265	2609
1948	172	2	265	92	296	344	184	14	171	0	77	142	1759

CRINOLYN RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1949	180	321	135	113	43	151	76	15	402	491	301	80	2308
1950	459	579	283	276	127	401	892	29	111	442	467	152	4218
1951	628	91	195	5	79	173	4	108	122	21	35	30	1491
1952	64	209	96	68	152	174	147	245	5	356	62	96	1674
1953	63	712	58	37	379	0	40	204	54	227	169	0	1943
1954	126	559	0	0	0	56	264	84	64	517	243	141	2054
1955	670	459	71	335	182	105	136	114	18	414	105	96	2705
1956	398	721	543	97	263	236	154	8	106	246	47	52	2871
1957	16	255	227	214	10	181	8	23	0	68	73	131	1206
1958	466	124	249	206	76	388	6	72	171	198	90	308	2354
1959	780	634	154	406	71	35	217	0	80	119	96	143	2735
1960	161	137	113	76	103	73	150	113	46	90	114	94	1270
1961	133	210	272	156	84	102	125	101	0	104	362	371	2020
1962	384	102	983	188	25	46	132	277	80	48	60	263	2588
1963	675	24	780	28	357	55	2	106	146	22	292	321	2808
1964	449	159	74	103	213	97	125	61	225	306	246	41	2099

EDGEROI RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1889	263	289	69	408	605	239	286	248	58	225	529	359	3578
1890	307	645	708	116	321	476	88	81	253	391	151	158	3695
1891	695	188	306	151	75	272	140	278	316	71	179	234	2905
1892	193	0	295	89	301	160	152	2	392	298	116	389	2387
1893	33	262	225	332	99	327	78	200	22	204	226	10	2018
1894	199	40	1078	326	237	234	15	96	141	211	135	306	3018
1895	646	241	32	25	95	53	37	18	210	212	257	394	2220
1896	215	603	84	204	382	118	149	91	125	126	317	162	2576
1897	212	72	114	0	9	377	527	65	191	156	0	284	2007
1898	401	326	19	0	149	113	0	73	187	53	92	90	1503
1899	144	80	141	262	2	179	361	496	241	150	101	114	2271
1900	91	161	169	59	278	281	242	9	107	3	79	127	1606
1901	66	0	702	70	263	223	162	365	45	115	174	95	2280
1902	35	0	42	27	0	16	0	255	54	40	55	395	919
1903	164	0	172	137	233	73	400	116	308	247	283	338	2471
1904	129	570	638	0	187	65	125	88	88	312	0	119	2321
1905	138	162	163	823	113	38	100	53	0	220	160	0	1970
1906	129	123	409	63	71	112	83	283	400	203	176	58	2110
1907	510	29	605	108	75	150	90	175	19	116	268	590	2735
1908	34	655	690	195	21	129	53	106	206	131	225	250	2695
1909	120	557	52	188	136	372	68	408	76	214	223	295	2709
1910	646	79	313	37	42	343	151	109	47	258	152	239	2416
1911	571	351	186	72	181	34	86	91	103	90	241	173	2179
1912	113	164	234	0	0	341	197	101	68	174	76	141	1609
1913	58	145	200	232	527	298	32	7	121	150	50	220	2040
1914	208	197	412	79	332	64	110	0	22	124	169	325	2042
1915	31	172	0	279	121	107	166	236	31	156	0	528	1827
1916	119	151	114	226	11	237	366	175	214	198	458	300	2569
1917	454	169	15	0	2	180	106	107	385	97	460	397	2372
1918	402	35	0	39	45	14	168	440	9	60	40	116	1368
1919	170	111	13	48	273	23	33	28	8	135	54	221	1117
1920	219	72	29	109	159	578	371	108	296	143	79	313	2476
1921	52	89	210	169	459	446	500	75	106	240	166	792	3304
1922	75	161	21	50	22	262	200	36	326	72	94	489	1808
1923	110	0	105	39	41	217	183	20	112	24	185	376	1412
1924	130	389	100	250	39	166	180	300	140	105	552	103	2454

EDGEROI RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1925	105	255	223	0	79	38	119	99	11	48	709	281	1967
1926	231	29	201	312	435	118	104	52	215	69	0	288	2054
1927	139	22	99	107	7	119	0	79	0	232	315	489	1608
1928	104	607	333	203	64	394	251	0	5	44	95	111	2211
1929	72	185	113	511	0	209	114	172	127	239	166	19	1927
1930	176	0	162	168	114	270	153	108	67	284	97	58	1657
1931	32	123	1366	235	405	620	121	44	67	11	223	563	3810
1932	140	124	292	201	105	108	82	48	382	62	390	69	2003
1933	341	49	21	138	105	251	559	128	207	374	496	138	2807
1934	305	758	0	95	19	124	295	138	322	416	244	93	2809
1935	477	77	11	8	56	80	194	78	268	105	38	88	1480
1936	102	166	93	6	103	71	343	171	197	2	39	364	1657
1937	236	309	461	79	2	125	98	68	160	247	524	113	2422
1938	265	72	35	78	480	144	112	472	91	263	300	10	2322
1939	183	0	567	379	154	215	223	234	9	95	13	44	2116
1940	0	15	281	116	11	74	0	73	135	57	72	226	1060
1941	777	72	660	15	116	298	35	83	30	67	298	38	2489
1942	149	568	352	0	123	185	542	50	38	348	535	577	3467
1943	394	23	0	277	90	192	68	93	211	50	147	38	1583
1944	140	87	310	39	132	27	192	317	29	10	88	49	1420
1945	144	389	40	39	179	375	126	208	158	62	123	21	1864
1946	342	152	78	14	190	60	31	0	303	15	110	232	1527
1947	21	812	292	131	110	51		NO	RECORDS		383	479	
1948	338	77	426	122	222	272	130	56	124	42	154	265	2228
1949	326	391	137					NO	RECORDS				

MYALL PLAINS (FORMERLY EURIMBLA) RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1902	12	42	0	0	6	20	0	251	26	75	63	227	722
1903	164	0	385	157	391	50	405	121	237	170	193	390	2663
1904	178	702	180	0	163	75	57	82	51	256	0	160	1904
1905	206	143	136	562	229	23	72	37	0	199	91	128	1826
1906	150	226	186	106	77	206	0	312	555	211	91	50	2170
1907	606	24	297	160	29	104	83	148	8	54	443	437	2393
1908	167	520	670	342	18	81	27	197	88	132	88	221	2551
1909	248	481	85	135	36	245	73	302	62	78	102	98	1945
1910	622	0	325	22	0	262	127	10	21	281	157	163	1990
1911	462	444	85	5	125	15	110	95	66	58	278	189	1932
1912	135	25	115	0	0	359	133	118	64	90	59	135	1233
1913	225	103	330	264	504	336	37	0	0	40	45	149	2033
1914	85	228	375	194	311	103	120	0	5	178	212	249	2060
1915	58	57	0	328	206	89	164	150	20	328	0	435	1835
1916	20	101	55	178	0	215	350	109	170	126	487	347	2158
1917	229	319	0	0	0	170	78	55	197	104	171	203	1526
1918	248	0	0	38	57	14	89	495	20	82	5	16	1064
1919	150	160	0	32	31	23	15	0	0	0	0	472	883
1920	186	33	0	90	25	589	597	93	143	109	86	167	2118
1921	97	0	294	436	285	648	680	78	166	140	303	1121	4248
1922	167	161	26	0	0	184	142	0	313	181	12	649	1835
1923	167	0	58	66	30	250	137	14	40	170	136	263	1331
1924	185	668	36	105	22	116	151	100	113	102	965	90	2653
1925	381	45	114	0	96	35	20	130	12	31	272	330	1466
1926	525	0	239	232	344	62	10	45	397	85	0	306	2245
1927	212	0	175	183	0	101	0	53	8	155	235	574	1696
1928	200	430	430	43	50	140	168	0	0	41	67	37	1606
1929	0	117	60	455	0	190	0	45	50	105	175	79	1276
1930	185	0	63	44	30	375	265	40	25	277	52	12	1368
1931	50	17	739	293	329	514	187	22	105	0	122	440	2818
1932	25	28	400	151	170	74	73	22	223	8	382	49	1605
1933	249	60	152	136	87	96	447	27	154	275	399	143	2225
1934	251	672	0	80	0	80	207	137	255	422	108	95	2307
1935	295	0	0	65	15	82	79	75	235	37	43	220	1146
1936	253	168	245	24	143	0	226	138	82	0	0	160	1439
1937	76	136	464	19	5	247	85	35	105	150	141	0	1463

MYALL PLAINS (FORMERLY EURIMBLA) RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1938	555	103	0	25	244	102	104	204	25	213	99	30	1704
1939	213	27	621	281	40	181	224	217	27	83	36	0	1950
1940	198	50	342	113	0	22	0	32	135	12	49	301	1254
1941	568	95	446	0	35	204	16	26	0	82	102	48	1622
1942	42	229	254	12	95	146	406	54	24	118	439	520	2339
1943	275	0	0	176	90	28	50	68	90	270	182	64	1293
1944	188	40	0	0	162	60	153	194	0	0	0	53	850
1945	24	400	57	56	338	309	102	119	73	0	0	243	1721
1946	189	25	45	10	72	17	0	0	340	0	192	55	945
1947	57	687	316	0	144	44	60	180	66	216	145	280	2195
1948	176	200	393	88	279	338	88	20	231	48	57	198	2116
1949	102	659	209	116	106	87	91	49	314	576	347	83	2739
1950	566	584	150	438	151	366	571	14	86	563	542	61	4092
1951	326	259	182	15	168	217	85	122	116	19	27	55	1591
1952	28	322	141	183	198	128	109	195	0	144	114	135	1697
1953	82	560	92	0	485	0	42	164	37	197	77	51	1787
1954	212	521	16	14	7	80	218	46	68	591	322	192	2287
1955	456	430	57	50	449	234	167	196	141	685	180	161	3206
1956	518	972	363	129	262	296	239	24	102	334	78	180	3497
1957	24	284	128	118	0	168	12	0	48	73	26	115	996
1958	354	219	101	103	157	252	32	100	171	125	66	98	1778
1959	566	736	426	282	30	52	166	67	114	146	80	162	2827
1960	121	151	288	62	58	63	232	54	9	136	246	118	1538
1961	118	321	324	120	116	38	115	78	0	156	244	654	2284
1962	502	168	618	128	45	0	138	249	240	92	122	171	2473
1963	526	62	565	70	114	45	0	84	90	110	170	164	2000
1964	621	177	120	424	230	48	142	18	430	331	49	32	2622

GUYRA RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1886	N.R.	57	211	272	324	508	226	766	155	647	441	165	
1887	754	516	288	255	117	347	227	289	181	178	370	731	4253
1888	282	671	165	16	35	59	28	11	208	323	95	392	2285
1889	508	285	281	494	478	431	266	222	178	280	492	240	4155
1890	831	773	802	420	313	400	230	97	239	617	347	475	5544
1891	1128	294	380	163	90	470	198	273	557	171	421	407	4552
1892	333	63	481	534				NO RECORDS					
1893							NO RECORDS						
1894												774	
1895							NO RECORDS						
1896	320	466	219	156	211	129	322	284	160	156	476	553	3452
1897	458	107	131	28	83	308	370	182	313	299	58	603	2940
1898	286	244	78	14	188	224	110	254	292	168	122	321	2301
1899	600	141	126	226	120	236	160	154	177	331	257	299	2827
1900	164	524	470	244	281	267	393	33	152	63	309	579	3479
1901	195	296	443	271	239	337	168	615	31	341	194	165	3295
1902	298	123	169	63	81	141	61	266	165	310	409	605	2691
1903	27	40	217	278	269	582	483	339	729	353	352	457	4126
1904	49	197	534	395	514	160	311	157	206	274	228	204	3229
1905	317	293	359	548	293	130	207	121	24	267	223	826	3608
1906	564	124	440	15	85	153	172	354	281	366	282	280	3116
1907	743	240	756	105	90	412	69	245	65	312	441	357	3835
1908	203	586	361	306	75	235	106	457	407	243	144	393	3516
1909	0	643	166	231	51	304	185	439	107	211	598	214	3149
1910	603	106	817	89	61	387	431	186	94	573	220	328	3895
1911	740	429	166	244	196	147	276	182	228	331	464	179	3582
1912	85	438	326	13	24	365	522	238	183	340	249	124	2907
1913	451	374	460	243	573	447	107	104	126	370	73	297	3625
1914	406	451	667	88	183	363	138	27	71	445	587	664	4090
1915	164	241	30	198	263	214	367	184	346	116	72	738	2933
1916	415	489	215	517	184	384	431	462	183	418	565	578	4841
1917	739	432	208	71	50	159	238	246	665	252	1009	370	4439
1918	521	184	196	167	70	22	96	353	51	156	264	156	2236
1919	153	121	347	310	342	54	63	82	33	246	58	372	2181
1920	507	135	182	96	194	767	404	337	335	222	326	409	3914
1921	104	254	501	122	799	423	683	140	353	726	280	980	5365
1922	190	342	124	119	58	161	331	164	303	194	286	622	2894

GUYRA RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1923	184	34	243	112	47	295	262	114	363	140	207	551	2552
1924	249	382	118	297	82	366	495	322	303	363	689	400	4066
1925	366	152	167	63	369	154	209	299	20	231	578	239	2847
1926	169	368	342	242	268	283	250	167	149	117	35	565	2955
1927	747	83	330	517	31	148	81	51	30	301	659	405	3383
1928	409	1017	169	329	110	285	425	25	124	326	271	319	3809
1929	215	608	254	366	111	199	138	325	264	360	241	219	3300
1930	369	308	438	179	98	489	293	307	181	336	276	106	3380
1931	425	251	1114	578	492	524	255	101	376	147	453	534	5250
1932	406	172	254	470	87	127	203	98	527	280	435	227	3286
1933	1101	59	9	186	245	459	520	145	358	696	414	422	4614
1934	404	552	42	310	63	118	351	321	352	534	468	685	4200
1935	494	131	60	42	118	65	273	84	373	243	145	217	2245
1936	332	164	258	117	129	175	372	208	174	51	56	594	2630
1937	388	385	456	74	71	338	99	169	182	206	253	308	2929
1938	378	263	43	196	363	127	194	268	100	433	634	64	3063
1939	413	90	424	103	38	298	176	219	45	160	249	429	2644
1940	396	279	287	162	61	80	17	72	180	116	194	394	2238
1941	608	267	614	74	116	478	95	58	52	423	456	129	3370
1942	274	448	333	24	99	257	487	44	139	602	294	476	3477
1943	445	199	36	156	59	218	223	197	194	225	670	373	2995
1944	553	98	38	69	233	71	353	559	93	180	103	259	2609
1945	555	652	29	179	208	371	255	317	291	117	335	301	3610
1946	693	334	614	164	84	124	109	0	265	160	334	260	3141
1947	179	447	273	324	49	51	193	289	398	342	453	511	3509
1948	590	428	418	130	141	310	176	149	249	146	385	283	3405
1949	450	659	242	156	109	252	163	218	442	830	623	267	4411
1950	496	610	220	206	139	1060	555	103	290	588	665	15	4947
1951	613	203	295	123	133	577	100	289	95	37	127	189	2781
1952	303	550	242	189	278	397	225	649	191	816	144	627	4611
1953	402	962	211	44	174	35	129	232	75	221	197	132	2814
1954	147	618	10	42	125	179	219	161	152	652	523	393	3221
1955	258	961	75	153	234	328	182	176	140	640	191	349	3687
1956	651	1029	123	270	483	405	173	77	221	406	110	174	4122
1957	238	405	300	162	14	94	161	218	41	281	71	199	2184
1958	279	554	234	77	193	131	139	327	404	414	199	602	3553

GUYRA RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1959	1003	518	430	112	97	108	280	26	275	346	568	812	4575
1960	178	629	74	264	261	138	255	163	134	129	357	124	2706
1961	79	628	183	94	68	144	235	269	120	359	741	248	3168
1962	1079	206	220	181	363	72	472	311	170	317	169	564	4124
1963	595	189	488	109	750	245	166	351	28	216	457	391	3985
1964	424	193	527	213	190	111	333	148	316	408	379	132	3374

INVERELL RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1875	279	291	306	189	253	133	222	45	144	115	130	62	2169
1876	203	116	155	308	382	430	513	79	217	225	237	336	3201
1877	721	329	267	10	239	110	211	170	271	285	247	310	3170
1878	25	329	167	189	240	150	238	133	581	155	84	266	2557
1879	149	619	781	559	598	51	234	491	425	219	378	258	4762
1880	35	399	440	163	80	75	20	22	393	239	127	89	2082
1881	385	158	157	5	138	56	45	173	309	283	273	73	2055
1882	113	266	227	250	239	117	123	79	0	636	213	391	2654
1883	455	739	144	190	248	10	79	137	175	380	173	186	2916
1884	140	186	40	175	142	215	358	87	271	118	179	161	2072
1885	278	434	166	46	32	409	69	51	399	34	313	488	2719
1886	207	53	330	222	467	495	186	623	154	630	486	127	3980
1887	870	374	483	183	48	186	356	394	122	80	413	858	4367
1888	259	724	136	13	157	61	7	2	216	133	73	373	2154
1889	241	190	369	340	494	342	160	145	111	191	453	343	3379
1890	875	527	708	275	320	338	139	115	170	572	282	196	4517
1891	969	194	160	186	152	233	207	252	319	205	299	364	3540
1892	207	71	489	318	259	356	223	96	583	714	228	698	4242
1893	384	568	310	588	290	389	380	153	0	369	339	110	3880
1894	945	97	826	251	216	297	109	112	122	512	122	61	3670
1895	812	24	28	157	103	41	59	37	245	58	325	425	2314
1896	358	787	136	174	155	106	175	249	121	99	289	662	3311
1897	231	201	161	0	9	464	446	164	234	152	1	700	2763
1898	380	327	8	18	67	301	61	79	246	146	78	206	1917
1899	622	195	118	316	101	223	214	296	264	360	165	381	3255
1900	190	368	450	316	269	268	276	64	88	34	221	165	2709
1901	215	43	308	201	230	209	70	519	93	193	178	114	2373
1902	458	24	51	14	1	126	10	453	83	187	382	122	1911
1903	25	2	447	153	345	227	510	429	469	380	375	523	3885
1904	115	124	595	115	328	118	281	128	216	413	403	199	3035
1905	355	333	240	518	194	97	79	76	12	246	228	420	2798
1906	342	229	444	83	181	95	132	339	264	487	267	339	3202
1907	381	212	676	201	48	286	97	184	19	170	435	316	3025
1908	89	560	402	181	39	177	96	225	292	221	109	266	2657
1909	187	437	99	235	82	471	139	520	61	119	325	454	3129
1910	731	58	734	123	34	376	246	101	26	279	169	411	3288

INVERELL RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1911	702	455	225	74	203	27	151	108	267	199	329	204	2944
1912	191	272	378	0	12	458	409	218	139	189	401	98	2765
1913	414	235	357	111	596	311	65	14	145	284	84	208	2824
1914	407	158	533	82	218	211	176	19	23	313	377	437	2954
1915	173	86	18	149	221	154	223	188	165	47	22	216	1662
1916	332	440	68	744	20	330	385	394	122	307	435	698	4275
1917	764	330	52	21	40	131	118	132	512	151	1087	317	3655
1918	524	62	15	173	58	83	133	376	75	128	119	120	1866
1919	385	201	232	130	299	51	50	121	16	166	25	274	1950
1920	554	175	89	88	170	657	440	298	247	275	156	595	3744
1921	144	166	191	102	836	539	535	94	308	440	491	1014	4860
1922	107	171	152	123	4	172	398	55	291	129	184	394	2180
1923	344	168	131	14	48	404	192	21	326	206	56	441	2351
1924	348	683	160	336	38	298	281	294	176	317	614	403	3948
1925	228	170	169	27	346	37	161	300	2	110	568	287	2405
1926	137	195	163	208	185	282	185	123	162	73	4	607	2324
1927	502	52	391	214	16	149	23	55	19	197	468	320	2406
1928	538	629	186	191	80	460	294	0	37	264	257	169	3105
1929	93	493	237	467	29	104	66	195	124	494	176	148	2626
1930	472	200	364	63	102	431	257	255	93	359	439	122	3157
1931	89	110	612	264	351	338	206	67	176	89	380	687	3369
1932	145	60	253	505	83	127	153	41	412	383	258	55	2475
1933	870	67	116	37	258	273	408	200	391	439	417	371	3847
1934	358	360	36	344	76	162	347	173	255	499	520	566	3696
1935	459	267	20	83	97	73	230	96	315	275	77	217	2209
1936	275	204	143	91	206	110	311	181	182	49	75	716	2543
1937	308	141	520	116	54	76	149	125	181	263	387	383	2703
1938	401	393	9	45	299	152	159	309	123	295	463	27	2675
1939	672	26	234	219	18	357	147	182	12	126	147	425	2565
1940	47	403	250	98	32	34	0	83	82	112	239	837	2217
1941	862	422	361	50	37	295	55	23	19	195	391	22	2732
1942	210	310	394	0	144	216	498	27	60	682	417	702	3660
1943	460	141	48	137	139	148	151	184	147	267	662	256	2740
1944	390	191	24	59	178	78	229	348	102	69	85	186	1939
1945	467	1026	45	136	87	394	209	224	90	29	123	275	3105
1946	890	144	348	116	55	56	63	3	327	147	249	222	2620
1947	282	511	508	235	92	64	160	224	378	216	393	772	3835
1948	455	347	279	87	216	407	186	149	158	53	295	237	2869

INVERELL RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1949	323	799	220	72	95	272	149	137	356	673	401	279	3776
1950	180	470	179	190	208	445	564	78	263	575	573	27	3752
1951	445	249	131	41	131	349	38	172	68	54	30	141	1849
1952	52	476	401	243	192	145	134	473	94	558	80	243	3091
1953	148	774	64	57	185	6	50	312	64	187	336	25	2208
1954	274	627	31	42	63	131	163	193	91	818	576	589	3598
1955	341	1070	15	222	155	159	170	145	151	347	201	485	3461
1956	637	1233	156	212	523	363	168	69	195	289	127	252	4224
1957	544	290	390	157	0	195	82	192	44	131	31	240	2296
1958	349	776	382	80	215	146	80	170	434	288	115	463	3498
1959	621	368	654	63	198	58	321	0	173	294	461	1024	4235
1960	319	190	59	128	278	110	275	172	144	260	296	332	2563
1961	266	283	223	120	60	88	215	211	36	204	641	314	2661
1962	1048	334	370	131	158	33	303	200	166	238	176	668	3825
1963	296	128	344	157	603	178	60	374	54	157	579	230	3160
1964	434	96	343	320	289	98	285	128	329	458	187	152	3119

IOLANTHE RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1903				NO	RECORDS				244	263	231	683	
1904	155	367	407	14	268	25	58	77	133	268	39	112	1923
1905	191	86	175	485	168	27	68	81	7	182	252	64	1786
1906	70	424	559	89	24	189	45	216	481	237	85	206	2625
1907	399	0	356	96	38	247	93	130	8	88	260	574	2289
1908	82	462	622	157	0	93	14	322	128	108	43	183	2214
1909	147	315	84	45	48	338	84	329	69	255	152	230	2096
1910	354	16	580	46	16	284	138	15	34	178	171	400	2232
1911	472	877	240	74	94	0	61	126	100	0	141	103	2288
1912	119	28	309	0	0	388	198	29	105	198	119	77	1570
1913	334	110	417	305	654	333	110	0	40	112	76	274	2765
1914	43	489	405	159	430	151	88	0	0	307	344	167	2583
1915	60	32	0	51	202	87	322	136	9	36	0	243	1178
1916	177	99	141	319	0	212	373	102	225	213	446	544	2851
1917	438	564	297	0	0	128	82	50	295	166	400	290	2710
1918	372	34	11	99	46	11	47	382	0	140	14	0	1156
1919	112	339	12	86	247	5	22	32	9	103	114	173	1254
1920	131	88	69	74	169	454	381	136	266	198	80	346	2392
1921	5	72	223	53	565	622	397	82	243	175	420	525	3382
1922	99	127	39	68	9	267	209	15	79	148	21	566	1647
1923	90	20	52	67	27	172	84	11	179	34	102	340	1178
1924	145	599	128	219	60	74	264	170	135	151	679	133	2757
1925	165	75	179	0	119	62	92	134	0	36	385	221	1468
1926	381	261	74	208	180	56	108	19	240	36	0	312	1875
1927	393	0	167	181	42	163	0	22	12	118	371	313	1782
1928	343	345	336	291	16	288	108	0	10	95	61	54	1947
1929	61	239	80	497	0	32	27	84	127	51	217	75	1490
1930	251	27	209	170	160	445	247	179	48	355	150	15	2256
1931	10	45	843	191	397	281	23	15	99	71	290	461	2726
1932	34	0	118	246	129	102	73	12	272	45	171	101	1303
1933	299	124	74	85	114	245	282	25	227	154	426	112	2167
1934	566	725	0	12	40	86	217	209	148	415	178	148	2744
1935	369	122	0	0	0	124	46	50	271	158	20	116	1276
1936	201	213	216	38	89	64	219	94	54	0	0	193	1381
1937	180	120	627	0	0	86	118	123	0	96	203	102	1655
1938	79	100	33	16	458	59	65	227	108	323	239	34	1741

IOLANTHE RAINFALL STATISTICS

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1939	215	21	435	98	111	147			NO RECORDS				
1940						NO RECORDS							
1943													
1944	134	41	0	9	101	25	102	187	77	56	0	106	838
1945	531	290	45	40	98	399	129	62	0	36	46	N.R.	
1946							NO RECORDS						
1947							NO RECORDS					158	
1948	161	150	269	90	197	276	193	15	151	43	6	94	1645
1949	128	331	95	86	88	73	84	10	363	371	213	7	1849
1950	556	613	47	159	180	420	777	0	80	389	806	124	4151
1951	571	61	146	2	21	170	0	102	154	25	41	10	1303
1952	38	339	82	122	238	121	209	99	16	388	43	64	1759
1953	130	902	94	186	239	0	51	284	32	147	63	30	2158
1954	148	760	0	0	0	53	313	117	30	551	269	77	2318
1955	881	390	101	333	174	82	184	121	10	546	97	76	2995
1956	385	1031	366	162	279	323	196	5	172	154	110	72	3255
1957	20	97	243	200	0	184	4	23	0	107	115	243	1236
1958	192	70	182	356	57	449	6	70	190	195	157	272	2196
1959	868	785	288	198	75	15	272	0	42	108	138	167	2956
1960	196	137	58	99	35	77	205	157	85	175	77	139	1440
1961	108	424	267	160	88	54	123	121	0	164	571	455	2535
1962	358	247	751	231	70	38	84	260	96	79	84	352	2650
1963	654	5	766	19	281	99	0	152	155	39	342	363	2875
1964	389	70	38	153	257	52	165	75	139	411	95	155	1999

MOREE RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1880	78	436	100	329	90	9	55	6	416	277	66	145	2007
1881	410	150	238	0	40	12	0	116	244	186	321	32	1749
1882	30	368	155	154	134	233	102	76	0	232	287	359	2130
1883	137	575	42	69	294	32	23	128	90	249	92	8	1739
1884	91	119	0	131	134	164	227	16	239	58	201	126	1506
1885	287	288	94	16	39	261	68	10	106	192	144	104	1609
1886	287	11	11	395	391	442	365	402	96	399	363	235	3397
1887	676	564	146	56	132	105	257	370	17	92	216	460	3091
1888	143	1329	410	0	74	6	0	0	138	84	125	112	2421
1889	62	80	234	302	423	219	186	145	38	188	474	455	2806
1890	440	657	725	196	324	288	118	38	208	331	106	117	3548
1891	901	123	122	161	71	235	109	247	175	86	349	179	2758
1892	146	270	169	275	218	360	125	19	319	422	146	405	2874
1893	239	545	144	352	134	408	71	193	18	241	340	59	2744
1894	532	81	1816	331	330	136	37	114	110	432	154	287	4360
1895	552	86	14	26	52	31	50	35	227	125	207	296	1701
1896	124	365	105	171	148	164	110	146	55	84	522	289	2283
1897	373	158	211	0	20	337	550	74	256	185	0	374	2538
1898	380	254	0	18	126	230	4	75	142	85	19	76	1409
1899	163	229	43	99	0	218	387	334	284	223	44	56	2080
1900	166	481	454	126	267	162	135	0	84	13	121	217	2226
1901	316	18	298	121	200	219	68	208	45	156	326	15	1990
1902	87	48	9	0	0	43	4	237	5	131	63	170	797
1903	177	50	273	82	341	243	361	171	486	242	231	315	2972
1904	127	309	586	50	245	45	120	65	181	324	68	50	2170
1905	174	268	84	464	115	46	62	123	0	142	135	41	1654
1906	111	393	460	35	59	128	43	276	400	208	41	28	2182
1907	490	55	322	103	109	126	70	183	13	91	346	362	2270
1908	34	639	687	137	2	113	38	255	201	131	335	152	2724
1909	290	608	109	58	65	414	81	307	68	163	196	336	2695
1910	856	8	595	93	47	275	147	56	29	200	157	263	2726
1911	459	524	147	30	148	23	97	145	169	67	180	131	2120
1912	134	102	331	0	8	390	226	157	107	301	166	1	1923
1913	288	64	531	277	556	274	40	15	60	127	52	291	2575
1914	67	321	340	214	697	75	122	0	3	176	84	266	2365
1915	67	62	6	64	131	114	222	215	44	81	3	197	1206

MOREE RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1916	142	201	223	237	7	297	389	265	263	388	531	504	3447
1917	460	294	125	0	6	113	57	67	388	146	445	345	2446
1918	285	55	83	101	62	67	115	365	17	114	32	1	1297
1919	166	175	24	54	690	1	44	36	10	99	32	360	1691
1920	319	115	87	56	126	574	320	194	300	261	242	427	3021
1921	27	98	399	76	485	788	497	67	158	301	302	807	4005
1922	328	89	125	68	24	226	221	7	86	71	37	398	1680
1923	82	11	23	86	30	226	92	11	119	120	113	601	1514
1924	195	585	72	194	32	142	251	167	189	218	550	196	2791
1925	481	80	150	0	178	28	118	84	0	29	391	294	1833
1926	185	37	175	115	197	126	166	22	167	34	3	240	1467
1927	352	20	217	248	85	136	0	31	7	302	415	252	2065
1928	337	384	382	367	10	335	220	0	9	86	62	45	2237
1929	42	437	163	515	35	32	61	160	129	253	172	96	2095
1930	114	48	157	81	61	481	131	170	110	270	210	130	1963
1931	73	65	843	258	417	286	117	87	132	85	215	376	2954
1932	61	15	136	202	64	100	95	46	376	211	269	140	1715
1933	211	68	33	80	190	197	368	37	195	250	293	195	2117
1934	199	631	0	49	70	105	226	99	150	407	176	295	2407
1935	455	184	7	103	20	23	205	65	184	125	35	109	1515
1936	234	184	179	131	117	83	282	134	181	5	12	302	1844
1937	163	167	727	68	1	133	95	166	216	72	316	71	2195
1938	140	364	91	36	601	97	110	490	66	167	270	7	2439
1939	363	11	421	92	138	308	251	298	11	90	12	62	2057
1940	44	190	389	79	45	64	5	39	119	62	92	173	1301
1941	549	190	334	5	18	154	20	51	7	80	573	19	2000
1942	45	266	60	0	117	130	345	29	23	258	192	727	2192
1943	141	23	0	279	140	174	63	149	106	340	222	152	1789
1944	170	281	14	51	268	3	132	331	46	46	117	64	1523
1945	524	305	40	21	152	337	189	124	34	30	100	34	1890
1946	709	27	63	36	70	27	16	0	363	13	121	198	1643
1947	148	570	226	46	52	47	90	142	169	238	311	209	2248
1948	149	121	250	69	230	335	206	28	306	20	123	183	2020
1949	280	420	51	115	10	113	44	7	385	432	340	65	2262
1950	324	505	258	61	79	582	1048	40	190	359	708	25	4179
1951	495	97	255	11	59	208	2	105	121	67	33	70	1523

MOREE RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1952	47	230	134	213	183	97	192	189	15	451	45	69	1865
1953	65	678	105	93	313	0	55	307	23	315	156	17	2127
1954	130	740	0	0	38	143	217	86	55	770	507	105	2791
1955	714	583	5	267	167	162	222	130	63	384	133	158	2988
1956	275	984	466	128	348	261	150	14	72	230	99	204	3231
1957	173	156	231	133	0	185	4	55	0	70	22	201	1230
1958	195	31	503	176	114	375	31	110	235	243	128	391	2532
1959	817	687	246	477	105	61	324	6	91	200	669	386	4069
1960	185	277	78	170	167	77	280	193	124	214	119	265	2149
1961	176	340	276	86	84	69	120	162	0	215	661	257	2446
1962	299	271	572	94	100	31	95	276	103	117	56	553	2567
1963	269	23	461	110	446	79	17	170	122	91	424	725	2937
1964	449	77	113	144	260	51	219	59	189	348	204	166	2279

MT. LINDSAY RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1886	102	35	131	328	494	431	420	866	140	367	517	316	4147
1887	817	568	250	440	107	343	624	709	55	287	390	852	5442
1888	232	905	222	0	146	39	13	16	178	210	103	129	2193
1889	380	288	167	445	629	644	339	333	82	318	872	384	4881
1890	755	1059	1683	251	675	637	401	181	512	541	173	345	7213
1891	1346	186	530	250	485	478	270	528	542	96	74	376	5161
1892	110	128	232	275	423	307	344	144	577	724	324	608	4196
1893	346	562	427	437	149	455	228	485	87	274	554	0	4004
1894	420	289	1318	462	295	156	129	216	130	567	292	237	4511
1895	782	170	0	186	34	107	69	129	245	159	509	300	2690
1896	281	796	200	253	297	171	213	54	115	129	331	140	2980
1897	393	79	180	0	0	475	670	100	202	222	0	359	2680
1898	290	617	47	0	281	414	0	297	328	160	113	103	2650
1899	193	240	179	341	59	236	316	490	285	272	165	185	2961
1900	237	47	366	133	162	397	518	25	85	60	134	292	2456
1901	133	94	600	276	320	335	235	771	29	244	228	87	3352
1902	107	90	87	0	28	222	11	389	151	360	50	330	1825
1903	133	99	260	156	649	39	284	134	378	337	35	402	2906
1904	279	396	726	107	295	218	421	126	137	527	89	229	3550
1905	434	207	158	800	377	133	208	124	21	277	158	157	3054
1906	348	162	442	46	197	160	147	452	718	262	406	273	3613
1907	622	0	1060	114	82	363	45	422	75	84	434	624	3925
1908	302	1118	847	349	52	249	115	NO RECORDS					
1909	210	837	71	272	140	603	62	713	81	137	487	230	3843
1910	1435	155	518	52	171	705	283	283	67	330	235	687	4921
1911	709	687	176	133	227	56	143	169	301	210	335	284	3430
1912	128	383	296	14	35	765	548	183	116	302	143	54	2967
1913	453	425	235	435	482	433	79	40	188	237	46	270	3323
1914	467	348	648	99	455	126	168	0	66	263	428	570	3638
1915	135	60	100	204	351	289	353	86	263	180	10	531	2562
1916	252	393	213	514	35	464	594	463	228	396	520	538	4610
1917	441	465	65	28	47	315	201	193	742	212	1128	633	4470
1918	705	131	63	81	107	37	176	791	43	105	123	54	2416
1919	354	206	158	77	341	108	67	147	19	180	33	337	2027
1920	512	120	20	259	55	1638	820	310	320	240	65	450	4809
1921	157	40	395	319	586	826	715	100	205	215	21	1255	4834

MT. LINDSAY RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1922	120	160	145	0	0	376	551	118	362	160	115	878	2985
1923	175	25	191	0	52	522	186	371	235	289	169	410	2625
1924	413	567	120	180	60	210	412	582	247	355	991	310	4447
1925	347	157	196	10	355	62	197	275	25	50	546	190	2410
1926	364	195	456	323	543	162	150	60	428	106	75	433	3295
1927	290	90	330	422	52	295	50	90	25	365	620	493	3122
1928	362	810	492	260	314	725	707	0	8	87	235	52	4052
1929	117	602	89	667	40	164	117	492	26	445	107	51	2917
1930	179	97	323	28	115	683	305	261	42	373	740	22	3168
1931	60	313	1088	590	701	843	239	116	139	123	243	688	5143
1932	177	28	205	218	180	124	161	118	742	320	568	295	3136
1933	946	98	35	272	198	437	1049	171	254	937	929	514	5840
1934	563	1089	0	198	55	340	456	406	242	796	315	343	4803
1935	845	110	16	82	120	210	133	178	346	237	122	141	2540
1936	182	513	448	112	305	168	781	409	288	26	98	555	3885
1937	413	328	752	35	56	233	202	222	229	402	658	139	3669
1938	496	76	38	154	624	466	268	783	107	461	345	51	3869
1939	610	45	645	591	110	407	299	396	16	202	182	280	3783
1940	224	20	223	271	48	75	30	153	309	162	203	902	2620
1941	1232	852	611	17	153	721	45	170	60	450	339	127	4777
1942	175	771	482	20	395	233			NO	RECORDS			
1943	943	415	0	328	185	160	198	230	396	186	408	160	3609
1944	690	330	52	103	642	54	302	847	66	68	81	209	3444
1945	519	433	56	259	399	760	469	386	121	146	328	100	3976
1946	519	267	310	324	99	358	71	2	505	126	420	477	3478
1947	161	1483	568	200	162	166	316	568	608	470	502	1179	6383
1948	434	194	486	296	431	768	372	176	271	105	357	372	4262
1949	573	722	300	642	83	246	123	250	700	745	643	100	5127
1950			NO	RECORDS			1071	184	380	824	1027	0	
1951	547	368	359	72	205	513	152	416	307	68	151	239	3397
1952	28	919	431	192	492	410	213	654	98	613	71	313	4434
1953	280	845	146	49	568	29	94	683	70	204	273	61	3302
1954	461	992	20	0	140	117	82	172	263	1426	594	308	4575
1955	850	1659	8	328	374	253	382	252	120	1133	352	245	5956
1956	454	1543	747	655	1096	691	481	47	282	580	NO	RECORDS	
1957	277	519	215	306	30	282	41	200	0	156	51	54	2131

MT. LINDSAY RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1958	280	260	240	230	327	458	273	290	293	752	117	562	4082
1959	509	857	524	219	107	89	497	1	216	329	437	429	4214
1960	329	127	184	237	430	178	622	226	201	228	454	158	3374
1961	280	387	518	179	143	69	285	364	42	198	769	370	3604
1962	970	386	397	226	189	14	233	502	164	387	92	647	4207
1963	334	230	896	124	661	326	151	273	205	170	282	773	4425
1964	1149	116	477	573	420	160	407	200	692	557	120	140	5011

URALLA RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1901		NO	RECORDS		202	266	136	471	56	307	162	113	
1902	225	132	79	38	35	127	28	284	84	288	334	326	1980
1903	55	39	247	375	284	449	404	360	599	383	370	457	4022
1904	73	174	401	184	360	161	427	110	186	213	173	205	2667
1905	317	307	609	344	188	144	159	156	45	218	158	321	2966
1906	243	487	371	42	61	88	171	284	330	221	399	245	2942
1907	280	152	618	147	98	373	86	241	65	202	463	409	3134
1908	109	608	457	166	50	202	112	217	432	124	108	139	2724
1909	116	508	144	224	74	343	121	427	129	108	465	186	2845
1910	709	82	410	95	108	326	271	249	81	413	258	500	3502
1911	572	442	203	50	100	127	229	121	225	127	317	185	2698
1912	106	570	144	2	53	219	398	230	170	350	245	120	2607
1913	506	246	159	142	485	334	93	120	171	190	71	219	2736
1914	539	160	460	66	213	236	130	4	33	258	322	652	3073
1915	164	171	63	199	237	291	380	151	299	118	38	402	2513
1916	354	269	254	427	66	325	255	347	168	322	427	541	3755
1917	564	312	62	25	66	164	233	165	557	162	841	283	3434
1918	487	100	36	221	67	103	106	336	38	118	319	96	2027
1919	344	112	242	162	232	58	9	100	55	204	135	433	2086
1920	230	249	173	38	103	756	310	357	373	282	133	375	3379
1921	313	164	339	175	539	655	512	87	266	401	263	704	4418
1922	263	286	103	167	35	145	401	82	248	414	166	454	2764
1923	262	75	142	25	28	425	247	112	318	133	167	583	2517
1924	459	478	91	334	78	208	376	274	324	328	765	255	3970
1925	366	200	169	19	359	78	203	298	17	172	537	239	3657
1926	253	181	276	434	297	257	252	162	234	63	40	412	2861
1927	728	43	251	271	12	105	26	49	23	255	633	205	2601
1928	330	1043	533	303	63	443	338	54	100	168	520	267	4162
1929	184	638	225	338	15	119	67	449	234	178	293	91	2831
1930	176	173	264	141	104	489	242	238	125	441	286	121	2800
1931	351	256	473	422	445	504	221	141	266	143	218	721	4161
1932	421	163	419	182	53	111	243	96	564	457	381	124	3214
1933	750	131	8	79	240	290	492	96	407	655	538	223	3909
1934	180	651	29	404	36	87	376	299	304	485	274	523	3648
1935	807	175	37	84	74	78	299	117	383	251	101	193	2599
1936	474	376	287	74	208	159	416	285	267	86	73	468	3173

URALLA RAINFALL STATISTICS

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1937	426	183	443	59	137	286	168	268	70	278	258	325	2901
1938	299	180	62	173	294	86	227	393	103	241	504	22	2584
1939	459	126	639	150	41	262	148	279	21	191	332	237	2885
1940	177	285	386	201	40	82	12	52	177	176	329	267	2184
1941	1016	247	803	17	78	440	32	86	83	294	279	56	3431
1942	221	462	251	6	120	237	519	65	186	453	372	334	3226
1943	420	143	20	132	170	171	161	290	371	172	501	507	3058
1944	601	213	58	53	223	33	262	427	112	108	94	314	2498
1945	265	447	158	157	285	255	220	287	124	113	300	207	2818
1946	938	169	491	163	208	115	29	2	285	115	207	285	3007
1947	334	706	305	217	56	62	141	261	313	255	483	691	3824
1948	582	201	251	115	168	380	147	228	232	95	339	203	2941
1949	428	640	253	167	171	363	241	1093	500	590	455	403	5304
1950	289	411	189	182	305	931	840	181	209	932	783	39	5291
1951	765	270	270	149	154	424	123	365	145	18	123	217	3023
1952	367	601	254	217	282	368	132	704	175	583	110	304	4097
1953	221	673	155	74	281	29	161	359	118	225	297	192	2785
1954	247	681	42	85	89	229	139	183	96	515	431	398	3135
1955	494	1211	43	162	193	324	195	212	177	834	249	309	4403
1956	438	1119	407	138	544	478	178	62	168	441	110	321	4404
1957	434	436	141	221	3	144	172	252	73	92	17	502	2487
1958	342	327	179	137	186	127	157	212	307	400	195	726	3295
1959	486	571	191	84	85	90	266	13	234	223	576	616	3435
1960	306	484	63	344	243	84	346	181	143	181	376	385	3136
1961	173	377	202	113	85	97	208	267	112	247	852	238	2971
1962	993	367	167	117	338	50	255	227	239	488	308	433	3982
1963	498	159	542	202	617	197	117	310	65	218	285	259	3469
1964	861	98	480	258	98	148	364	150	273	501	169	153	3553

WANDSWORTH RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1895					NO RECORDS						415	755	
1896	364	537	227	178	151	113	308	339	165	182	520	739	3823
1897	552	331	137	3	59	300	427	210	325	332	44	585	3305
1898	416	453	21	27	180	299	126	193	330	150	127	163	2485
1899	574	101	127	371	136	322	157	234	173	391	311	320	3217
1900	188	536	687	251	411	314	351	60	184	62	388	464	3896
1901	314	132	300	263	199	225	202	781	45	229	216	257	3163
1902	197	97	231	25	61	137	36	301	207	395	419	640	2746
1903	95	59	400	391	309	538	528	446	669	365	359	462	4621
1904	58	221	495	182	425	177	423	177	216	393	272	216	3255
1905	333	298	379	596	283	171	187	149	53	274	224	426	3373
1906	487	207	445	23	40	172	181	377	328	375	303	466	3404
1907	691	434	722	202	81	389	126	278	66	198	473	265	3925
1908	88	467	400	258	59	263	100	304	499	250	101	280	3069
1909	120	478	168	394	111	325	162	565	114	209	464	297	3407
1910	756	110	682	112	70	302	304	188	44	459	210	462	3699
1911	848	318	187	60	194	106	239	147	284	321	454	241	3399
1912	237	502	482	0	24	326	476	280	168	373	152	154	3174
1913	373	425	351	172	480	402	92	82	201	417	113	272	3380
1914	542	164	869	82	151	411	134	19	103	333	396	329	3533
1915	226	107	80	227	161	257	359	197	317	90	38	388	2447
1916	446	406	164	433	58	387	395	481	197	391	588	596	4542
1917	633	511	103	53	67	158	179	178	772	259	1182	486	4581
1918	461	39	76	147	58	22	95	390	68	113	319	138	1926
1919	167	168	206	91	211	36	54	133	47	208	46	490	1857
1920	255	184	149	74	177	710	428	333	238	254	181	505	3488
1921	99	286	459	165	808	506	538	95	309	542	327	950	5084
1922	152	142	67	73	5	222	369	109	387	179	276	692	2673
1923	258	40	235	54	40	393	347	103	336	214	235	488	2743
1924	188	575	146	292	54	331	366	315	296	362	452	440	3817
1925	526	207	179	55	274	80	225	211	11	139	473	631	3011
1926	193	267	329	162	278	277	191	136	172	91	50	575	2721
1927	507	50	268	312	25	133	67	28	11	112	549	265	2327
1928	474	650	215	224	131	589	436	11	82	386	274	225	3697
1929	168	781	347	385	64	123	100	333	231	349	187	333	3401
1930	502	319	618	94	106	396	247	243	141	307	442	105	3520

WANDSWORTH RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1931	285	328	610	442	450	442	288	93	338	143	445	340	4204
1932	338	74	354	440	52	145	213	76	498	254	326	511	3281
1933	944	73	59	143	291	361	344	171	393	714	400	339	4232
1934	685	449	68	433	55	149	307	305	242	477	353	409	3932
1935	390	211	55	58	109	132	236	86	296	321	191	239	2324
1936	311	133	323	117	211	166	439	209	193	59	73	680	2914
1937	277	285	380	66	90	224	158	220	230	126	354	259	2669
1938	301	484	53	65	351	188	288	364	121	401	357	76	3049
1939	435	53	368	235	23	435	241	262	19	276	230	379	3006
1940	268	340	258	167	65	51	9	75	157	88	140	498	2116
1941	588	244	480	18	74	512	92	58	67	231	572	61	2997
1942	251	314	200	151	151	321	449	47	142	483	302	475	3286
1943	591	249	21	138	77	212	201	274	190	225	943	363	3484
1944	467	156	52	100	295	62	267	523	124	155	129	411	2741
1945	1143	673	34	153	263	238	287	229	169	101	223	351	3864
1946	883	202	523	112	125	150	111	0	284	101	223	316	3030
1947	323	304	245	196	58	68	196	267	521	397	434	778	3787
1948	583	426	272	146	132	259	244	190	144	128	459	261	3244
1949	352	524	156	163	142	326	282	304	366	944	530	291	4380
1950	394	518	293	233	196	758	654	75	295	828	632	10	4886
1951	637	156	133	110	169	486	203	154	50	0	84	306	2488
1952	234	613	200	133	241				NO RECORDS				
1953							NO RECORDS						
1954			NO RECORDS				131	165	63	654	523	59	
1955	444	964	12	179	210	238	182	140	130	563	300	385	3747
1956	542	969	56	187	442	437	176	48	282	372	70	261	3842
1957	250	285	344	230	10	157	36	78	62	237	95	161	1945
1958	197	382	201	52	227	76	92	319	508	210	179	294	2737
1959	738	486	428	44	144	66	259	0	255	301	315	816	3852
1960	234	161	120	171	275	60	326	240	133	136	291	151	2298
1961	138	423	195	105	20	78	240	256	99	322	451	286	2613
1962	963	320	120	20	108	60	413	197	187	246	261	575	3470
1963	192	185	544	210	704	213	40	430	72	99	418	304	3411
1964	495	120	383	154	233	72	221	143	358	456	175	118	2928

WARIALDA RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1879	149	761	643	544	524	139	228	509	396	383	179	287	4742
1880	119	472	175	238	148	35	60	6	347	170	134	387	2291
1881	545	193	152	7	163	46	9	150	386	243	284	83	2261
1882	75	389	51	132	146	275	124	137	11	248	241	240	2069
1883	273	692	94	195	304	30	66	94	123	348	86	166	2471
1884	71	214	1	107	207	181	225	36	275	65	298	143	1823
1885	412	443	174	20	47	254	4	43	216	57	404	278	2352
1886	182	42	138	357	433	444	323	581	124	573	434	232	3863
1887	468	655	405	73	112	139	301	342	44	92	281	638	3550
1888	122	763	81	5	93	36	0	0	155	73	44	311	1683
1889	203	183	379	343	445	318	162	238	55	178	566	272	3342
1890	704	526	846	309	432	284	82	76	165	435	216	206	4281
1891	740	118	116	235	74	329	216	259	411	151	243	380	3272
1892	134	202	607	149	200	359	211	48	551	559	275	451	3746
1893	141	498	187	230	153	412	181	159	7	281	345	48	2642
1894	406	175	1189	337	171	261	62	103	73	633	92	130	3632
1895	961	34	5	22	70	31	81	52	273	105	414	560	2608
1896	715	606	283	231	167	75	160	196	147	51	411	493	3535
1897	381	126	147	0	12	425	474	134	284	214	3	597	2797
1898	355	276	1	0	211	268	41	86	234	147	60	75	1754
1899	635	226	48	368	7	218	252	246	417	222	127	150	2916
1900	126	332	470	197	191	215	330	0	136	11	262	181	2451
1901	489	16	365	240	294	215	75	292	63	89	134	142	2414
1902	98	57	72	13	2	89	7	306	98	157	111	323	1333
1903	59	0	277	106	199	224	562	390	509	217	298	385	3226
1904	92	353	703	45	413	103	194	141	260	381	207	243	3135
1905	339	194	215	384	166	60	71	74	9	201	114	87	1914
1906	131	273	321	82	87	141	109	388	371	333	222	118	2576
1907	353	69	514	201	63	296	83	168	22	141	298	226	2434
1908	200	840	575	123	19	179	48	249	216	216	219	185	3069
1909	94	600	97	137	118	373	149	417	98	136	163	421	2803
1910	1428	118	767	103	31	323	179	52	18	258	202	253	3732
1911	899	590	190	70	262	25	135	266	122	126	245	99	3029
1912	136	324	372	0	5	589	287	179	145	189	124	130	2480
1913	292	230	381	142	618	357	43	4	86	174	70	289	2686
1914	322	324	612	129	368	46	182	15	10	269	84	569	2930
1915	100	91	15	117	165	133	262	276	118	21	0	220	1518

WARIALDA RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1916	150	467	172	691	42	327	334	265	165	222	576	697	4108
1917	505	325	88	6	25	146	125	80	484	153	982	368	3287
1918	537	27	97	95	74	34	153	439	9	113	52	39	1669
1919	170	120	48	61	259	8	47	56	15	141	34	238	1197
1920	318	250	75	131	159	607	294	160	360	212	186	522	3274
1921	295	77	325	96	664	474	617	53	214	356	272	444	3887
1922	254	32	91	106	10	171	280	20	345	104	78	274	1765
1923	113	34	228	32	39	325	160	28	161	123	94	425	1762
1924	181	408	28	466	52	193	216	304	149	242	452	176	2867
1925	697	177	151	0	268	46	114	188	1	45	619	230	2536
1926	117	55	121	176	161	101	210	91	140	33	3	426	1634
1927	647	70	460	216	9	140	4	88	34	196	579	424	2867
1928	304	539	286	293	97	406	291	21	12	184	149	89	2671
1929	156	315	107	586	25	141	68	219	101	316	140	160	2334
1930	253	133	380	75	111	436	258	202	165	418	454	85	2970
1931	105	103	1240	313	331	326	169	86	203	104	261	687	3928
1932	98	70	222	383	118	104	213	34	374	89	177	91	1973
1933	551	75	27	84	212	236	361	125	276	458	409	223	3037
1934	189	536	9	393	80	165	242	201	198	424	227	220	2884
1935	407	215	13	143	39	12	230	74	267	167	41	36	1644
1936	187	174	146	35	220	59	289	139	177	11	20	280	1737
1937	169	103	635	42	26	114	131	64	176	131	468	194	2253
1938	286	132	73	119	577	88	127	184	88	216	325	32	2247
1939	411	21	314	132	21	222	273	194	25	195	125	127	2060
1940	94	369	372	121	14	17	9	42	96	86	181	532	1933
1941	595	654	356	57	35	190	38	20	9	132	470	12	2568
1942	147	244	56	0	149	157	350	20	28	511	278	891	2831
1943	114	133	152	193	124	128	151	130	93	191	646	224	2279
1944	343	52	14	30	214	32	192	390	74	109	49	91	1590
1945	319	449	33	56	141	467	193	187	108	35	128	196	2312
1946	996	179	77	147	81	35	19	1	376	73	121	175	2280
1947	99	470	442	178	64	90	105	259	250	206	344	449	2956
1948	357	207	206	143	252	416	196	87	110	45	220	350	2589
1949	297	650	94	90	75	258	145	75	337	555	284	178	3038
1950	202	444	224	296	177	518	651	68	241	583	803	60	4267
1951	598	114	121	65	132	335	31	122	107	84	49	126	1884

WARIALDA RAINFALL STATISTICS
(Points)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1952	37	548	272	239	191	171	130	402	190	665	34	134	3013
1953	274	839	94	45	224	0	51	323	44	237	247	46	2424
1954	178	573	53	17	73	132	196	170	80	803	665	225	3165
1955	297	1057	5	232	126	150	166	162	139	484	107	202	3127
1956	430	834	317	238	497	292	152	20	143	287	106	106	3422
1957	394	154	310	180	14	111	89	97	30	49	77	244	1749
1958	100	572	455	172	148	195	31	172	378	218	123	392	2956
1959	447	614	450	45	151	47	196	7	153	238	598	660	3606
1960	197	233	28	69	177	132	262	154	133	419	197	230	2231
1961	199	280	364	108	149	110	164	202	27	147	635	188	2573
1962	915	180	438	89	111	21	156	193	207	181	121	603	3215
1963	149	187	470	25	403	114	26	166	75	91	663	403	2772
1964	279	160	302	500	257	38	233	108	213	402	131	166	2789

STATISTICAL RAINFALL DATA
(Points)

Station	Rainfall Statistic	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Bingara (Period 79 years)	Minimum	12	3	0	0	7	7	0	0	4	25	1	0	1554
	10%	100	51	19	4	15	43	37	27	19	73	42	60	1997
	30%	175	160	92	72	65	103	118	86	91	144	120	175	2461
	50%	246	255	192	144	136	199	168	148	150	258	208	270	2864
	70%	405	386	349	212	250	289	244	214	220	368	326	353	3300
	90%	713	710	643	377	475	449	419	416	352	537	598	649	4219
	Maximum	2187	1262	1144	631	844	690	910	741	561	943	1090	986	4785
Bundarra (Period 64 years)	Minimum	41	21	9	0	3	18	0	0	3	22	32	16	1308
	10%	118	70	27	18	28	44	46	39	20	89	73	87	2067
	30%	205	141	145	77	78	105	127	103	100	181	181	196	2609
	50%	326	257	236	135	139	155	170	184	155	249	290	256	2914
	70%	473	368	342	195	210	292	283	259	230	363	440	376	3312
	90%	605	650	549	389	365	421	375	400	347	530	621	595	3948
	Maximum	1345	1443	966	633	672	704	796	529	616	839	948	890	4783
Bunna Bunna (Period 76 years)	Minimum	0	0	0	0	0	0	0	0	0	7	0	0	534
	10%	40	10	0	2	9	27	18	0	3	29	28	33	1295
	30%	123	55	56	50	44	82	76	46	48	82	62	95	1769
	50%	209	148	174	102	97	156	113	87	95	133	132	156	2039
	70%	298	338	291	168	192	220	174	148	150	222	254	307	2488
	90%	609	677	502	336	358	365	373	276	288	360	400	478	3018
	Maximum	904	1033	1064	574	606	636	641	609	455	636	806	1003	4737

STATISTICAL RAINFALL DATA
(Points)

Station	Rainfall Statistic	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Collarenebri (Period 80 years)	Minimum	0	0	0	0	0	0	0	0	0	0	0	0	683
	10%	22	4	3	0	0	25	4	0	4	22	16	13	1054
	30%	104	60	63	27	34	77	60	26	31	46	70	83	1510
	50%	154	159	155	92	89	121	100	64	70	119	130	133	1933
	70%	294	326	248	149	173	183	164	101	115	166	231	213	2209
	90%	603	574	498	311	324	357	336	263	240	345	346	449	2777
	Maximum	798	1059	1000	838	562	532	628	531	619	658	687	828	4032
Crinolyn (Period 49 years)	Minimum	0	0	0	0	0	0	0	0	0	0	0	0	980
	10%	17	0	10	0	0	29	6	0	0	9	20	21	1189
	30%	122	80	74	40	43	57	45	17	41	65	62	94	1674
	50%	198	140	124	82	91	121	105	61	80	104	114	152	1972
	70%	375	255	249	156	188	174	150	108	148	198	254	304	2207
	90%	574	634	600	276	345	388	382	204	226	388	391	454	2735
	Maximum	780	858	983	469	462	465	892	381	402	517	658	877	4218
Edgeroi (Period 56 years)	Minimum	0	0	0	0	0	14	0	0	0	2	0	0	919
	10%	35	0	12	0	2	37	26	8	9	21	30	33	1418
	30%	114	72	79	39	46	108	86	68	55	69	92	104	1831
	50%	146	134	166	92	105	163	125	97	123	128	163	220	2113
	70%	230	188	295	194	177	250	191	172	207	210	239	305	2421
	90%	528	569	645	316	389	376	380	331	323	288	471	501	2838
	Maximum	777	758	1366	823	527	620	559	496	400	416	709	792	3810

STATISTICAL RAINFALL DATA
(Points)

Station	Rainfall Statistic	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Myall Plains (Period 63 years)	Minimum	0	0	0	0	0	0	0	0	0	0	0	0	722
	10%	26	0	0	0	0	18	0	0	0	3	0	34	1097
	30%	138	43	58	26	30	60	62	35	25	79	60	91	1594
	50%	189	151	150	90	87	102	104	75	73	125	102	161	1904
	70%	253	312	312	156	163	206	162	122	140	180	182	226	2219
	90%	562	664	457	336	334	351	383	212	290	333	392	459	2786
	Maximum	622	972	739	562	504	648	680	495	555	685	965	1121	4248
Guyra (Period 69 years)	Minimum	0	34	9	13	14	22	17	0	20	37	35	15	2181
	10%	147	106	42	42	50	72	96	51	41	117	73	132	2552
	30%	258	197	169	105	84	144	166	148	126	216	207	248	2940
	50%	402	308	242	162	129	235	223	197	182	301	286	357	3374
	70%	496	451	359	242	233	337	322	289	291	360	453	476	3687
	90%	739	643	534	366	369	478	483	354	398	602	634	627	4575
	Maximum	1101	1029	1114	578	799	1060	683	649	729	830	1009	980	5365
Inverell (Period 90 years)	Minimum	25	2	8	0	0	6	0	0	0	29	1	22	1662
	10%	108	60	31	18	29	51	50	23	19	69	75	90	2073
	30%	219	170	143	84	80	110	126	95	93	153	170	205	2564
	50%	346	266	226	151	156	174	172	151	163	223	262	298	2930
	70%	457	397	363	206	227	298	237	208	261	303	385	417	3376
	90%	807	720	532	334	350	431	407	392	303	553	517	698	3977
	Maximum	1048	1233	826	744	836	657	564	623	583	818	1087	1024	4860

STATISTICAL RAINFALL DATA
(Points)

Station	Rainfall Statistic	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Iolanthe (Period 53 years)	Minimum	5	0	0	0	0	0	0	0	0	0	0	0	838
	10%	40	18	4	0	0	19	9	2	0	36	9	32	1243
	30%	121	73	75	51	36	62	66	23	32	95	78	101	1649
	50%	177	127	167	96	88	102	102	84	96	151	138	155	2096
	70%	357	344	284	179	179	238	198	133	150	197	235	266	2506
	90%	562	746	605	313	351	407	318	247	269	389	424	459	2924
	Maximum	881	1031	843	497	654	622	777	382	481	551	806	574	4151
Moree (Period 85 years)	Minimum	27	8	0	0	0	0	0	0	0	5	0	1	797
	10%	62	23	8	0	9	25	12	7	7	53	32	27	1511
	30%	141	85	86	56	59	79	63	45	53	91	100	105	1885
	50%	195	190	155	93	115	136	117	110	110	185	166	195	2182
	70%	325	364	274	155	179	231	208	168	182	244	288	292	2544
	90%	539	617	547	313	401	381	351	302	311	386	487	438	3147
	Maximum	901	1329	1816	515	697	788	1048	490	486	770	708	807	4360
Mt. Lindsay (Period 75 years)	Minimum	28	0	0	0	0	14	0	0	0	26	0	0	1825
	10%	125	46	29	6	38	60	48	48	26	92	51	54	2506
	30%	249	130	156	106	107	164	151	152	87	178	122	180	3133
	50%	362	288	232	218	189	295	235	230	201	244	273	308	3638
	70%	513	475	433	280	359	434	357	398	286	361	422	430	4295
	90%	887	876	679	483	601	723	623	693	556	657	649	687	5133
	Maximum	1435	1659	1683	800	701	1638	1049	866	742	1426	1128	1255	7213

STATISTICAL RAINFALL DATA
(Points)

Station	Rainfall Statistic	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Uralla (Period 63 years)	Minimum	55	39	8	2	3	29	9	2	17	18	17	22	1980
	10%	168	105	42	30	35	78	46	57	49	108	97	120	2504
	30%	262	173	146	87	74	121	147	125	113	173	197	217	2788
	50%	351	269	242	157	120	202	220	227	177	225	297	304	3023
	70%	484	446	332	201	230	325	265	284	267	346	380	408	3435
	90%	759	664	516	344	360	466	411	382	397	509	561	603	4162
	Maximum	1016	1211	803	434	617	931	840	1093	599	932	852	726	5304
Wandsworth (Period 66 years)	Minimum	58	39	12	0	5	22	9	0	11	0	38	10	1857
	10%	148	74	54	26	35	65	84	48	49	97	81	147	2326
	30%	251	170	146	91	67	149	176	133	130	184	211	266	2935
	50%	368	292	233	153	139	231	237	197	191	256	302	339	3295
	70%	506	426	367	209	211	326	308	278	294	371	416	466	3681
	90%	743	548	564	392	415	492	437	402	424	479	536	652	4276
	Maximum	1143	969	869	596	808	758	654	781	772	944	1182	950	5084
Warialda (Period 86 years)	Minimum	37	0	1	0	2	0	0	0	1	11	0	12	1197
	10%	98	49	23	11	17	32	29	20	14	50	47	81	1721
	30%	149	133	94	70	74	103	91	74	88	126	123	161	2281
	50%	273	228	188	126	148	161	161	138	144	190	211	225	2656
	70%	393	444	363	201	200	267	216	196	216	247	297	347	3036
	90%	699	654	608	372	419	419	325	356	377	492	585	563	3736
	Maximum	1428	1057	1240	691	664	607	651	581	551	803	982	891	4742

MINIMUM RAINFALL RECORDED IN CONSECUTIVE MONTHS
(Points)

Station	Number of Months	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Bingara	1	12	3	0	0	7	7	0	0	4	25	1	0
	2	182	24	15	10	76	41	0	27	71	60	123	96
	3	251	100	89	134	82	41	102	194	160	196	178	320
	4	327	199	223	140	149	164	250	287	257	251	530	489
	5	420	277	265	177	285	308	287	454	361	682	653	509
	6	535	320	274	300	383	328	493	509	739	742	658	606
	7	541	518	408	444	464	557	548	916	749	747	683	721
	8	813	709	552	464	693	839	1008	1121	754	838	798	727
	9	930	933	572	693	928	1168	1168	1213	913	953	804	999
	10	1221	1013	801	975	1304	1352	1280	1280	1028	959	1076	1116
	11	1240	1110	1053	1304	1487	1390	1366	1395	1034	1231	1193	1407
	12	1554	1297	1412	1488	1492	1611	1481	1401	1306	1348	1484	1426
Bundarra	1	41	21	9	0	3	18	0	0	3	22	32	16
	2	64	84	44	39	72	61	32	29	116	79	204	222
	3	277	141	159	178	102	86	51	240	222	308	400	326
	4	277	195	205	182	154	179	302	351	415	422	530	424
	5	331	323	288	266	194	361	391	595	529	685	628	437
	6	459	323	517	411	402	431	635	721	747	783	641	552
	7	459	566	530	514	658	675	781	996	845	796	821	680
	8	702	634	717	671	902	821	1111	1177	858	1021	908	680
	9	825	821	769	915	1048	1151	1239	1255	1085	1063	948	843
	10	1012	873	1013	1061	1378	1279	1295	1441	1125	1103	1047	856
	11	1064	1117	1159	1391	1506	1335	1481	1525	1165	1202	1060	1043
	12	1308	1263	1489	1519	1562	1521	1696	1565	1264	1215	1247	1095

MINIMUM RAINFALL RECORDED IN CONSECUTIVE MONTHS
(Points)

Station	Number of Months	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Collarenebri	1	0	0	0	0	0	0	0	0	0	0	0	0
	2	36	0	0	0	4	4	0	9	29	16	20	14
	3	53	19	0	13	4	21	22	40	39	20	95	104
	4	100	19	18	13	74	33	50	56	100	111	172	109
	5	100	46	18	82	117	61	66	176	179	187	248	118
	6	104	92	82	117	125	77	176	188	261	261	275	118
	7	104	201	117	125	141	223	283	270	300	288	359	122
	8	338	342	125	141	251	330	421	309	452	405	363	122
	9	354	472	141	251	358	567	477	616	452	409	363	356
	10	484	505	251	358	640	610	648	620	456	409	597	372
	11	569	587	358	640	680	756	648	624	456	643	613	502
	12	683	671	640	680	809	756	738	624	690	659	743	587
Edgeroi	1	0	0	0	0	0	14	0	0	0	2	0	0
	2	15	23	15	0	16	16	31	5	39	41	57	44
	3	77	69	17	43	16	84	69	49	109	147	57	59
	4	104	69	85	43	158	92	204	144	161	152	72	172
	5	104	85	85	228	205	227	258	255	161	167	346	199
	6	120	85	260	312	350	281	479	327	176	448	373	199
	7	120	340	394	392	420	502	578	391	457	488	373	215
	8	375	394	434	447	648	700	633	625	533	488	389	215
	9	429	434	489	757	813	793	799	807	533	504	389	470
	10	469	489	776	901	936	822	908	818	549	504	627	524
	11	524	884	920	981	1095	931	1041	892	549	722	698	564
	12	919	1048	1000	1122	1204	1090	1076	892	731	813	738	619

MINIMUM RAINFALL RECORDED IN CONSECUTIVE MONTHS
(Points)

Station	Number of Months	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Myall Plains (Eurimbla)	1	0	0	0	0	0	0	0	0	0	0	0	0
	2	53	0	0	0	22	17	0	0	0	0	21	37
	3	54	38	0	26	22	17	15	0	0	53	77	79
	4	54	48	26	26	54	38	15	0	53	77	131	214
	5	60	68	26	99	69	38	15	145	77	262	281	292
	6	80	68	101	101	69	38	271	145	262	322	363	389
	7	80	169	101	101	69	442	313	262	322	445	394	412
	8	331	261	101	101	442	453	430	322	465	476	417	427
	9	357	261	101	513	503	570	490	704	496	499	432	427
	10	411	261	573	546	620	630	746	776	519	514	432	427
	11	411	662	646	663	680	819	776	793	534	514	432	427
	12	722	686	792	723	850	844	895	793	534	514	432	427
Guyra	1	0	34	9	13	14	22	17	0	20	37	35	15
	2	67	68	52	37	92	97	89	81	132	107	270	203
	3	284	205	177	225	158	169	162	248	259	353	476	430
	4	562	349	285	320	230	232	385	419	448	656	694	755
	5	620	416	515	392	341	465	482	737	751	850	949	818
	6	875	638	642	572	526	536	837	986	901	1197	1012	899
	7	936	773	859	688	720	908	1133	1254	1248	1353	1093	1040
	8	1202	1069	975	882	1079	1168	1350	1601	1384	1434	1234	1101
	9	1367	1254	1169	1239	1321	1372	1678	1674	1465	1575	1295	1367
	10	1650	1448	1450	1386	1442	1719	1774	1799	1606	1636	1561	1532
	11	1809	1715	1597	1609	1789	1828	1928	1978	1667	1902	1726	1842
	12	2181	1868	1805	1956	2012	1963	2107	2197	1933	2067	2036	1965

MINIMUM RAINFALL RECORDED IN CONSECUTIVE YEARS
(Points)

Station	Number of Months	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Moree	1	27	8	0	0	0	0	0	0	0	5	0	1
	2	76	22	0	0	43	6	0	3	29	17	33	62
	3	116	57	9	43	47	6	38	95	92	147	118	150
	4	144	57	52	47	80	91	129	147	164	208	308	159
	5	144	100	56	80	218	190	151	202	219	398	310	159
	6	187	104	208	218	302	222	352	244	409	512	441	159
	7	191	239	298	302	336	465	445	574	529	566	485	202
	8	428	346	429	427	537	527	578	664	583	641	528	206
	9	433	477	492	539	601	607	786	728	686	684	532	443
	10	564	540	662	601	681	832	850	831	729	688	769	448
	11	627	710	839	681	915	925	935	937	733	925	774	579
	12	797	887	889	915	1192	1056	1005	941	970	930	905	642
Uralla	1	55	39	8	2	3	29	9	2	17	18	17	22
	2	94	136	87	53	117	67	31	37	156	103	247	255
	3	341	218	152	191	134	146	98	295	182	358	363	420
	4	474	270	273	228	186	203	353	434	503	487	733	667
	5	509	411	307	387	215	426	503	771	870	911	997	845
	6	636	439	591	486	470	561	830	1019	1027	1139	1124	949
	7	664	723	675	740	753	994	1051	1363	1269	1316	1152	1246
	8	948	780	963	955	1135	1224	1415	1579	1431	1420	1565	1255
	9	1032	1035	1115	1336	1456	1473	1588	1617	1620	1683	1574	1355
	10	1320	1309	1440	1586	1600	1646	1626	1720	1721	1692	1674	1410
	11	1653	1540	1678	1638	1847	1684	1729	2057	1730	1792	1729	1614
	12	1980	1810	1717	1885	1916	1787	2127	2066	1830	1847	1933	1749

MINIMUM RAINFALL RECORDED IN CONSECUTIVE YEARS
(Points)

Station	Number of Months	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Warialda	1	37	0	1	0	2	0	0	0	1	11	0	12
	2	59	39	1	5	31	26	0	25	46	21	77	158
	3	206	61	87	104	40	36	67	147	139	204	212	293
	4	240	131	128	111	82	126	199	246	213	296	381	369
	5	242	162	183	134	178	250	272	455	383	494	429	382
	6	331	240	215	289	264	301	519	525	503	542	490	384
	7	338	295	370	362	401	539	556	875	551	603	518	473
	8	644	568	443	406	711	747	950	947	612	607	607	480
	9	742	673	487	717	811	1005	1022	960	670	696	614	786
	10	899	789	798	920	1098	1177	1035	962	759	703	860	823
	11	959	1027	1001	1103	1251	1238	1037	1051	766	973	875	964
	12	1197	1294	1184	1346	1312	1252	1126	1058	982	988	1016	998

GWYDIR RIVER AT YARROWYCK

LOCATION:	Latitude 30°28' Longitude 151°21'
PERIOD OF ESTABLISHMENT:	December 1954 to date.
COMPLETE YEARS OF COMPUTED RECORDS:	11
ZERO OF GAUGE:	R.L. 34.52 Assumed Datum.
CATCHMENT AREA:	330 square miles.
CONTROL:	Gravel and sand.
EQUIPMENT:	Staff gauge, range 0 to 20 feet.
CURRENT METER OBSERVATIONS:	(a) Number obtained : 81
	(b) Maximum observation in cusecs : 12,784
	(c) Minimum observation in cusecs : 0
MAXIMUM ESTIMATED DISCHARGE DURING PERIOD OF RECORDS:	52,500 cusecs.
MEAN DAILY DISCHARGE FOR 11 YEARS:	110 cusecs.
MEAN ANNUAL DISCHARGE FOR 11 YEARS:	81,900 acre feet.

GWYDIR RIVER AT YARROWYCK

Year 1955

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	72	4	10	596
Feb.	52500	4	1096	61,428
Mar.	109	6	30	1,884
Apr.	17	3	7	418
May	48	4	16	966
June	3240	11	164	9,858
July	265	17	91	5,622
Aug.	548	24	115	7,140
Sept.	324	14	61	3,648
Oct.	21900	11	916	56,786
Nov.	3600	17	137	8,230
Dec.	54	2	13	836
Total	..	..	..	157,412

Year 1956

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	88	0.3	17	1,034
Feb.	33000	17	1436	83,282
Mar.	13000	17	355	22,062
Apr.	41	5	19	1,144
May	1980	31	257	17,926
June	18800	52	594	35,670
July	1060	221	327	20,296
Aug.	376	16	53	3,242
Sept.	368	16	45	2,718
Oct.	1260	13	153	9,512
Nov.	265	2	93	5,609
Dec.	42	0.8	6	400
Total	..	..	..	202,895

Year 1957

Jan.	54	0.4	11	692
Feb.	448	0.3	25	1,407
Mar.	32	0.8	5	304
Apr.	14	0.8	3	207
May	5	1	2	119
June	11	2	4	253
July	22	4	9	562
Aug.	42	4	13	829
Sept.	24	0.6	6	334
Oct.	1	0	0.2	12
Nov.	4	0	0.8	48
Dec.	119	0	19	1,204
Total	..	..	..	5,971

Year 1958

Jan.	24	0.2	3	169
Feb.	210	1	16	923
Mar.	70	0.3	8	524
Apr.	0.6	0.1	0.3	18
May	5	0	1	73
June	5	0.8	1	86
July	32	3	12	716
Aug.	210	3	35	2,172
Sept.	1210	15	145	8,687
Oct.	3240	11	267	16,572
Nov.	59	1	11	651
Dec.	4650	1	221	13,700
Total	..	..	..	44,291

Year 1959

Jan.	6800	4	199	12,346
Feb.	4360	11	319	17,852
Mar.	499	7	61	3,787
Apr.	205	4	34	2,020
May	14	2	4	277
June	18	1	4	224
July	960	4	60	3,706
Aug.	60	6	19	1,174
Sept.	386	3	26	1,592
Oct.	50	5	17	1,029
Nov.	5250	8	289	17,334
Dec.	4000	9	295	18,281
Total	..	..	..	79,622

Year 1960

Jan.	95	1	27	1,664
Feb.	20	0.5	5	310
Mar.	10	0	2	135
Apr.	31	0	6	369
May	68	4	17	1,053
June	95	5	14	862
July	1500	14	209	12,950
Aug.	5850	17	271	16,826
Sept.	29	12	15	873
Oct.	186	2	17	1,038
Nov.	6320	0	153	9,180
Dec.	125	1	13	820
Total	..	..	..	46,080

GWYDIR RIVER AT YARROWYCK

Year 1961

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	12	0	2	97
Feb.	12	0	2	142
Mar.	110	0	5	323
Apr.	5	0	1	86
May	6	1	2	132
June	10	2	4	261
July	18	2	7	410
Aug.	110	5	22	1,346
Sept.	50	2	11	642
Oct.	37	0.7	5	332
Nov.	3240	0	230	13,792
Dec.	736	3	83	5,120
Total	..	..	..	22,683

Year 1962

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	17900	18	600	37,200
Feb.	212	6	51	2,880
Mar.	18	2	7	439
Apr.	18	1	6	331
May	65	0.8	17	1,023
June	95	4	20	1,198
July	1980	4	132	8,186
Aug.	1320	15	173	10,714
Sept.	632	12	74	4,462
Oct.	3800	4	167	10,352
Nov.	538	4	40	2,408
Dec.	74	1.1	18	1,130
Total	..	..	..	80,323

Year 1963

Jan.	1210	4	139	8,610
Feb.	125	0.2	20	1,108
Mar.	1980	0.5	160	9,933
Apr.	461	5	60	3,576
May	25300	37	971	60,198
June	3520	60	317	19,034
July	365	40	86	5,300
Aug.	6800	21	439	27,232
Sept.	425	17	79	4,758
Oct.	485	7	42	2,618
Nov.	310	5	41	2,488
Dec.	267	4	55	3,424
Total	..	..	..	148,279

Year 1964

Jan.	45900	0	657	40,720
Feb.	32	0	8	474
Mar.	870	6	86	5,354
Apr.	84	2	17	1,004
May	63	6	13	822
June	193	6	27	1,628
July	2980	17	352	21,808
Aug.	415	15	49	3,008
Sept.	1980	15	103	6,190
Oct.	3940	40	275	17,038
Nov.	210	27	62	3,692
Dec.	40	3	15	938
Total	..	..	..	102,676

Year 1965

Jan.	16	0	4	275
Feb.	4	0	0.5	27
Mar.	0	0	0	0
Apr.	0.1	0	0	0.2
May	4	0.2	1	69
June	8	0.2	4	213
July	21	0.2	5	334
Aug.	17	2	5	288
Sept.	19	0.1	5	321
Oct.	4	0	0.7	42
Nov.	40	0	2	135
Dec.	3110	0.5	153	9,460
Total	..	..	..	11,164

GWYDIR RIVER AT BUNDARRA

LOCATION:	Latitude 30°10' Longitude 151°05'
PERIOD OF ESTABLISHMENT:	December 1936 to date.
COMPLETE YEARS OF COMPUTED RECORDS	29
ZERO OF GAUGE:	R.L. 26.98 Assumed Datum.
CATCHMENT AREA:	1,580 square miles.
CONTROL:	Rock.
EQUIPMENT:	Staff gauge, range 0 to 35 feet.
CURRENT METER OBSERVATIONS:	(a) Number obtained : 191
	(b) Maximum observation in cusecs : 60,790
	(c) Minimum observation in cusecs : 0
MAXIMUM ESTIMATED DISCHARGE DURING PERIOD OF RECORDS:	150,000 cusecs.
MEAN DAILY DISCHARGE FOR 29 YEARS:	460 cusecs.
MEAN ANNUAL DISCHARGE FOR 29 YEARS:	337,900 acre feet.

GWYDIR RIVER AT BUNDARRA

Year 1937

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	600	8	99	6,114
Feb.	172	4	29	1,606
Mar.	9060	0	479	29,682
Apr.	27	6	11	672
May	8	5	6	390
June	164	8	39	2,366
July	172	11	41	2,540
Aug.	560	24	146	9,028
Sept.	13800	19	629	37,716
Oct.	156	15	38	2,334
Nov.	1275	15	117	7,022
Dec.	190	0	33	2,070
Total	..	..	..	101,540

Year 1938

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	870	0	51	3,150
Feb.	270	15	65	3,642
Mar.	15	0	3	194
Apr.	0	0	0	0
May	8	0	1	70
June	68	4	15	898
July	630	6	73	4,522
Aug.	6970	114	923	57,224
Sept.	350	31	121	7,286
Oct.	3170	24	305	18,932
Nov.	3480	19	394	23,674
Dec.	248	0	38	2,334
Total	..	..	..	121,926

Year 1939

Jan.	24	0	5	302
Feb.	11	0	2	126
Mar.	295	0	41	2,554
Apr.	5	2	3	176
May	2.5	0	0.5	28
June	102	0	16	970
July	1250	15	197	12,198
Aug.	960	35	302	18,706
Sept.	58	4	18	1,054
Oct.	21	5	9	568
Nov.	670	0	32	1,921
Dec.	1460	0	72	4,463
Total	..	..	..	43,066

Year 1940

Jan.	24	0	4	273
Feb.	208	0	13	760
Mar.	3030	0	134	8,318
Apr.	19	0	3	195
May	4	0	0.6	37
June	0	0	0	0
July	0	0	0	0
Aug.	0	0	0	0
Sept.	0	0	0	0
Oct.	0	0	0	0
Nov.	0	0	0	0
Dec.	248	0	41	2,564
Total	..	..	..	12,147

Year 1941

Jan.	11700	58	983	60,962
Feb.	3020	19	309	17,290
Mar.	37400	6	1380	85,546
Apr.	190	23	70	4,228
May	32	13	18	1,102
June	3720	19	726	43,554
July	750	75	195	12,054
Aug.	75	26	47	2,892
Sept.	38	10	22	1,296
Oct.	1100	8	59	3,634
Nov.	3030	13	349	20,914
Dec.	79	0	9	532
Total	..	..	..	254,004

Year 1942

Jan.	11	0	0.6	39
Feb.	710	2	121	6,768
Mar.	15	0	2	125
Apr.	7	0	1	71
May	0	0	0	0
June	0	0	0	0
July	23200	0	1616	100,176
Aug.	350	32	117	7,224
Sept.	140	21	47	2,838
Oct.	11700	10	945	58,578
Nov.	4760	62	453	27,182
Dec.	530	17	82	5,114
Total	..	..	..	208,115

GWYDIR RIVER AT BUNDARRA

Year 1943

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	17600	38	1161	71,970
Feb.	1250	7	230	12,886
Mar.	7	0	2	132
Apr.	0	0	0	0
May	0	0	0	0
June	4	0	2	116
July	15	2	5	310
Aug.	380	11	112	6,924
Sept.	3320	19	324	19,454
Oct.	No Records			9,000*
Nov.	No Records			76,600*
Dec.	830	4	129	8,018
Total	..	..	..	205,410*

Year 1944

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	2300	24	232	20,036
Feb.	208	13	47	2,704
Mar.	10	1	4	219
Apr.	1.5	0	0.5	27
May	0	0	0	0
June	6	0	4	236
July	750	3	162	10,026
Aug.	33500	17	1597	98,988
Sept.	420	61	137	8,222
Oct.	61	2	16	992
Nov.	4	0	1.7	104
Dec.	222	0	22	1,356
Total	..	..	..	142,910

Year 1945

Jan.	1130	0	77	4,802
Feb.	2420	3	198	11,094
Mar.	620	1	64	3,936
Apr.	1	0	0.5	34
May	10	0	2	138
June	680	6	128	7,662
July	4180	19	424	26,304
Aug.	2110	61	303	18,799
Sept.	7000	25	511	30,686
Oct.	80	6	31	1,932
Nov.	6	1	3	184
Dec.	126	0	29	1,772
Total	..	..	..	107,343

Year 1946

Jan.	65000	0	1628	100,942
Feb.	680	14	92	5,132
Mar.	7000	1	216	13,374
Apr.	154	19	52	3,124
May	38	6	16	984
June	14	4	6	366
July	22	10	15	960
Aug.	10	2	4	260
Sept.	140	2	24	1,466
Oct.	70	2	17	1,026
Nov.	1560	0	36	2,148
Dec.	8	0	3	158
Total	..	..	..	129,940

Year 1947

Jan.	0	0	0	0
Feb.	530	0	87	4,898
Mar.	11400	6	427	26,444
Apr.	38	4	11	670
May	19	3	8	512
June	8	3	5	304
July	16	3	7	406
Aug.	300	5	62	3,860
Sept.	10200	38	678	40,690
Oct.	11400	38	510	31,600
Nov.	776	2	121	7,276
Dec.	26600	259	1714	106,280
Total	..	..	..	222,940

Year 1948

Jan.	75000	75	2917	180,834
Feb.	836	14	73	4,234
Mar.	836	38	269	16,658
Apr.	222	10	34	2,016
May	231	19	59	3,684
June	1447	16	295	17,690
July	3092	113	464	28,762
Aug.	1260	57	238	14,726
Sept.	2215	41	241	14,476
Oct.	186	14	54	3,328
Nov.	4315	10	281	16,860
Dec.	19	3	10	600
Total	..	..	..	303,868

* Estimated

GWYDIR RIVER AT BUNDARRA

Year 1949

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	643	1	72	4,460
Feb.	7240	3	540	30,226
Mar.	249	12	70	4,326
Apr.	38	3	9	564
May	140	6	37	2,284
June	2215	19	310	18,590
July	7895	38	653	40,508
Aug.	142000	65	5608	347,690
Sept.	43000	494	2821	169,282
Oct.	60000	494	3521	218,296
Nov.	4315	113	665	39,872
Dec.	597	35	193	11,942
Total	..	..	..	888,040

Year 1950

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	107	14	40	2,450
Feb.	1200	10	270	15,134
Mar.	587	3	60	3,730
Apr.	279	6	77	4,594
May	75	4	21	1,296
June	56620	35	5011	300,656
July	120920	545	9025	559,570
Aug.	4765	369	939	58,190
Sept.	3093	101	563	33,752
Oct.	23760	494	5180	321,166
Nov.	62910	439	5187	311,224
Dec.	836	25	196	12,176
Total	..	..	..	1,623,938

Year 1951

Jan.	680	25	120	7,452
Feb.	345	31	106	4,916
Mar.	222	19	54	3,354
Apr.	19	6	14	844
May	154	10	27	1,668
June	2750	31	499	29,930
July	2750	154	447	27,692
Aug.	5000	222	1373	85,130
Sept.	356	70	167	10,042
Oct.	176	6	55	3,432
Nov.	6	2	4	248
Dec.	81	1	8	471
Total	..	..	..	175,179

Year 1952

Jan.	4	0.5	2	156
Feb.	2060	0	105	6,064
Mar.	515	6	122	7,576
Apr.	70	14	46	2,746
May	2500	14	467	28,930
June	14050	60	1596	95,774
July	5520	70	780	48,356
Aug.	62910	345	4856	301,054
Sept.	740	212	411	24,650
Oct.	79160	176	3468	215,006
Nov.	540	40	168	10,092
Dec.	92	4	22	1,336
Total	..	..	..	741,740

Year 1953

Jan.	81	8	30	1,866
Feb.	47000	3	2052	114,912
Mar.	390	32	119	7,394
Apr.	70	19	28	1,694
May	255	50	121	7,504
June	55	19	28	1,704
July	255	19	73	4,546
Aug.	2180	19	308	19,098
Sept.	740	19	138	8,260
Oct.	212	19	50	3,096
Nov.	144	10	29	1,722
Dec.	322	3	24	1,466
Total	..	..	..	173,262

Year 1954

Jan.	30	0.5	5	279
Feb.	740	0	74	4,148
Mar.	60	1	14	863
Apr.	1.2	0	0.2	12.8
May	0	0	0	0
June	14	0	5	283
July	14	6	8	468
Aug.	19	6	16	978
Sept.	12	4	8	476
Oct.	9050	4	1014	62,870
Nov.	35400	19	2200	132,030
Dec.	570	19	161	9,996
Total	..	..	..	212,404

GWYDIR RIVER AT BUNDARRA

Year 1955

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	277	4	54	3,350
Feb.	150000	19	7377	413,114
Mar.	5940	14	432	26,792
Apr.	32	14	24	1,444
May	223	5	44	2,716
June	13500	75	557	33,420
July	1660	98	367	22,740
Aug.	3000	212	488	30,272
Sept.	570	92	264	15,822
Oct.	54750	70	3719	230,600
Nov.	4720	99	475	28,520
Dec.	428	33	137	8,484
Total	..	..	..	817,274

Year 1956

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	2060	4	284	17,608
Feb.	118000	236	7881	457,120
Mar.	23000	93	928	57,524
Apr.	630	48	141	8,472
May	12400	300	2515	155,936
June	61250	345	2929	175,760
July	7250	345	1694	105,028
Aug.	465	112	227	14,046
Sept.	1080	93	212	12,730
Oct.	2220	90	292	18,134
Nov.	2060	27	269	16,114
Dec.	152	9	50	3,094
Total	..	..	..	1041,566

Year 1957

Jan.	390	3	53	3,292
Feb.	191	3	39	2,177
Mar.	124	5	33	2,034
Apr.	48	7	18	1,100
May	19	4	9	554
June	27	2	9	516
July	36	19	25	1,582
Aug.	236	19	54	3,340
Sept.	99	4	28	1,688
Oct.	4	0	1	72
Nov.	9	0	2	143
Dec.	100	0	12	764
Total	..	..	..	17,262

Year 1958

Jan.	12	0	2	115
Feb.	1410	14	183	10,254
Mar.	190	6	48	2,972
Apr.	4	0	0.6	34
May	36	0	9	559
June	6	0.4	3	170
July	48	6	24	1,464
Aug.	660	9	151	9,350
Sept.	3400	81	607	36,448
Oct.	14600	72	1087	67,418
Nov.	72	8	35	2,082
Dec.	2060	2	198	12,266
Total	..	..	..	143,132

Year 1959

Jan.	7350	57	775	48,064
Feb.	6300	40	812	45,458
Mar.	3200	88	570	35,356
Apr.	1350	33	215	12,908
May	111	8	33	2,060
June	48	17	26	1,592
July	3400	26	369	22,298
Aug.	203	26	74	4,608
Sept.	620	14	90	5,398
Oct.	236	32	102	6,346
Nov.	6600	55	721	43,268
Dec.	12000	26	1732	107,382
Total	..	..	..	334,738

Year 1960

Jan.	320	9	90	5,544
Feb.	346	6	91	5,292
Mar.	73	2	21	1,323
Apr.	39	1	13	765
May	174	20	58	3,596
June	161	14	37	2,208
July	6150	55	884	54,812
Aug.	15000	82	1041	64,554
Sept.	161	26	77	4,632
Oct.	174	9	53	3,256
Nov.	13800	9	697	41,846
Dec.	203	6	54	3,364
Total	..	..	..	191,192

GWYDIR RIVER AT BUNDARRA

Year 1961

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	47	0	9	535
Feb.	297	0	50	2,833
Mar.	375	4	43	2,670
Apr.	32	0.5	8	497
May	12	2	5	284
June	26	3	10	586
July	94	4	20	1,232
Aug.	435	26	140	8,680
Sept.	94	14	38	2,290
Oct.	87	10	30	1,854
Nov.	14400	14	1445	86,704
Dec.	4750	66	646	40,028
Total	..	..	..	148,193

Year 1962

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	57750	66	2886	178,910
Feb.	1570	42	386	21,638
Mar.	150	16	56	3,484
Apr.	42	8	21	1,274
May	50	8	20	1,262
June	196	14	65	3,874
July	7050	10	541	33,518
Aug.	2380	67	595	36,888
Sept.	920	62	170	10,204
Oct.	4750	16	347	21,514
Nov.	400	23	91	5,478
Dec.	780	10	93	5,738
Total	..	..	..	323,782

Year 1963

Jan.	14800	14	1052	65,242
Feb.	740	6	72	4,008
Mar.	4640	5	281	17,398
Apr.	1220	14	188	11,296
May	75410	67	4158	257,776
June	14800	274	1489	89,316
July	945	122	267	16,576
Aug.	15000	82	1409	87,378
Sept.	2650	87	430	25,780
Oct.	780	42	142	8,832
Nov.	1170	26	203	12,154
Dec.	2090	35	480	29,772
Total	..	..	..	625,528

Year 1964

Jan.	98000	10	2880	178,568
Feb.	82	14	43	2,500
Mar.	1450	12	204	12,650
Apr.	460	6	66	3,962
May	196	26	68	4,238
June	500	42	148	8,898
July	10300	82	1460	90,492
Aug.	700	54	174	10,782
Sept.	11800	58	577	34,646
Oct.	12000	150	1484	92,018
Nov.	1820	38	294	17,632
Dec.	196	0.3	39	2,437
Total	..	..	..	458,823

Year 1965

Jan.	10	0.3	4	244
Feb.	0.3	0.3	0.3	17
Mar.	0	0	0	0
Apr.	0	0	0	0
May	0.2	0.2	0.2	12
June	0.1	0.1	0.1	6
July	0	0	0	2
Aug.	6	0.3	4	240
Sept.	25	3	14	844
Oct.	7	1	2	112
Nov.	3	0	0.1	5
Dec.	3200	1	459	28,500
Total	..	..	..	29,982

GWYDIR RIVER AT STRATHMORE

LOCATION:	Latitude 29°56' Longitude 150°59'
PERIOD OF ESTABLISHMENT:	April 1929 to May 1939.
COMPLETE YEARS OF COMPUTED RECORDS:	9
ZERO OF GAUGE:	R.L. 63.95 Assumed Datum.
CATCHMENT AREA:	1,700 square miles.
CONTROL:	Gravel, subject to alteration.
EQUIPMENT:	Staff gauge, range 0 to 25 feet.
CURRENT METER OBSERVATIONS:	(a) Number obtained : 50
	(b) Maximum observation in cusecs : 6,191
	(c) Minimum observation in cusecs : 0
MAXIMUM ESTIMATED DISCHARGE DURING PERIOD OF RECORDS:	56,100 cusecs.
MEAN DAILY DISCHARGE FOR 9 YEARS:	350 cusecs.
MEAN ANNUAL DISCHARGE FOR 9 YEARS:	258,100 acre feet.
REMARKS:	This station was discontinued in favour of Bundarra which was established in December 1936.

GWYDIR RIVER AT STRATHMORE

Year 1929

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	..	..	..	..
Feb.	..	..	..	..
Mar.	..	..	..	..
Apr.	..	..	..	..
May	15	6	9	552
June	18	6	10	612
July	34	6	14	844
Aug.	5150	6	411	25,514
Sept.	2590	48	224	13,466
Oct.	5480	47	593	36,752
Nov.	450	24	68	4,084
Dec.	34	1	9	536
Total	..	..	..	..

Year 1930

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	1580	0	87	5,394
Feb.	126	3	32	1,778
Mar.	298	3	73	4,506
Apr.	45	7	18	1,090
May	36	0	5	302
June	3850	60	450	26,976
July	3640	36	537	33,276
Aug.	1370	90	288	17,854
Sept.	920	66	198	11,902
Oct.	3500	45	382	23,688
Nov.	525	40	138	8,270
Dec.	103	1	26	1,600
Total	..	..	..	136,636

Year 1931

Jan.	19	0	2	112
Feb.	0	0	0	0
Mar.	5150	0	520	32,264
Apr.	32710	84	1388	83,062
May	23690	66	1790	110,974
June	56090	460	4026	242,538
July	11020	396	2104	130,378
Aug.	545	130	291	18,028
Sept.	2190	90	291	17,452
Oct.	875	27	146	9,036
Nov.	438	23	71	4,944
Dec.	21650	36	1708	105,858
Total	..	..	..	754,646

Year 1932

Jan.	232	7	43	2,694
Feb.	41	0	6	332
Mar.	15	0	4	228
Apr.	247	5	46	2,762
May	22	2	9	570
June	15	3	12	694
July	427	9	112	6,958
Aug.	52	9	25	1,578
Sept.	16120	9	1384	83,066
Oct.	15490	178	885	54,886
Nov.	1070	96	241	14,932
Dec.	273	34	130	8,158
Total	..	..	..	176,848

Year 1933

Jan.	8230	5	940	58,422
Feb.	670	19	130	7,654
Mar.	23	0	8	462
Apr.	1	0	0	2
May	19	0	6	398
June	545	12	104	6,228
July	7070	66	1030	64,106
Aug.	1490	187	524	32,494
Sept.	3850	78	580	35,296
Oct.	30300	101	2801	173,682
Nov.	8230	560	1344	80,638
Dec.	2770	130	423	26,226
Total	..	..	..	485,608

Year 1934

Jan.	660	6	136	8,404
Feb.	2140	50	320	17,928
Mar.	256	15	72	4,464
Apr.	635	15	130	7,808
May	34	15	22	1,386
June	29	15	19	1,124
July	3990	25	240	15,046
Aug.	1580	115	490	30,964
Sept.	28590	130	2013	120,804
Oct.	8230	50	1020	63,764
Nov.	585	115	250	13,738
Dec.	2040	74	481	28,120
Total	..	..	..	313,550

GWYDIR RIVER AT STRATHMORE

Year 1935

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	16600	184	1486	92,116
Feb.	426	50	130	7,798
Mar.	44	5	16	1,023
Apr.	10	4	6	358
May	8	5	5	327
June	11	4	8	461
July	101	11	28	1,764
Aug.	25	8	15	907
Sept.	515	8	95	5,680
Oct.	3920	21	300	18,680
Nov.	68	2	20	1,580
Dec.	5.5	0.2	1.8	111
Total	..	..	..	130,805

Year 1936

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	2	0	0.5	32
Feb.	108	2	17	1,003
Mar.	44	4	13	747
Apr.	39	1	5	322
May	25	1	6	373
June	9	3	6	378
July	1450	5	290	18,126
Aug.	15490	62	842	52,224
Sept.	3780	56	480	29,346
Oct.	50	7	22	1,367
Nov.	6	0.3	2.4	143
Dec.	2590	0.3	118	7,328
Total	..	..	..	111,389

Year 1937

Jan.	229	11	84	5,186
Feb.	145	3	28	1,559
Mar.	5541	2	501	31,004
Apr.	44	9	14	815
May	11	5	8	496
June	145	8	49	2,919
July	145	15	46	2,858
Aug.	470	39	144	8,900
Sept.	11870	29	605	36,244
Oct.	153	9	36	2,224
Nov.	770	15	84	5,030
Dec.	145	8	24	1,482
Total	..	..	..	98,717

Year 1938

Jan.	115	1	20	1,255
Feb.	229	15	57	3,214
Mar.	15	0.7	4	236
Apr.	0.5	0	0.1	9
May	21	0	2	146
June	18	0	6	341
July	535	5	58	3,606
Aug.	6520	101	873	54,066
Sept.	323	50	129	7,754
Oct.	3030	39	302	18,730
Nov.	3850	39	348	21,498
Dec.	585	0.5	64	3,970
Total	..	..	..	114,825

Year 1939

Jan.	145	0.5	11	702
Feb.	21	0	4	197
Mar.	247	0	41	2,554
Apr.	No Records			
May	No Records			
June	..	..	..	..
July	..	..	..	..
Aug.	..	..	..	..
Sept.	..	..	..	..
Oct.	..	..	..	..
Nov.	..	..	..	..
Dec.	..	..	..	..
Total	..	..	..	..

GWYDIR RIVER AT STRATHMORE

Year 1935

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	16600	184	1486	92,116
Feb.	426	50	130	7,798
Mar.	44	5	16	1,023
Apr.	10	4	6	358
May	8	5	5	327
June	11	4	8	461
July	101	11	28	1,764
Aug.	25	8	15	907
Sept.	515	8	95	5,680
Oct.	3920	21	300	18,680
Nov.	68	2	20	1,580
Dec.	5.5	0.2	1.8	111
Total	..	..	..	130,805

Year 1936

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	2	0	0.5	32
Feb.	108	2	17	1,003
Mar.	44	4	13	747
Apr.	39	1	5	322
May	25	1	6	373
June	9	3	6	378
July	1450	5	290	18,126
Aug.	15490	62	842	52,224
Sept.	3780	56	480	29,346
Oct.	50	7	22	1,367
Nov.	6	0.3	2.4	143
Dec.	2590	0.3	118	7,328
Total	..	..	..	111,389

Year 1937

Jan.	229	11	84	5,186
Feb.	145	3	28	1,559
Mar.	5541	2	501	31,004
Apr.	44	9	14	815
May	11	5	8	496
June	145	8	49	2,919
July	145	15	46	2,858
Aug.	470	39	144	8,900
Sept.	11870	29	605	36,244
Oct.	153	9	36	2,224
Nov.	770	15	84	5,030
Dec.	145	8	24	1,482
Total	..	..	..	98,717

Year 1938

Jan.	115	1	20	1,255
Feb.	229	15	57	3,214
Mar.	15	0.7	4	236
Apr.	0.5	0	0.1	9
May	21	0	2	146
June	18	0	6	341
July	535	5	58	3,606
Aug.	6520	101	873	54,066
Sept.	323	50	129	7,754
Oct.	3030	39	302	18,730
Nov.	3850	39	348	21,498
Dec.	585	0.5	64	3,970
Total	..	..	..	114,825

Year 1939

Jan.	145	0.5	11	702
Feb.	21	0	4	197
Mar.	247	0	41	2,554
Apr.	No Records			
May	No Records			
June	..	..	..	..
July	..	..	..	..
Aug.	..	..	..	..
Sept.	..	..	..	..
Oct.	..	..	..	..
Nov.	..	..	..	..
Dec.	..	..	..	..
Total	..	..	..	..

GWYDIR RIVER AT PINEGROVE

LOCATION:	Latitude 29°53' Longitude 150°37'
PERIOD OF ESTABLISHMENT:	December 1936 to date.
COMPLETE YEARS OF COMPUTED RECORDS:	29
ZERO OF GAUGE:	R.L. 950.68 North West Water Conservation Datum.
CATCHMENT AREA:	2,450 square miles.
CONTROL:	Rock.
EQUIPMENT:	Automatic Recorder (Float type) installed December 1957 Staff gauge, range 0 to 30 feet.
CURRENT METER OBSERVATIONS:	(a) Number obtained : 245 (b) Maximum observation in cusecs : 121,600 (c) Minimum observation in cusecs : 0
MAXIMUM ESTIMATED DISCHARGE DURING PERIOD OF RECORDS:	160,000 cusecs.
MEAN DAILY DISCHARGE FOR 29 YEARS:	670 cusecs.
MEAN ANNUAL DISCHARGE FOR 29 YEARS:	491,900 acre feet.
REMARKS:	Records prior to September 1949 are those for the gauging station at Bingara which was established in December 1936 at a site about 5 miles downstream of Pinegrove. The catchment area at Bingara was 2,460 square miles.

GWYDIR RIVER AT PINEGROVE

Year 1937

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	381	22	112	6,922
Feb.	75	17	40	2,254
Mar.	7900	5	659	40,857
Apr.	86	21	37	2,246
May	20	12	16	978
June	58	11	24	1,410
July	132	28	48	3,002
Aug.	503	44	120	7,468
Sept.	11500	57	459	27,546
Oct.	114	29	49	3,040
Nov.	990	29	103	6,202
Dec.	78	24	47	2,930
Total	..	..	..	104,855

Year 1938

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max..	Min..	Mean	
Jan.	138	15	42	2,634
Feb.	1070	39	110	6,164
Mar.	39	8	18	1,104
Apr.	0.5	0	0.1	9
May	1120	0	58	3,624
June	43	24	30	1,808
July	246	22	40	2,456
Aug.	5960	129	1015	62,936
Sept.	495	70	161	9,634
Oct.	1940	31	321	19,882
Nov.	2850	97	504	30,228
Dec.	1340	13	173	10,746
Total	..	..	..	151,225

Year 1939

Jan.	97	3	13	784
Feb.	84	2	22	1,232
Mar.	141	1	35	2,164
Apr.	31	3	9	535
May	4	1	3	169
June	84	1	11	689
July	933	57	197	12,206
Aug.	1200	90	342	21,176
Sept.	132	31	68	4,100
Oct.	70	13	31	1,934
Nov.	11	3	6	333
Dec.	688	3	89	5,534
Total	..	..	..	50,856

Year 1940

Jan.	54	0	15	928
Feb.	58	0	19	1,120
Mar.	1990	0	158	9,798
Apr.	43	8	17	1,028
May	11	3	6	358
June	3	0	0.6	38
July	0	0	0	0
Aug.	2	0	0.7	45
Sept.	1	0	0.5	30
Oct.	1	0	0.3	20
Nov.	3	0	0.4	27
Dec.	805	2	85	5,296
Total	..	..	..	18,688

Year 1941

Jan.	9330	77	904	56,064
Feb.	3310	58	501	28,034
Mar.	28200	50	1876	116,312
Apr.	862	85	218	13,050
May	79	25	43	2,690
June	4210	28	766	45,952
July	681	168	289	17,926
Aug.	156	50	89	5,540
Sept.	90	18	36	2,156
Oct.	250	8	28	1,710
Nov.	2920	25	339	20,340
Dec.	219	6	42	2,602
Total	..	..	..	312,376

Year 1942

Jan.	25	0.5	5	315
Feb.	924	2	125	7,000
Mar.	53	2	13	792
Apr.	2	0	0.2	12
May	2	0	0.3	16
June	15	0	2	97
July	28900	9	1907	118,240
Aug.	480	81	215	13,348
Sept.	105	44	69	4,170
Oct.	10400	14	1172	72,636
Nov.	4770	150	523	31,408
Dec.	392	42	183	11,358
Total	..	..	..	259,392

GWYDIR RIVER AT PINEGROVE

Year 1943

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	21600	195	2070	128,360
Feb.	480	33	152	8,518
Mar.	No Records			225*
Apr.	No Records			330*
May	No Records			400*
June	6	2	3	184
July	8	3	4	236
Aug.	251	4	86	5,347
Sept.	3330	16	129	7,742
Oct.	2370	78	279	17,302
Nov.	26000	78	1961	117,690
Dec.	629	69	207	12,818
Total	..	..	..	299,152*

Year 1944

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	1650	69	374	23,206
Feb.	448	45	131	7,624
Mar.	45	14	32	1,960
Apr.	14	5	8	480
May	30	1	7	434
June	10	5	7	434
July	491	5	142	8,780
Aug.	29900	45	1552	96,242
Sept.	970	135	338	20,294
Oct.	135	30	63	3,902
Nov.	30	14	23	1,350
Dec.	1170	1	81	5,042
Total	..	..	..	169,748

Year 1945

Jan.	113	11	41	2,536
Feb.	3400	23	371	20,756
Mar.	2190	23	230	14,258
Apr.	23	2	9	532
May	23	2	6	402
June	490	4	146	8,770
July	5560	33	426	26,398
Aug.	795	135	280	17,362
Sept.	5560	135	679	40,754
Oct.	200	13	89	5,524
Nov.	13	3	9	520
Dec.	490	8	91	5,664
Total	..	..	..	143,476

Year 1946

Jan.	54100	3	2901	179,848
Feb.	865	160	290	16,242
Mar.	2310	10	179	11,124
Apr.	363	86	149	8,952
May	86	15	37	2,278
June	15	2	8	458
July	25	10	19	1,160
Aug.	20	7	12	756
Sept.	160	7	16	936
Oct.	109	10	40	2,460
Nov.	160	2	43	2,550
Dec.	64	2	9	588
Total	..	..	..	227,352

Year 1947

Jan.	240	0	15	912
Feb.	1350	86	390	21,834
Mar.	13600	38	767	47,552
Apr.	52	26	32	1,932
May	26	6	16	996
June	10	6	8	480
July	16	10	11	692
Aug.	560	10	97	6,010
Sept.	9400	134	1192	71,490
Oct.	11500	134	790	48,982
Nov.	560	154	232	13,916
Dec.	19200	312	2764	171,358
Total	..	..	..	386,154

Year 1948

Jan.	70600	176	3533	219,030
Feb.	151	15	64	3,724
Mar.	910	36	328	20,336
Apr.	36	10	18	1,052
May	85	10	28	1,758
June	1740	7	545	32,686
July	5160	296	1063	65,880
Aug.	626	127	241	14,938
Sept.	833	151	275	16,526
Oct.	453	36	146	9,050
Nov.	1960	24	224	13,422
Dec.	36	7	16	980
Total	..	..	..	399,382

* Estimated.

GWYDIR RIVER AT PINEGROVE

Year 1949

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	453	4	78	4,842
Feb.	7050	2	915	51,246
Mar.	1010	59	368	22,844
Apr.	29	22	24	1,446
May	No Records			4,250*
June	No Records			21,000*
July	No Records			55,000*
Aug.	131000	..	..	374,400*
Sept.	59100	880	5445	326,688
Oct.	46650	764	6421	398,110
Nov.	7030	248	1035	62,116
Dec.	1570	90	477	29,552
Total	..	..	..	1,351,494*

Year 1950

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	90	53	69	4,252
Feb.	1140	53	290	16,250
Mar.	160	32	58	3,600
Apr.	1570	53	305	18,304
May	106	32	53	3,270
June	59600	76	4611	276,638
July	131000	880	11647	722,114
Aug.	9100	657	2313	143,378
Sept.	3100	273	620	37,214
Oct.	38000	709	9531	590,934
Nov.	72500	709	9550	573,000
Dec.	4100	83	653	40,468
Total	..	..	..	2429,422

Year 1951

Jan.	971	98	340	21,082
Feb.	557	76	252	14,086
Mar.	326	45	101	6,250
Apr.	53	22	32	1,922
May	53	22	31	1,946
June	5230	53	1089	65,328
July	2970	141	600	37,176
Aug.	10700	224	1654	102,560
Sept.	482	106	196	11,746
Oct.	248	22	103	6,414
Nov.	22	7	14	866
Dec.	7	0	3	161
Total	..	..	..	269,537

Year 1952

Jan.	0	0	0	0
Feb.	38	1	10	562
Mar.	1140	22	217	13,466
Apr.	202	45	117	7,048
May	4350	32	659	40,870
June	19900	90	1856	111,386
July	5230	248	805	49,916
Aug.	70700	482	6074	376,574
Sept.	1640	383	719	43,150
Oct.	84400	447	4241	262,936
Nov.	2340	90	453	27,200
Dec.	160	27	65	4,010
Total	..	..	..	937,118

Year 1953

Jan.	236	38	96	5,968
Feb.	38250	27	2138	119,738
Mar.	1640	45	266	16,486
Apr.	160	27	61	3,636
May	248	27	100	6,188
June	53	27	41	2,468
July	160	27	63	3,920
Aug.	880	38	236	14,612
Sept.	1490	53	262	15,716
Oct.	213	41	63	3,922
Nov.	53	22	39	2,324
Dec.	38	12	21	1,260
Total	..	..	..	196,238

Year 1954

Jan.	18	10	13	804
Feb.	657	12	126	7,028
Mar.	273	14	55	3,394
Apr.	13	0	6	366
May	3	0	0.7	46
June	7	0	1	88
July	16	1	8	479
Aug.	30	14	24	1,502
Sept.	27	20	22	1,324
Oct.	10700	18	2308	143,106
Nov.	35400	248	4161	249,666
Dec.	299	53	165	10,210
Total	..	..	..	418,013

* Estimated.

GWYDIR RIVER AT PINEGROVE

Year 1955

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	63	22	37	2,312
Feb.	160000	38	10412	583,076
Mar.	13800	131	1675	103,830
Apr.	131	45	89	5,310
May	131	45	81	5,036
June	10700	102	708	42,508
July	1810	203	560	34,696
Aug.	2850	313	825	51,154
Sept.	898	182	396	23,766
Oct.	67000	76	4771	295,776
Nov.	5230	147	1074	64,468
Dec.	568	76	183	11,336
Total	..	..	..	1,223,268

Year 1956

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	22280	22	359	22,380
Feb.	132000	475	10711	621,222
Mar.	23000	268	1551	96,136
Apr.	2670	147	447	26,820
May	33400	1075	4620	286,456
June	78100	1040	4947	296,820
July	10000	900	3499	216,940
Aug.	900	254	520	32,222
Sept.	1190	182	345	20,716
Oct.	2220	164	422	26,142
Nov.	2300	76	481	28,854
Dec.	254	38	89	5,522
Total	..	..	..	1,680,130

Year 1957

Jan.	182	41	77	4,756
Feb.	520	7	83	4,664
Mar.	420	54	132	8,164
Apr.	50	31	39	2,356
May	31	22	28	1,742
June	42	14	23	1,362
July	54	38	42	2,620
Aug.	95	38	48	2,976
Sept.	154	25	60	3,610
Oct.	19	3	8	504
Nov.	5	0.4	1	86
Dec.	31	0	1	49
Total	..	..	..	32,889

Year 1958

Jan.	22	7	11	662
Feb.	1950	7	332	18,592
Mar.	1905	22	118	7,322
Apr.	31	5	12	740
May	146	4	12	748
June	31	9	16	944
July	42	9	21	1,310
Aug.	510	22	149	9,212
Sept.	7860	180	934	56,056
Oct.	21300	191	1648	102,182
Nov.	180	31	88	5,262
Dec.	3840	22	238	14,782
Total	..	..	..	217,812

Year 1959

Jan.	3200	146	909	56,378
Feb.	13600	110	1257	70,412
Mar.	3510	241	883	54,744
Apr.	2140	102	500	29,974
May	110	42	73	4,530
June	110	54	65	3,928
July	3380	54	401	24,874
Aug.	400	54	145	9,018
Sept.	510	36	108	6,502
Oct.	340	80	159	9,838
Nov.	13250	87	1041	62,458
Dec.	27200	80	3403	210,990
Total	..	..	..	543,646

Year 1960

Jan.	1080	80	238	14,728
Feb.	10400	48	136	7,914
Mar.	146	22	53	3,278
Apr.	19	9	13	774
May	203	26	91	5,640
June	157	36	45	2,712
July	7315	118	1245	77,194
Aug.	26350	191	2039	126,446
Sept.	179	102	134	8,032
Oct.	215	36	97	5,990
Nov.	18900	19	824	49,432
Dec.	2440	42	152	9,444
Total	..	..	..	311,584

GWYDIR RIVER AT PINEGROVE

Year 1961

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	820	9	38	2,296
Feb.	304	3	41	2,280
Mar.	168	26	59	3,648
Apr.	127	9	32	1,920
May	11	9	10	606
June	22	11	18	1,066
July	110	13	56	1,500
Aug.	5040	67	209	13,000
Sept.	169	36	68	4,100
Oct.	137	21	41	2,540
Nov.	29200	46	2406	144,000
Dec.	5900	193	1226	76,000
Total	..	..	..	252,956

Year 1962

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	73400	192	4922	305,000
Feb.	9160	180	745	41,700
Mar.	2440	64	153	9,480
Apr.	1220	36	77	4,620
May	1580	24	40	2,500
June	205	46	93	5,580
July	3840	36	486	30,150
Aug.	450	100	180	11,200
Sept.	750	118	214	12,800
Oct.	4945	46	391	24,200
Nov.	430	46	139	8,350
Dec.	3135	28	90	5,600
Total	..	..	..	461,180

Year 1963

Jan.	17900	100	1356	84,100
Feb.	1000	21	117	6,570
Mar.	137	11	43	2,620
Apr.	320	58	102	6,100
May	No Records			179,000*
June	No Records			77,000*
July	785	230	338	20,900
Aug.	No Records			62,000*
Sept.	5900	180	803	48,200
Oct.	No Records			10,000*
Nov.	No Records			23,000*
Dec.	3840	147	838	52,000
Total	..	..	..	571,490*

Year 1964

Jan.	102000	58	3874	240,000
Feb.	242	77	122	7,060
Mar.	1580	70	334	20,700
Apr.	4385	36	410	24,600
May	2255	100	445	27,600
June	660	158	288	17,300
July	13800	217	2435	151,000
Aug.	1160	169	375	23,200
Sept.	16000	137	799	47,900
Oct.	12650	430	2748	170,000
Nov.	2755	58	477	28,600
Dec.	430	32	127	7,880
Total	..	..	..	765,840

Year 1965

Jan.	28	12	20	1,240
Feb.	12	4	6	310
Mar.	5	2	3	187
Apr.	6	2	3	194
May	6	3	5	294
June	12	5	7	410
July	9	6	8	474
Aug.	15	5	8	496
Sept.	285	12	23	1,400
Oct.	19	6	12	736
Nov.	5	0.2	2	140
Dec.	10700	2	1170	72,700
Total	..	..	..	78,581

* Estimated.

HORTON RIVER AT RIDER

LOCATION:	Latitude 29°50' Longitude 150°21'
PERIOD OF ESTABLISHMENT:	January 1957 to date.
COMPLETE YEARS OF COMPUTED RECORDS:	9
ZERO OF GAUGE:	R.L. 57.85 Assumed Datum.
CATCHMENT AREA:	760 square miles.
CONTROL:	Rock and gravel.
EQUIPMENT:	Automatic Recorder (Float type) installed in June 1964. Staff gauge, range 0 to 40 feet.
CURRENT METER OBSERVATIONS:	(a) Number obtained : 85
	(b) Maximum observation in cusecs : 4,129
	(c) Minimum observation in cusecs : 0.4
MAXIMUM ESTIMATED DISCHARGE DURING PERIOD OF RECORDS:	115,000 cusecs.
MEAN DAILY DISCHARGE FOR 9 YEARS:	190 cusecs.
MEAN ANNUAL DISCHARGE FOR 9 YEARS:	140,500 acre feet.

HORTON RIVER AT RIDER

Year 1957

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	No	Records		2,500 *
Feb.	106	22	54	3,014
Mar.	150	18	37	2,290
Apr.	60	15	30	1,770
May	31	18	23	1,448
June	30	18	20	1,206
July	30	12	18	1,096
Aug.	25	12	15	908
Sept.	18	7	12	716
Oct.	25	2	5	320
Nov.	12	0.2	3	181
Dec.	7	0.8	2	128
Total	..	..	..	15,577

Year 1958

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	4	0.8	2	96
Feb.	150	2	20	1,120
Mar.	280	4	24	1,464
Apr.	7	2	4	256
May	62	2	15	940
June	25	7	9	510
July	450	12	40	2,456
Aug.	210	7	39	2,240
Sept.	6800	35	258	15,466
Oct.	43950	47	762	47,234
Nov.	47	12	25	1,512
Dec.	7032	12	198	12,252
Total	..	..	..	85,546

Year 1959

Jan.	2400	11	111	6,888
Feb.	21600	11	872	48,820
Mar.	2140	30	246	15,260
Apr.	7260	22	363	21,780
May	70	22	30	1,868
June	30	22	25	1,480
July	7950	22	518	32,100
Aug.	190	27	54	3,364
Sept.	36	27	29	1,728
Oct.	36	20	31	1,924
Nov.	73	27	37	2,224
Dec.	17800	14	428	26,562
Total	..	..	..	163,998

Year 1960

Jan.	240	12	32	1,970
Feb.	124	19	37	2,118
Mar.	25	12	15	904
Apr.	12	4	6	348
May	79	4	21	1,292
June	18	7	12	698
July	2620	12	253	15,712
Aug.	5540	79	510	31,630
Sept.	620	29	93	5,588
Oct.	29	14	20	1,188
Nov.	9600	3	286	17,166
Dec.	320	14	45	2,770
Total	..	..	..	81,384

Year 1961

Jan.	47	4	15	910
Feb.	124	0	18	1,020
Mar.	240	14	33	2,030
Apr.	14	4	8	476
May	14	7	8	490
June	14	7	8	490
July	210	7	27	1,656
Aug.	450	23	73	4,532
Sept.	35	7	15.2	912
Oct.	7	1	5	314
Nov.	9120	1	898	53,880
Dec.	3900	62	333	20,660
Total	..	..	..	87,370

Year 1962

Jan.	30000	79	1410	87,450
Feb.	450	62	157	8,800
Mar.	280	35	82	5,060
Apr.	150	25	59	3,548
May	47	25	27	1,658
June	62	18	31	1,846
July	99	18	27	1,644
Aug.	15000	25	475	29,446
Sept.	124	40	66	3,976
Oct.	15500	16	465	28,860
Nov.	79	14	40	2,406
Dec.	35	14	27	1,678
Total	..	..	..	176,372

* Estimated.

HORTON RIVER AT RIDER

Year 1963

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	1410	23	110	6,814
Feb.	62	1	20	1,130
Mar.	6380	4	449	27,830
Apr.	2500	62	257	15,424
May	8640	62	720	44,630
June	11040	75	843	50,550
July	75	44	61	3,802
Aug.	1330	33	128	7,956
Sept.	560	52	137	8,218
Oct.	820	31	100	6,176
Nov.	620	23	73	4,406
Dec.	7030	23	429	26,600
Total	..	..	..	203,536

Year 1964

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	115000	23	2778	172,260
Feb.	122	51	64	3,726
Mar.	1400	51	186	11,560
Apr.	17000	40	655	39,280
May	2220	65	170	10,546
June	960	100	177	10,612
July	5000	114	655	40,600
Aug.	520	80	134	8,310
Sept.	34800	75	894	53,600
Oct.	11500	175	1020	63,500
Nov.	835	86	189	11,400
Dec.	92	52	64	3,970
Total	..	..	..	429,364

Year 1965

Jan.	140	22	41	2,530
Feb.	52	12	20	1,100
Mar.	22	12	13	794
Apr.	18	12	13	780
May	15	12	13	834
June	15	12	12	744
July	12	12	12	744
Aug.	12	12	12	744
Sept.	34	9	14	832
Oct.	6	3	3	210
Nov.	3	0.3	0.8	50
Dec.	2750	6	189	11,700
Total	..	..	..	21,062

GWYDIR RIVER AT GRAVESEND

LOCATION OF NO. 2 GAUGE:	Latitude 29°35' Longitude 150°22'
PERIOD OF ESTABLISHMENT:	December, 1936 to Date.
COMPLETE YEARS OF COMPUTED RECORDS:	25
ZERO OF NO. 2 GAUGE:	R.L. 806.43 Standard Datum.
CATCHMENT AREA OF NO. 2 GAUGE:	4,150 square miles.
CONTROL:	Gravel.
EQUIPMENT:	Automatic Recorder (Float type) installed at No. 2 station in August, 1954; Staff gauge, range 0 to 57 feet.
CURRENT METER OBSERVATIONS:	(a) Number obtained : 197
	(b) Maximum observation in cusecs : 124,860
	(c) Minimum observation in cusecs : 0
MAXIMUM ESTIMATED DISCHARGE DURING PERIOD OF RECORDS:	225,000 cusecs.
MEAN DAILY DISCHARGE FOR 25 YEARS:	700 cusecs.
MEAN ANNUAL DISCHARGE FOR 25 YEARS:	513,900 acre feet
REMARKS:	The No. 1 station was located some 6 miles downstream from the existing No. 2 station and had a catchment area of 4,200 square miles. The No. 1 station was discontinued in May, 1951 following commencement of records at the No. 2 station in September, 1950.

GWYDIR RIVER AT GRAVESEND

Year 1937

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	4780	34	242	15,024
Feb.	99	16	51	2,886
Mar.	20000	6	1397	86,588
Apr.	134	29	59	3,522
May	45	34	37	2,316
June	84	24	38	2,304
July	375	34	78	4,830
Aug.	465	45	121	7,494
Sept.	9000	57	704	42,252
Oct.	240	29	63	3,898
Nov.	3715	45	441	26,462
Dec.	1630	34	146	9,044
Total	..	..	..	206,620

Year 1938

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	7680	6	179	11,070
Feb.	7540	39	305	17,074
Mar.	290	6	21	1,324
Apr.	6	1	2	140
May	13730	1	445	27,570
June	595	36	98	5,864
July	125	36	65	4,004
Aug.	16920	355	1978	122,668
Sept.	1110	173	420	25,148
Oct.	2110	99	437	27,118
Nov.	2470	134	494	29,670
Dec.	1630	27	241	14,952
Total	..	..	..	286,602

Year 1939

Jan.	1080	8	122	7,536
Feb.	116	7	45	2,508
Mar.	13920	2	517	32,042
Apr.	270	19	57	3,394
May	99	15	21	1,304
June	219	15	55	3,296
July	1390	70	379	23,524
Aug.	2865	116	811	50,262
Sept.	173	36	88	5,258
Oct.	1280	23	60	3,736
Nov.	173	7	28	1,666
Dec.	485	7	67	4,140
Total	..	..	..	138,666

Year 1940

Jan.	1110	2	52	3,228
Feb.	1720	7	141	8,180
Mar.	3340	1	229	14,213
Apr.	84	19	39	2,330
May	27	4	11	696
June	4	3	3	196
July	3	2	3	154
Aug.	5	2	4	240
Sept.	7	0	4	115
Oct.	4	0	0.7	42
Nov.	0.7	0	0.1	5
Dec.	No Records			37,200*
Total	..	..	..	66,599*

Year 1941

Jan.	No Records			111,600*
Feb.	No Records			130,800*
Mar.	No Records			133,700*
Apr.	No Records			24,800*
May	225	59	84	5,226
June	5040	72	1073	64,394
July	670	225	378	23,416
Aug.	225	88	123	7,604
Sept.	117	29	58	3,482
Oct.	600	18	62	3,856
Nov.	4790	65	574	34,450
Dec.	107	5	27	1,652
Total	..	..	..	544,980*

Year 1942

Jan.	1280	3	29	1,808
Feb.	1480	39	245	13,718
Mar.	390	6	40	2,484
Apr.	26	2	10	594
May	35	1	3	174
June	435	10	32	1,894
July	25330	43	3285	203,678
Aug.	770	115	375	23,242
Sept.	175	45	110	6,588
Oct.	9660	98	1413	87,582
Nov.	5780	175	707	42,424
Dec.	5480	12	691	42,846
Total	..	..	..	427,032

* Estimated.

GWYDIR RIVER AT GRAVESEND

Year 1943

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	20430	280	2398	148,674
Feb.	555	48	222	12,412
Mar.	365	18	33	2,040
Apr.	128	14	27	1,650
May	21	16	18	1,142
June	200	23	45	2,686
July	32	21	25	1,520
Aug.	405	29	123	7,658
Sept.	1140	32	160	9,630
Oct.	3880	98	407	25,208
Nov.	18580	88	2585	155,086
Dec.	500	72	240	14,884
Total	..	..	..	382,590

Year 1944

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	3680	72	371	22,976
Feb.	440	25	142	8,224
Mar.	37	4	12	714
Apr.	4	1	2	143
May	550	1	45	2,764
June	36	18	21	1,272
July	460	16	142	8,774
Aug.	24650	56	2238	138,764
Sept.	1280	197	441	26,488
Oct.	197	40	91	5,636
Nov.	45	5	22	1,332
Dec.	705	0.7	70	4,346
Total	..	..	..	221,433

Year 1945

Jan.	1700	4	119	7,386
Feb.	14190	16	962	53,848
Mar.	3580	23	355	22,008
Apr.	23	10	15	890
May	770	9	36	2,214
June	4730	39	447	26,814
July	5600	59	873	54,058
Aug.	1080	155	338	20,934
Sept.	5180	189	771	46,284
Oct.	280	23	96	5,966
Nov.	175	7	17	1,002
Dec.	480	16	88	5,472
Total	..	..	..	246,876

Year 1946

Jan.	72900	4	4678	290,018
Feb.	4140	175	483	27,072
Mar.	2130	39	196	12,124
Apr.	550	69	185	11,104
May	83	36	54	3,346
June	36	24	29	1,730
July	45	24	34	2,098
Aug.	32	14	23	1,404
Sept.	1080	7	56	3,360
Oct.	2650	12	85	5,268
Nov.	3380	3	94	5,630
Dec.	2230	5	121	7,496
Total	..	..	..	370,650

Year 1947

Jan.	3530	0.2	72	4,466
Feb.	6600	21	1138	63,704
Mar.	20740	115	1830	113,464
Apr.	134	56	77	4,594
May	62	36	42	2,632
June	69	28	42	2,490
July	45	24	33	2,010
Aug.	1120	32	184	11,396
Sept.	13130	295	1813	108,754
Oct.	9990	232	1154	71,562
Nov.	740	175	354	21,266
Dec.	17460	460	3333	206,666
Total	..	..	..	613,004

Year 1948

Jan.	45100	219	3284	203,624
Feb.	1340	39	134	7,756
Mar.	960	92	415	25,722
Apr.	86	26	44	2,618
May	349	39	115	7,140
June	8120	36	1292	77,506
July	6730	350	1698	105,284
Aug.	1675	183	414	25,696
Sept.	2130	98	315	18,880
Oct.	598	35	130	8,046
Nov.	2980	39	354	21,250
Dec.	No Records			4,100*
Total	..	..	..	507,622*

* Estimated.

GWYDIR RIVER AT GRAVESEND

Year 1949

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	No Records			
Feb.	No Records			
Mar.	No Records			
Apr.	No Records			
May	No Records			
June	No Records			
July	No Records			
Aug.	No Records			
Sept.	No Records			
Oct.	No Records			
Nov.	No Records			
Dec.	No Records			
Total	..	..	..	..

Year 1950

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	No Records			
Feb.	No Records			
Mar.	No Records			
Apr.	No Records			
May	No Records			
June	No Records			
July	No Records			
Aug.	No Records			
Sept.	2100	617	1050	62,984
Oct.	23400	1640	9878	612,438
Nov.	51405	1480	9933	595,986
Dec.	3330	630	1350	83,720
Total	..	..	..	..

Year 1951

Jan.	2050	555	911	56,512
Feb.	2300	580	836	46,806
Mar.	1480	555	637	39,500
Apr.	530	100	217	13,008
May	130	100	109	6,740
June	840	100	405	24,280
July	530	430	474	29,360
Aug.	7100	380	1402	86,928
Sept.	930	270	451	27,060
Oct.	No Records			6,500*
Nov.	No Records			900*
Dec.	No Records			160*
Total	..	..	..	337,754*

Year 1952

Jan.	No Records			200*
Feb.	No Records			
Mar.	930	60	274	16,990
Apr.	310	110	210	12,590
May	5500	70	626	38,822
June	14500	250	1917	115,042
July	1560	355	692	41,500
Aug.	No Records			
Sept.	1760	595	912	54,740
Oct.	No Records			296,000*
Nov.	No Records			49,900*
Dec.	204	126	155	9,640
Total	..	..	..	..

Year 1953

Jan.	218	64	119	7,378
Feb.	20000	56	1819	105,834
Mar.	2000	108	454	28,140
Apr.	109	67	87	5,218
May	760	90	166	10,282
June	89	73	78	4,670
July	138	69	100	6,190
Aug.	2500	82	309	19,146
Sept.	546	275	336	20,136
Oct.	320	130	236	14,636
Nov.	820	115	184	11,030
Dec.	138	22	45	2,808
Total	..	..	..	235,468

Year 1954

Jan.	115	20	35	2,140
Feb.	12600	22	1128	63,192
Mar.	781	38	181	11,194
Apr.	35	13	21	1,282
May	33	13	25	1,526
June	22	16	19	1,134
July	29	16	26	1,606
Aug.	43	25	34	2,116
Sept.	102	27	40	2,412
Oct.	22100	20	2595	160,914
Nov.	24200	618	4271	256,246
Dec.	1165	180	325	20,174
Total	..	..	..	523,936

* Estimated.

GWYDIR RIVER AT GRAVESEND

Year 1955

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	1165	43	199	12,338
Feb.	225000	118	14027	785,510
Mar.	21000	445	2192	135,906
Apr.	445	279	336	20,162
May	720	180	356	22,044
June	11000	342	1011	60,648
July	6000	342	1141	70,772
Aug.	3100	445	957	59,310
Sept.	1000	359	549	32,914
Oct.	58900	178	4669	289,500
Nov.	3690	212	1037	62,200
Dec.	622	90	231	14,318
Total	..	..	..	1,565,622

Year 1956

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	2580	9	367	22,766
Feb.	130000	805	12964	751,914
Mar.	23200	532	2784	172,638
Apr.	7500	237	1211	72,672
May	58900	1635	6649	412,228
June	62900	1400	6100	366,016
July	17800	1600	4887	302,990
Aug.	1940	568	1211	75,068
Sept.	1330	309	600	35,994
Oct.	2220	130	537	33,302
Nov.	2260	94	608	36,080
Dec.	No Records			13,000*
Total	..	..	..	2,294,668*

Year 1957

Jan.	No Records			7,000*
Feb.	No Records			7,800*
Mar.	No Records			10,100*
Apr.	118	71	89	5,362
May	104	53	73	4,534
June	No Records			3,400*
July	No Records			4,400*
Aug.	No Records			4,500*
Sept.	No Records			4,900*
Oct.	No Records			800*
Nov.	No Records			300*
Dec.	313	4	10	648
Total	..	..	..	53,744*

Year 1958

Jan.	No Records			800*
Feb.	3690	127	519	29,050
Mar.	No Records			
Apr.	No Records			
May	No Records			2,500*
June	No Records			2,200*
July	257	34	70	4,312
Aug.	485	37	150	9,278
Sept.	3830	159	785	47,110
Oct.	No Records			123,000*
Nov.	No Records			6,900*
Dec.	12800	28	594	36,804
Total	..	..	..	..

Year 1959

Jan.	4580	132	1265	78,408
Feb.	No Records			100,000*
Mar.	No Records			60,000*
Apr.	No Records			50,000*
May	198	74	118	7,312
June	85	85	85	5,100
July	5110	35	622	38,588
Aug.	No Records			11,800*
Sept.	400	32	102	6,144
Oct.	321	86	154	9,542
Nov.	No Records			58,000*
Dec.	No Records			200,000*
Total	..	..	..	624,894*

Year 1960

Jan.	No Records			15,500*
Feb.	343	93	174	10,094
Mar.	179	49	84	5,206
Apr.	49	23	32	1,926
May	207	35	108	6,714
June	70	44	56	3,346
July	6220	129	1353	83,900
Aug.	17800	266	1947	120,704
Sept.	400	161	214	12,838
Oct.	465	70	142	8,784
Nov.	11200	35	881	52,838
Dec.	950	87	266	16,490
Total	..	..	..	338,340*

* Estimated.

GWYDIR RIVER AT GRAVESEND

Year 1961

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	364	19	67	4,168
Feb.	600	6	59	3,320
Mar.	2160	49	114	7,078
Apr.	144	23	45	2,698
May	31	19	23	1,420
June	49	27	35	2,080
July	161	19	42	2,610
Aug.	570	64	227	14,100
Sept.	200	43	87	5,230
Oct.	128	31	47	2,940
Nov.	18150	47	2128	128,000
Dec.	5420	209	1481	91,800
Total	..	..	..	265,444

Year 1962

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	55000	209	5988	371,000
Feb.	4025	245	1085	60,700
Mar.	1560	127	281	17,400
Apr.	390	83	161	9,690
May	150	59	77	4,790
June	225	89	137	8,200
July	3255	68	459	28,500
Aug.	6700	173	1249	77,500
Sept.	688	225	306	18,400
Oct.	6980	95	662	41,000
Nov.	500	68	178	10,700
Dec.	837	54	113	7,020
Total	..	..	..	654,900

Year 1963

Jan.	12100	103	1142	70,800
Feb.	387	52	135	7,590
Mar.	5010	39	332	20,600
Apr.	4800	78	502	30,100
May	54100	78	4336	269,000
June	15500	620	2455	147,000
July	995	315	472	29,300
Aug.	15300	245	1389	86,100
Sept.	12300	245	1280	76,500
Oct.	775	158	305	18,900
Nov.	7920	115	559	33,600
Dec.	6650	170	1120	69,500
Total	..	..	..	858,990

Year 1964

Jan.	85100	83	4430	275,000
Feb.	450	162	252	14,640
Mar.	1600	155	533	33,000
Apr.	12600	88	920	55,200
May	1015	195	364	22,600
June	1460	290	435	26,100
July	11000	290	2889	179,000
Aug.	1060	270	485	30,100
Sept.	21500	255	1320	79,400
Oct.	13300	625	3341	207,000
Nov.	2700	375	710	42,600
Dec.	538	125	212	13,100
Total	..	..	..	977,740

Year 1965

Jan.	203	55	87	5,370
Feb.	78	28	40	2,260
Mar.	35	17	25	1,550
Apr.	37	17	25	1,490
May	24	21	22	1,360
June	31	21	26	1,580
July	31	26	28	1,730
Aug.	30	24	27	1,690
Sept.	51	24	35	2,110
Oct.	24	12	17	1,030
Nov.	8	1	4	248
Dec.	10000	1	1320	82,000
Total	..	..	..	102,418

GWYDIR RIVER AT PALLAMALLAWA

LOCATION:	Latitude 29°29' Longitude 150°08'
PERIOD OF ESTABLISHMENT:	December 1891 to August 1931; November 1951 to date.
COMPLETE YEARS OF COMPUTED RECORDS:	46
ZERO OF GAUGE:	R.L. 728.98 Standard Datum.
CATCHMENT AREA:	4,870 square miles.
CONTROL:	Gravel, subject to alteration.
EQUIPMENT:	Staff gauge, range 0 to 35 feet.
CURRENT METER OBSERVATION:	(a) Number obtained : 108
	(b) Maximum observation in cusecs : 8,722
	(c) Minimum observation in cusecs : 0
MAXIMUM ESTIMATED DISCHARGE DURING PERIOD OF RECORDS:	79,000 cusecs
MEAN DAILY DISCHARGE FOR 46 YEARS:	910 cusecs
MEAN ANNUAL DISCHARGE FOR 46 YEARS:	664,800 acre feet
REMARKS:	The station at Pallamallawa was discontinued in August 1931 and re-established in November 1951. Only intermittent streamflow records have been obtained since October 1960
	The station at Pallamallawa is about 6 miles upstream of the discontinued station on the Gwydir River above Meehi Offtake.

GWYDIR RIVER AT PALLAMALLAWA

Year 1892

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	No Records			3,000*
Feb.	48	10	26	1,520
Mar.	92	21	41	2,548
Apr.	162	10	22	1,344
May	162	48	84	5,208
June	7700	80	1549	92,966
July	3350	322	814	50,472
Aug.	3610	162	1013	62,824
Sept.	30000	255	5050	303,000
Oct.	40000	1140	7720	478,000
Nov.	32800	600	5310	318,000
Dec.	2110	305	622	38,592
Total	..	..	..	1,357,474*

Year 1893

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	4130	255	1136	70,416
Feb.	3430	255	1222	68,456
Mar.	34000	542	3280	203,000
Apr.	11920	495	2812	168,700
May	5200	390	1726	106,984
June	59500	400	9010	541,000
July	18100	900	4557	282,510
Aug.	14850	900	3162	196,040
Sept.	1775	305	757	45,442
Oct.	3430	223	949	58,808
Nov.	6800	207	1139	68,350
Dec.	360	80	153	9,510
Total	..	..	..	1,819,216

Year 1894

Jan.	6300	68	1171	72,582
Feb.	3870	21	449	25,134
Mar.	18100	18	4866	301,698
Apr.	13550	400	2632	157,916
May	9200	360	1484	92,038
June	11000	640	2921	175,280
July	3090	600	1339	83,040
Aug.	3350	360	911	56,470
Sept.	4700	288	841	50,392
Oct.	18100	279	2451	152,000
Nov.	1670	132	506	30,352
Dec.	255	92	148	9,192
Total	..	..	..	1,206,094

Year 1895

Jan.	40000	38	2750	170,000
Feb.	3870	162	778	43,584
Mar.	162	38	77	4,798
Apr.	38	18	26	1,564
May	18	18	18	1,116
June	18	18	18	1,080
July	29	18	19	1,194
Aug.	48	21	27	1,664
Sept.	80	21	42	2,498
Oct.	1670	63	280	17,332
Nov.	11000	68	756	45,376
Dec.	1080	80	257	15,932
Total	..	..	..	306,138

Year 1896

Jan.	3870	223	602	37,318
Feb.	6400	271	963	55,882
Mar.	1080	147	314	19,480
Apr.	255	162	196	11,744
May	288	118	167	10,366
June	169	162	162	9,748
July	1140	162	415	25,758
Aug.	6400	271	974	60,416
Sept.	3350	322	692	41,532
Oct.	420	132	189	11,756
Nov.	600	132	200	12,018
Dec.	4130	132	1061	65,774
Total	..	..	..	361,792

Year 1897

Jan.	207	63	106	6,556
Feb.	247	43	138	7,750
Mar.	58	5	25	1,554
Apr.	3	0	0.7	42
May	0	0	0	0
June	3	0	0.9	54
July	16150	1	1716	106,418
Aug.	4040	162	493	30,552
Sept.	780	80	220	13,178
Oct.	2750	162	735	45,546
Nov.	147	2	43	2,594
Dec.	2030	2	634	39,288
Total	..	..	..	253,532

* Estimated.

GWYDIR RIVER AT PALLAMALLAWA

Year 1898

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	2510	192	566	35,122
Feb.	9200	48	1192	66,760
Mar.	255	12	103	6,404
Apr.	12	0	3	175
May	0	0	0	0
June	3	0	1	59
July	2	2	2	124
Aug.	92	2	33	2,034
Sept.	600	21	132	7,934
Oct.	255	21	91	5,662
Nov.	21	0	3	170
Dec.	0	0	0	0
Total	..	..	..	124,444

Year 1899

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	900	0	31	1,946
Feb.	420	0	43	2,418
Mar.	29	0	3	198
Apr.	207	0	18	1,100
May	0	0	0	0
June	0	0	0	0
July	288	0	86	5,318
Aug.	5900	43	735	45,600
Sept.	1600	192	467	28,026
Oct.	4175	177	803	49,784
Nov.	1230	239	373	22,388
Dec.	263	15	130	8,070
Total	..	..	..	164,848

Year 1900

Jan.	12	0	1	85
Feb.	1230	0	210	11,744
Mar.	2150	162	550	34,106
Apr.	6750	192	887	53,232
May	3090	53	786	48,746
June	10400	380	1958	117,452
July	23000	580	4543	281,680
Aug.	14200	111	1640	101,704
Sept.	431	80	233	13,972
Oct.	350	162	243	15,066
Nov.	155	58	100	5,980
Dec.	280	48	127	7,904
Total	..	..	..	691,671

Year 1901

Jan.	6650	80	433	26,826
Feb.	207	0	52	2,936
Mar.	1140	0	212	13,122
Apr.	155	5	50	2,976
May	340	0	25	1,570
June	4550	162	831	49,866
July	1425	104	374	23,216
Aug.	20800	38	3446	213,682
Sept.	4750	170	919	55,152
Oct.	255	98	140	8,670
Nov.	200	21	69	4,138
Dec.	125	1	38	2,368
Total	..	..	..	404,522

Year 1902

Jan.	34	0	9	576
Feb.	177	1	26	1,462
Mar.	1	0	0.1	4
Apr.	0	0	0	0
May	0	0	0	0
June	0	0	0	0
July	0	0	0	0
Aug.	0	0	0	0
Sept.	0	0	0	0
Oct.	0	0	0	0
Nov.	0	0	0	0
Dec.	8300	0	1351	83,788
Total	..	..	..	85,830

Year 1903

Jan.	431	2	126	7,806
Feb.	15	0	2	97
Mar.	680	0	41	2,570
Apr.	4130	1	346	20,768
May	10100	0.5	1171	72,628
June	28800	223	2880	173,000
July	15710	177	2913	180,592
Aug.	17700	680	3450	213,880
Sept.	35750	467	6690	402,000
Oct.	11000	1080	3542	219,632
Nov.	10200	390	2736	164,186
Dec.	2830	177	508	31,496
Total	..	..	..	1,488,655

GWYDIR RIVER AT PALLAMALLAWA

Year 1904

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	467	48	151	9,392
Feb.	48	0	14	842
Mar.	12570	29	646	40,026
Apr.	16150	132	2163	129,794
May	3170	48	265	16,442
June	2110	200	610	36,630
July	14200	239	2164	134,188
Aug.	6500	340	1138	70,574
Sept.	600	132	293	17,558
Oct.	16800	443	2929	181,604
Nov.	400	132	238	14,284
Dec.	207	25	79	4,924
Total	..	..	..	656,258

Year 1905

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	2830	3	173	10,750
Feb.	216	12	47	2,650
Mar.	730	10	133	8,250
Apr.	8300	305	1525	91,500
May	1880	147	444	27,558
June	3520	147	1254	75,216
July	2110	247	654	40,538
Aug.	400	192	277	17,180
Sept.	192	58	120	7,190
Oct.	239	29	95	5,892
Nov.	92	12	38	2,282
Dec.	10	0	4	242
Total	..	..	..	289,248

Year 1906

Jan.	239	0	95	5,916
Feb.	1260	10	135	7,558
Mar.	6800	92	767	47,576
Apr.	104	33	57	3,432
May	98	29	44	2,710
June	58	15	38	2,286
July	21	9	12	742
Aug.	420	10	107	6,606
Sept.	3350	467	1828	109,684
Oct.	9200	1020	4186	259,520
Nov.	840	118	301	18,062
Dec.	192	92	125	7,748
Total	..	..	..	471,840

Year 1907

Jan.	3350	68	608	37,706
Feb.	1080	192	350	19,594
Mar.	12570	239	3289	203,930
Apr.	730	147	273	16,398
May	140	80	106	6,570
June	3350	80	690	41,410
July	360	162	227	14,082
Aug.	7700	162	1237	76,720
Sept.	288	104	190	11,430
Oct.	111	58	89	5,520
Nov.	1260	58	225	13,488
Dec.	400	80	188	11,664
Total	..	..	..	458,512

Year 1908

Jan.	305	68	188	11,646
Feb.	4800	68	1752	101,614
Mar.	38500	223	3590	223,000
Apr.	780	443	574	34,410
May	443	330	382	23,714
June	322	255	292	17,512
July	288	247	265	16,430
Aug.	5300	255	2366	146,706
Sept.	22200	600	2765	165,920
Oct.	1020	162	552	34,216
Nov.	1020	223	503	30,190
Dec.	5600	263	768	47,612
Total	..	..	..	852,970

Year 1909

Jan.	1260	340	584	36,226
Feb.	5600	370	1210	67,770
Mar.	3350	255	482	29,914
Apr.	255	177	215	12,882
May	360	255	287	17,772
June	6200	215	893	53,590
July	1880	495	981	60,800
Aug.	16150	410	4757	294,930
Sept.	8000	780	1741	104,450
Oct.	780	620	705	43,690
Nov.	705	420	555	33,322
Dec.	1880	360	733	45,424
Total	..	..	..	800,770

GWYDIR RIVER AT PALLAMALLAWA.

Year 1910

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	79000	255	10000	620,000
Feb.	No Records			39,200*
Mar.	No Records			169,600*
Apr.	No Records			8,300*
May	No Records			5,800*
June	No Records			7,200*
July	No Records			67,200*
Aug.	No Records			20,800*
Sept.	No Records			7,400*
Oct.	No Records			11,700*
Nov.	2270	288	917	55,040
Dec.	1530	147	527	32,704
Total	..	..	..	1,044,944*

Year 1911

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	9200	443	2766	171,506
Feb.	21500	2190	5571	312,000
Mar.	2955	420	1711	106,100
Apr.	390	170	245	14,718
May	223	147	180	11,154
June	170	98	130	7,802
July	360	92	223	13,802
Aug.	215	98	142	8,812
Sept.	223	132	172	10,304
Oct.	1080	118	260	16,122
Nov.	1080	2	115	6,908
Dec.	3090	58	528	32,714
Total	..	..	..	711,942

Year 1912

Jan.	80	29	50	3,090
Feb.	207	15	65	3,798
Mar.	147	68	92	5,708
Apr.	68	33	52	3,090
May	29	15	21	1,276
June	1140	12	169	10,126
July	3780	255	1141	70,766
Aug.	1670	322	804	49,868
Sept.	322	170	240	14,422
Oct.	207	92	146	9,032
Nov.	177	132	154	9,252
Dec.	125	86	108	6,686
Total	..	..	..	187,114

Year 1913

Jan.	730	33	146	9,064
Feb.	1260	48	219	12,282
Mar.	6200	58	525	32,530
Apr.	1390	255	451	27,086
May	16800	147	1861	115,406
June	11000	525	3580	214,790
July	10400	400	3033	18,866
Aug.	580	271	441	27,368
Sept.	263	155	206	12,388
Oct.	400	118	152	9,450
Nov.	1460	192	467	28,010
Dec.	305	74	130	8,046
Total	..	..	..	515,286

Year 1914

Jan.	467	53	179	11,070
Feb.	207	132	161	9,022
Mar.	9200	162	1872	116,048
Apr.	2350	177	859	51,526
May	1460	147	446	26,730
June	3090	177	558	33,482
July	467	322	382	23,674
Aug.	370	155	257	15,928
Sept.	155	98	129	7,712
Oct.	223	74	132	8,198
Nov.	2350	147	694	41,622
Dec.	2110	543	992	61,496
Total	..	..	..	406,508

Year 1915

Jan.	810	125	316	19,592
Feb.	118	21	75	4,216
Mar.	21	2	10	620
Apr.	15	2	7	430
May	15	3	8	482
June	21	4	9	554
July	1460	8	202	12,544
Aug.	600	255	390	24,158
Sept.	600	200	326	19,534
Oct.	313	104	181	11,200
Nov.	98	3	41	2,432
Dec.	1810	1	576	35,694
Total	..	..	..	131,456

* Estimated.

GWYDIR RIVER AT PALLAMALLAWA

Year 1916

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	132	48	85	5,268
Feb.	5300	9	418	24,262
Mar.	1880	68	502	31,104
Apr.	11920	29	3153	189,172
May	1950	147	466	28,884
June	1320	43	152	9,116
July	8800	780	2775	172,068
Aug.	12900	1260	4996	309,780
Sept.	8900	322	1441	86,466
Oct.	8600	255	1516	94,004
Nov.	7400	400	871	52,260
Dec.	72000	600	10700	664,000
Total	..	..	..	1,666,384

Year 1917

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	6500	400	1391	86,242
Feb.	12250	420	2723	152,512
Mar.	640	125	251	15,536
Apr.	125	58	87	5,208
May	58	48	54	3,356
June	92	53	72	4,332
July	98	74	86	5,344
Aug.	80	63	72	4,458
Sept.	16150	58	2365	171,872
Oct.	4400	231	934	57,934
Nov.	56700	239	10100	604,000
Dec.	13550	467	2868	177,828
Total	..	..	..	1,288,622

Year 1918

Jan.	3870	192	946	58,656
Feb.	1020	162	377	21,136
Mar.	147	80	107	6,616
Apr.	104	48	67	4,036
May	74	38	55	3,438
June	58	48	54	3,230
July	63	38	44	2,706
Aug.	900	63	360	22,310
Sept.	239	58	129	7,736
Oct.	53	21	36	2,242
Nov.	25	10	17	1,024
Dec.	10	3	7	412
Total	..	..	..	133,542

Year 1919

Jan.	2	1	2	106
Feb.	9	1	2	104
Mar.	12	3	5	292
Apr.	2	1	2	96
May	730	0.5	44	2,742
June	18	8	11	682
July	8	4	5	314
Aug.	4	3	3	202
Sept.	3	2	2	140
Oct.	1	0.5	1	54
Nov.	0.5	0	0.3	16
Dec.	2	0	0.2	14
Total	..	..	..	4,762

Year 1920

Jan.	4400	15	358	22,226
Feb.	2350	13	221	12,808
Mar.	10	2	4	276
Apr.	3	1	2	126
May	80	2	11	668
June	8000	2	550	33,008
July	51200	467	6770	420,000
Aug.	6800	560	2207	136,840
Sept.	4400	467	1664	99,864
Oct.	2350	255	497	30,804
Nov.	370	104	195	11,726
Dec.	730	80	250	15,494
Total	..	..	..	783,840

Year 1921

Jan.	80	18	59	3,680
Feb.	331	8	76	4,246
Mar.	11920	80	934	57,902
Apr.	68	25	40	2,418
May	7400	18	300	18,618
June	34000	900	7960	478,000
July	79000	1110	9840	610,000
Aug.	3350	580	1454	90,160
Sept.	6800	443	1430	85,794
Oct.	23400	560	3711	230,076
Nov.	4130	340	1002	60,100
Dec.	34000	305	3090	192,000
Total	..	..	..	1,832,994

GWYDIR RIVER AT PALLAMALLAWA

Year 1922

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	24600	680	3081	191,022
Feb.	580	177	239	13,398
Mar.	215	147	177	10,944
Apr.	140	92	118	7,094
May	86	48	67	4,142
June	86	43	60	3,602
July	420	86	152	9,408
Aug.	331	147	213	13,218
Sept.	360	140	223	13,368
Oct.	200	98	139	8,624
Nov.	98	38	67	3,998
Dec.	6200	38	825	51,138
Total	..	..	..	329,956

Year 1923

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	340	104	243	15,066
Feb.	185	48	85	4,742
Mar.	170	29	72	4,462
Apr.	29	5	12	738
May	5	3	4	258
June	162	3	50	2,984
July	192	48	138	8,530
Aug.	400	86	161	9,996
Sept.	2830	80	488	29,272
Oct.	1140	98	203	12,556
Nov.	192	29	103	6,200
Dec.	900	9	121	7,496
Total	..	..	..	102,300

Year 1924

Jan.	271	48	142	8,808
Feb.	6200	21	705	42,330
Mar.	331	38	139	8,626
Apr.	3430	33	632	37,896
May	118	68	87	5,400
June	223	63	122	7,318
July	2350	162	597	37,006
Aug.	11920	297	1022	63,390
Sept.	6600	360	981	58,880
Oct.	10400	280	1545	95,816
Nov.	40000	255	5430	326,000
Dec.	900	313	440	27,258
Total	..	..	..	718,728

Year 1925

Jan.	730	231	359	22,280
Feb.	231	98	157	8,770
Mar.	92	18	53	3,264
Apr.	18	7	11	634
May	18	5	9	556
June	15	3	6	382
July	118	5	39	2,440
Aug.	200	74	144	8,950
Sept.	192	33	100	6,026
Oct.	29	2	12	760
Nov.	6800	2	647	38,836
Dec.	340	86	180	11,180
Tota.	..	..	..	104,078

Year 1926

Jan.	177	118	135	8,400
Feb.	162	38	120	6,730
Mar.	43	3	14	842
Apr.	29	2	7	416
May	1080	10	148	9,180
June	420	132	260	15,590
July	560	177	358	22,226
Aug.	297	111	150	9,298
Sept.	239	74	99	5,946
Oct.	223	25	97	6,004
Nov.	21	0	4	246
Dec.	525	0	50	3,124
Total	..	..	..	88,002

Year 1927

Jan.	9200	92	2236	138,612
Feb.	4220	80	568	31,820
Mar.	288	8	54	3,378
Apr.	207	8	104	6,218
May	29	21	22	1,366
June	21	12	18	1,062
July	10	5	8	470
Aug.	420	3	32	2,010
Sept.	80	2	13	762
Oct.	2350	0.5	261	16,198
Nov.	263	80	173	10,386
Dec.	3350	192	889	55,094
Total	..	..	..	267,376

GWYDIR RIVER AT PALLAMALLAWA

Year 1928

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	3350	162	471	29,196
Feb.	54000	271	5080	294,000
Mar.	6150	192	550	34,082
Apr.	5700	231	694	41,646
May	215	74	116	7,220
June	16950	104	1873	112,366
July	17300	431	2916	180,800
Aug.	930	255	541	33,542
Sept.	247	92	158	9,484
Oct.	104	58	72	4,480
Nov.	53	3	22	1,346
Dec.	2	0	0.7	44
Total	..	..	..	748,206

Year 1929

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	63	0	11	702
Feb.	1950	2	611	34,196
Mar.	305	200	250	15,494
Apr.	13220	74	1385	83,106
May	74	38	52	3,240
June	38	25	30	1,786
July	25	21	22	1,366
Aug.	3430	21	585	36,254
Sept.	360	247	294	17,656
Oct.	14200	215	2144	132,920
Nov.	1110	525	867	52,030
Dec.	960	29	290	17,978
Total	..	..	..	396,728

Year 1930

Jan.	1080	0.5	73	4,542
Feb.	370	21	155	8,704
Mar.	360	1	176	10,898
Apr.	271	162	222	13,302
May	155	8	66	4,084
June	3825	5	543	32,556
July	350	255	296	18,378
Aug.	340	200	242	15,006
Sept.	600	170	260	15,590
Oct.	6200	147	1067	66,178
Nov.	6800	147	468	28,074
Dec.	431	53	190	11,796
Total	..	..	..	229,108

Year 1931

Jan.	48	2	13	818
Feb.	255	2	61	3,426
Mar.	8000	2	2516	155,994
Apr.	No Records			
May	14850	271	2978	184,650
June	59500	810	7050	423,000
July	15280	1140	4291	266,060
Aug.	1080	380	676	41,926
Sept.	..	..	..	..
Oct.	..	..	..	..
Nov.	..	..	..	..
Dec.	..	..	..	..
Total	..	..	..	..

Year 1951

Jan.	..	..	..	..
Feb.	..	..	..	..
Mar.	..	..	..	..
Apr.	..	..	..	..
May	..	..	..	..
June	..	..	..	..
July	..	..	..	..
Aug.	..	..	..	..
Sept.	..	..	..	..
Oct.	..	..	..	..
Nov.	Station Re-established November 1951			
Dec.	44	14	18	1,137
Total	..	..	..	..

Year 1952

Jan.	17	8	13	802
Feb.	2350	5	242	14,053
Mar.	1080	67	338	20,966
Apr.	510	91	263	15,770
May	No Records			42,700*
June	11700	245	2041	122,474
July	4310	360	935	57,980
Aug.	46000	650	10700	664,000
Sept.	1460	580	890	53,420
Oct.	46100	550	4230	262,000
Nov.	2430	330	832	49,914
Dec.	330	110	233	14,416
Total	..	..	..	1,318,495*

* Estimated.

GWYDIR RIVER AT PALLAMALLAWA

Year 1953

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	194	57	119	7,384
Feb.	20917	30	2011	112,610
Mar.	1670	163	413	25,594
Apr.	163	70	111	6,686
May	422	91	178	11,054
June	110	82	101	6,052
July	130	82	101	6,254
Aug.	2510	82	369	22,882
Sept.	1080	280	364	21,844
Oct.	344	110	215	13,344
Nov.	No Records			12,100*
Dec.	150	16	45	2,820
Total	..	..	..	248,624*

Year 1954

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	No Records			1,900*
Feb.	No Records			69,500*
Mar.	820	21	187	11,566
Apr.	21	16	17	1,050
May	21	16	17	1,058
June	16	13	16	936
July	19	11	15	908
Aug.	46	29	40	2,478
Sept.	37	23	28	1,700
Oct.	21150	14	3346	207,422
Nov.	24000	870	5085	305,076
Dec.	1020	157	390	24,162
Total	..	..	..	627,756*

Year 1955

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	1080	137	281	17,444
Feb.	No Records			864,100*
Mar.	No Records			149,500*
Apr.	448	282	338	20,276
May	697	152	356	22,044
June	8000	210	814	48,820
July	3960	642	1200	74,378
Aug.	3060	495	996	61,724
Sept.	1040	403	629	37,744
Oct.	37000	62	5350	332,000
Nov.	2300	127	1005	60,312
Dec.	320	44	115	7,158
Total	..	..	..	1,695,500*

Year 1956

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	1830	0	235	14,576
Feb.	No Records			827,100*
Mar.	21970	795	4184	259,390
Apr.	7500	590	1871	112,260
May	46900	1420	8970	556,000
June	54000	840	7060	424,000
July	15500	1810	5433	336,860
Aug.	2370	630	1372	85,040
Sept.	1160	520	640	38,400
Oct.	3040	390	868	53,820
Nov.	1420	272	665	39,914
Dec.	252	159	211	13,096
Total	..	..	..	2,760,456*

Year 1957

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	590	142	237	14,678
Feb.	1160	30	224	12,566
Mar.	252	142	166	10,320
Apr.	142	109	118	7,094
May	109	79	90	5,562
June	252	52	63	3,754
July	252	93	109	6,734
Aug.	125	52	64	3,982
Sept.	142	52	100	6,030
Oct.	52	30	43	2,724
Nov.	30	3	20	1,206
Dec.	252	0	44	2,698
Total	..	..	..	77,348

Year 1958

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	79	1	13	778
Feb.	No Records			32,000*
Mar.	8000	142	757	46,936
Apr.	1160	19	130	7,778
May	No Records			2,300*
June	65	10	41	2,476
July	153	49	67	4,158
Aug.	1160	38	271	16,794
Sept.	No Records			51,800*
Oct.	15930	390	2400	148,780
Nov.	340	75	181	10,836
Dec.	8000	17	699	43,346
Total	..	..	..	367,982*

* Estimated.

GWYDIR RIVER AT PALLAMALLAWA

Year 1959

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	4060	259	1077	66,774
Feb.	14630	390	2271	127,160
Mar.	5600	475	1464	90,780
Apr.	No Records			
May	182	86	147	9,096
June	182	86	110	6,572
July	4230	56	607	37,632
Aug.	550	86	289	17,932
Sept.	No Records			
Oct.	No Records			
Nov.	7400	76	998	59,876
Dec.	No Records			
Total	..	..	..	..

Year 1960

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	1720	76	370	22,950
Feb.	550	138	236	13,672
Mar.	182	48	89	5,524
Apr.	No Records			
May	No Records			
June	No Records			
July	4820	40	1408	87,320
Aug.	14850	307	1795	111,296
Sept.	390	108	224	13,430
Oct.	280	156	172	10,640
Nov.	No Records			
Dec.	No Records			
Total	..	..	..	..

GWYDIR RIVER ABOVE MEEHI OFFTAKE

LOCATION:	Latitude 29°28' Longitude 150°04'
PERIOD OF ESTABLISHMENT:	June 1936 to July 1951
COMPLETE YEARS OF COMPUTED RECORDS:	8
ZERO OF GAUGE:	R.L. 738.20 North West Water Conservation Datum.
CATCHMENT AREA:	4,950 Square Miles.
CONTROL:	Gravel, subject to alteration.
EQUIPMENT:	Automatic Recorder (Float type) installed November, 1937. Staff gauge, range 0 to 30 feet.
CURRENT METER OBSERVATIONS:	(a) Number obtained : 76 (b) Maximum observation in cusecs : 7,270 (c) Minimum observation in cusecs : 0
MAXIMUM ESTIMATED DISCHARGE DURING PERIOD OF RECORDS:	22,100 cusecs.
MEAN DAILY DISCHARGE FOR 8 YEARS:	420 cusecs.
MEAN ANNUAL DISCHARGE FOR 8 YEARS:	309,500 acre feet.
REMARKS:	This station is about 6 miles downstream of the station at Pallamallawa. No records are available for the period March 1947 to July 1951 inclusive.

GWYDIR RIVER ABOVE MEEHI OFFTAKE

Year 1936

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	..	..	..	..
Feb.	..	..	..	..
Mar.	..	..	..	..
Apr.	..	..	..	..
May	..	..	..	..
June	..	..	..	..
July	2670	11	514	31,886
Aug.	15770	168	1871	116,016
Sept.	3440	147	561	33,666
Oct.	No Records			
Nov.	No Records			
Dec.	1540	0	95	5,906
Total	..	..	..	..

Year 1937

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	3540	42	285	17,640
Feb.	110	33	64	3,566
Mar.	20380	17	1384	85,834
Apr.	168	47	80	4,806
May	52	33	40	2,482
June	85	26	37	2,210
July	237	42	74	4,606
Aug.	482	64	123	7,604
Sept.	8000	137	856	51,368
Oct.	345	78	143	8,868
Nov.	3540	56	590	35,416
Dec.	1150	39	143	8,862
Total	..	..	..	233,262

Year 1938

Jan.	112	10	32	1,978
Feb.	6600	47	391	21,914
Mar.	147	11	29	1,776
Apr.	9	0	2	110
May	14710	0	743	46,058
June	370	30	83	4,970
July	93	36	55	3,434
Aug.	14160	102	1909	118,362
Sept.	1310	150	410	24,608
Oct.	1960	77	407	25,220
Nov.	2440	130	526	31,570
Dec.	1960	14	276	17,104
Total	..	..	..	297,104

Year 1939

Jan.	1050	0	99	6,150
Feb.	120	6	33	1,824
Mar.	8108	1	513	31,816
Apr.	255	21	57	3,416
May	26	10	17	1,034
June	161	8	38	2,264
July	1370	70	384	23,800
Aug.	2520	140	811	50,294
Sept.	161	41	84	5,018
Oct.	650	21	57	3,504
Nov.	64	7	21	1,228
Dec.	288	2	44	2,700
Total	..	..	..	133,048

Year 1940

Jan.	640	0	34	2,120
Feb.	1480	0	137	7,948
Mar.	2580	0	169	10,459
Apr.	52	15	25	1,526
May	15	1	7	451
June	1	0	0.1	8
July	0	0	0	0
Aug.	0	0	0	0
Sept.	0	0	0	0
Oct.	0	0	0	0
Nov.	0	0	0	0
Dec.	No Records			40,900*
Total	..	..	..	63,412*

Year 1941

Jan.	No Records			122,700*
Feb.	No Records			143,700*
Mar.	14160	93	2369	146,890
Apr.	820	360	454	27,224
May	No Records			5,700*
June	No Records			70,800*
July	No Records			25,800*
Aug.	215	92	132	8,178
Sept.	102	38	71	4,276
Oct.	345	17	36	2,228
Nov.	2810	74	546	32,752
Dec.	No Records			1,400*
Total	..	..	..	591,648*

* Estimated.

GWYDIR RIVER ABOVE MEEHI OFFTAKE

Year 1942

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	No Records			1,500*
Feb.	1080	1	239	13,380
Mar.	265	4	41	2,548
Apr.	38	0	8	490
May	0	0	0	0
June	290	0	16	952
July	22090	58	2870	177,924
Aug.	685	128	346	21,452
Sept.	128	91	112	6,750
Oct.	7840	67	1252	77,652
Nov.	5020	192	697	41,842
Dec.	5490	105	842	52,194
Total	..	..	..	396,684*

Year 1943

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	17120	240	2217	137,452
Feb.	455	75	193	10,806
Mar.	67	16	40	2,456
Apr.	75	8	32	1,950
May	20	10	15	914
June	No Records			2,500*
July	34	24	27	1,698
Aug.	308	34	112	6,952
Sept.	253	46	112	6,730
Oct.	3360	109	457	28,322
Nov.	15450	109	2348	140,882
Dec.	1470	181	331	20,526
Total	..	..	..	361,188*

Year 1944

Jan.	2810	100	372	23,058
Feb.	No Records			
Mar.	No Records			
Apr.	No Records			
May	No Records			
June	No Records			
July	No Records			
Aug.	No Records			
Sept.	No Records			
Oct.	No Records			
Nov.	No Records			
Dec.	No Records			
Total	..	..	..	..

Year 1945

Jan.	No Records			
Feb.	No Records			
Mar.	No Records			
Apr.	No Records			
May	No Records			
June	3850	17	519	31,124
July	4580	95	753	46,686
Aug.	1055	138	316	19,576
Sept.	4260	181	756	45,362
Oct.	273	44	126	7,840
Nov.	130	27	43	2,600
Dec.	705	11	97	5,990
Total	..	..	..	..

Year 1946

Jan.	No Records			319,000*
Feb.	4525	142	487	27,284
Mar.	1870	46	181	11,196
Apr.	647	66	177	10,600
May	71	41	56	3,442
June	41	24	31	1,854
July	37	24	30	1,844
Aug.	32	11	24	1,458
Sept.	595	4	61	3,636
Oct.	1660	8	84	5,218
Nov.	2090	1	95	5,698
Dec.	2125	0	135	8,394
Total	..	..	..	399,624*

Year 1947

Jan.	0	0	0	0
Feb.	5490	0	954	53,442
Mar.	No Records			
Apr.	No Records			
May	No Records			
June	No Records			
July	No Records			
Aug.	No Records			
Sept.	No Records			
Oct.	No Records			
Nov.	No Records.			
Dec.	No Records.			
Total	..	..	..	..

* Estimated.

MEEHI RIVER AT MOREE

LOCATION:	Latitude 29°28' Longitude 149°51'
PERIOD OF ESTABLISHMENT:	January 1928 to date.
COMPLETE YEARS OF COMPUTED RECORDS:	27
ZERO OF GAUGE:	R.L. 648.39 North West Water Conservation Datum.
CATCHMENT AREA:	Effluent Stream.
CONTROL:	Gravel.
EQUIPMENT:	Staff gauge, range 0 to 30 feet.
CURRENT METER OBSERVATIONS:	(a) Number obtained : 120
	(b) Maximum observation in cusecs : 5,420
	(c) Minimum observation in cusecs : 0
MAXIMUM ESTIMATED DISCHARGE DURING PERIOD OF RECORDS:	37,600 cusecs.
MEAN DAILY DISCHARGE FOR 27 YEARS PRIOR TO 1961 (See Remarks).	70 cusecs.
MEAN ANNUAL DISCHARGE FOR 27 YEARS PRIOR TO 1961 (See Remarks).	53,500 acre feet.
REMARKS:	The Meehi River is an effluent of the Gwydir River. It offtakes from the main river about 20 miles upstream from Moree and rejoins the Gwydir River about 15 miles below Moree. In 1961 the Meehi River Offtake was deepened to allow flow in the Meehi River to commence at lower discharges in the Gwydir River. No records are available for the period July 1956 to February 1964.

MEEHI RIVER AT MOREE

Year 1928

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	0	0	0	0
Feb.	0	0	0	0
Mar.	0	0	0	0
Apr.	0	0	0	0
May	0	0	0	0
June	480	0	28	1,680
July	2440	0	203	12,586
Aug.	42	0	2	142
Sept.	0	0	0	0
Oct.	0	0	0	0
Nov.	0	0	0	0
Dec.	0	0	0	0
Total	..	..	..	14,408

Year 1929

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	0	0	0	0
Feb.	0	0	0	0
Mar.	0	0	0	0
Apr.	1830	0	188	11,258
May	0	0	0	0
June	0	0	0	0
July	0	0	0	0
Aug.	0	0	0	0
Sept.	0	0	0	0
Oct.	730	0	48	2,968
Nov.	0	0	0	0
Dec.	0	0	0	0
Total	..	..	..	14,226

Year 1930

Jan.	0	0	0	0
Feb.	0	0	0	0
Mar.	0	0	0	0
Apr.	0	0	0	0
May	0	0	0	0
June	0	0	0	0
July	0	0	0	0
Aug.	0	0	0	0
Sept.	0	0	0	0
Oct.	0	0	0	0
Nov.	0	0	0	0
Dec.	0	0	0	0
Total	..	..	..	..

Year 1931

Jan.	0	0	0	0
Feb.	0	0	0	0
Mar.	730	0	103	6,374
Apr.	4420	0	334	20,014
May	905	0	120	7,464
June	18080	10	1267	76,006
July	1690	0	227	14,082
Aug.	6	0	1	60
Sept.	0	0	0	0
Oct.	0	0	0	0
Nov.	0	0	0	0
Dec.	3970	0	268	16,608
Total	..	..	..	140,608

Year 1932

Jan.	0	0	0	0
Feb.	0	0	0	0
Mar.	0	0	0	0
Apr.	0	0	0	0
May	0	0	0	0
June	0	0	0	0
July	0	0	0	0
Aug.	0	0	0	0
Sept.	224	0	30	1,830
Oct.	224	0	16	962
Nov.	0	0	0	0
Dec.	0	0	0	0
Total	..	..	..	2,792

Year 1933

Jan.	323	0	24	1,482
Feb.	323	0	33	918
Mar.	0	0	0	0
Apr.	0	0	0	0
May	0	0	0	0
June	0	0	0	0
July	323	0	20	1,216
Aug.	70	0	6	388
Sept.	0	0	0	0
Oct.	2610	0	175	10,802
Nov.	440	0	52	3,124
Dec.	0	0	0	0
Total	..	..	..	17,930

MEEHI RIVER AT MOREE

Year 1934

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	0	0	0	0
Feb.	440	0	38	2,122
Mar.	0	0	0	0
Apr.	0	0	0	0
May	0	0	0	0
June	0	0	0	0
July	0	0	0	0
Aug.	0	0	0	0
Sept.	3970	0	215	12,924
Oct.	575	0	35	2,198
Nov.	7	0	0	14
Dec.	0	0	0	0
Total	..	..	..	17,258

Year 1935

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	1320	0	105	6,484
Feb.	0	0	0	0
Mar.	0	0	0	0
Apr.	0	0	0	0
May	0	0	0	0
June	0	0	0	0
July	0	0	0	0
Aug.	0	0	0	0
Sept.	0	0	0	0
Oct.	0	0	0	0
Nov.	0	0	0	0
Dec.	0	0	0	0
Total	..	..	..	6,484

Year 1936

Jan.	0	0	0	0
Feb.	0	0	0	0
Mar.	0	0	0	0
Apr.	0	0	0	0
May	0	0	0	0
June	0	0	0	0
July	0	0	0	0
Aug.	905	0	64	3,856
Sept.	0	0	0	0
Oct.	0	0	0	0
Nov.	0	0	0	0
Dec.	0	0	0	0
Total	..	..	..	3,856

Year 1937

Jan.	0	0	0	0
Feb.	0	0	0	0
Mar.	0	0	0	0
Apr.	2440	0	188	11,666
May	0	0	0	0
June	0	0	0	0
July	0	0	0	0
Aug.	0	0	0	0
Sept.	440	0	47	2,934
Oct.	0	0	0	0
Nov.	140	0	21	1,256
Dec.	27	0	2	138
Total	..	..	..	15,994

Year 1938

Jan.	0	0	0	0
Feb.	280	0	21	1,160
Mar.	0	0	0	0
Apr.	0	0	0	0
May	280	0	23	1,420
June	41	0	5	282
July	0	0	0	0
Aug.	1100	0	162	10,042
Sept.	162	0	19	1,136
Oct.	575	0	85	5,298
Nov.	99	0	39	2,352
Dec.	99	0	19	1,161
Total	..	..	..	22,851

Year 1939

Jan.	0	0	0	0
Feb.	0	0	0	0
Mar.	905	0	32	1,978
Apr.	0	0	0	0
May	0	0	0	0
June	0	0	0	0
July	21	0	2	124
Aug.	140	0	40	2,496
Sept.	0	0	0	0
Oct.	0	0	0	0
Nov.	0	0	0	0
Dec.	0	0	0	0
Total	..	..	..	4,598

MEEHI RIVER AT MOREE

Year 1940

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	0	0	0	0
Feb.	0	0	0	0
Mar.	0	0	0	0
Apr.	0	0	0	0
May	0	0	0	0
June	0	0	0	0
July	0	0	0	0
Aug.	0	0	0	0
Sept.	0	0	0	0
Oct.	0	0	0	0
Nov.	No Records			0*
Dec.	500	0	27	1,704
Total	..	..	..	1,704*

Year 1941

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	364	16	140	8,700
Feb.	5680	2	265	14,864
Mar.	2120	0	216	13,406
Apr.	12	0	2	108
May	0	0	0	0
June	62	0	10	576
July	2	0	0.3	18
Aug.	0	0	0	0
Sept.	0	0	0	0
Oct.	0	0	0	0
Nov.	54	0	8	476
Dec.	0	0	0	0
Total	..	..	..	38,148

Year 1942

Jan.	0	0	0	0
Feb.	0	0	0	0
Mar.	0	0	0	0
Apr.	0	0	0	0
May	0	0	0	0
June	0	0	0	0
July	3550	0	344	21,346
Aug.	0	0	0	0
Sept.	0	0	0	0
Oct.	625	0	61	3,762
Nov.	276	0	21	1,288
Dec.	1110	0	73	4,510
Total	..	..	..	30,906

Year 1943

Jan.	1780	0	182	11,298
Feb.	0	0	0	0
Mar.	0	0	0	0
Apr.	0	0	0	0
May	0	0	0	0
June	0	0	0	0
July	0	0	0	0
Aug.	0	0	0	0
Sept.	0	0	0	0
Oct.	108	0	18	1,106
Nov.	2120	0	254	15,226
Dec.	365	0	116	7,188
Total	..	..	..	34,818

Year 1944

Jan.	0	0	0	0
Feb.	0	0	0	0
Mar.	0	0	0	0
Apr.	0	0	0	0
May	0	0	0	0
June	0	0	0	0
July	0	0	0	0
Aug.	2530	0	220	13,670
Sept.	50	0	5	293
Oct.	0	0	0	0
Nov.	0	0	0	0
Dec.	0	0	0	0
Total	..	..	..	13,963

Year 1945

Jan.	0	0	0	0
Feb.	1195	0	72	4,050
Mar.	235	0	19	1,153
Apr.	0	0	0	0
May	0	0	0	0
June	165	0	8	509
July	335	0	32	2,010
Aug.	0	0	0	0
Sept.	180	0	15	902
Oct.	0	0	0	0
Nov.	0	0	0	0
Dec.	0	0	0	0
Total	..	..	..	8,624

* Estimated.

MEEHI RIVER AT MOREE

Year 1946

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	36700	0	1882	116,684
Feb.	165	0	12	652
Mar.	0	0	0	0
Apr.	0	0	0	0
May	0	0	0	0
June	0	0	0	0
July	0	0	0	0
Aug.	0	0	0	0
Sept.	0	0	0	0
Oct.	0	0	0	0
Nov.	0	0	0	0
Dec.	0	0	0	0
Total	..	..	..	117,336

Year 1947

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	0	0	0	0
Feb.	485	0	42	2,338
Mar.	2360	0	138	8,538
Apr.	0	0	0	0
May	0	0	0	0
June	0	0	0	0
July	0	0	0	0
Aug.	0	0	0	0
Sept.	420	0	50	3,028
Oct.	720	0	70	4,320
Nov.	0	0	0	0
Dec.	1380	0	73	4,498
Total	..	..	..	22,722

Year 1948

Jan.	4580	0	210	13,002
Feb.	0	0	0	0
Mar.	0	0	0	0
Apr.	0	0	0	0
May	0	0	0	0
June	295	0	15	898
July	0	0	0	0
Aug.	0	0	0	0
Sept.	0	0	0	0
Oct.	0	0	0	0
Nov.	0	0	0	0
Dec.	0	0	0	0
Total	..	..	..	13,900

Year 1949

Jan.	0	0	0	0
Feb.	0	0	0	0
Mar.	0	0	0	0
Apr.	0	0	0	0
May	0	0	0	0
June	0	0	0	0
July	0	0	0	0
Aug.	No Records			86,000*
Sept.	3170	0	347	20,832
Oct.	3440	0	498	30,890
Nov.	340	0	33	1,978
Dec.	3	0	0.1	9
Total	..	..	..	139,709*

Year 1950

Jan.	0	0	0	0
Feb.	110	0	8	427
Mar.	0	0	0	0
Apr.	0	0	0	0
May	0	0	0	0
June	4880	0	440	26,392
July	37600	30	6833	423,642
Aug.	755	17	106	6,588
Sept.	23	0	5	284
Oct.	3020	30	675	41,846
Nov.	19800	12	2711	162,650
Dec.	382	0	73	4,532
Total	..	..	..	666,361

Year 1951

Jan.	0	0	0	0
Feb.	0	0	0	0
Mar.	0	0	0	0
Apr.	2	0	1	64
May	2	0	1	76
June	52	0	0.2	14
July	62	0	2	112
Aug.	0	0	0	0
Sept.	0	0	0	0
Oct.	0	0	0	0
Nov.	0	0	0	0
Dec.	0	0	0	0
Total	..	..	..	266

* Estimated

MEEHI RIVER AT MOREE

Year 1952

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	0	0	0	0
Feb.	0	0	0	0
Mar.	0	0	0	0
Apr.	0	0	0	0
May	0	0	0	0
June	650	0	45	2,702
July	86	0	3	214
Aug.	6100	0	519	32,200
Sept.	0	0	0	0
Oct.	5980	0	298	18,460
Nov.	4	0	1	78
Dec.	0	0	0	0
Total	..	..	..	53,654

Year 1953

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	0	0	0	0
Feb.	2110	0	101	5,634
Mar.	118	0	8	506
Apr.	0	0	0	0
Apr.	0	0	0	0
June	0	0	0	0
July	0	0	0	0
Aug.	0	0	0	0
Sept.	0	0	0	0
Oct.	0	0	0	0
Nov.	0	0	0	0
Dec.	0	0	0	0
Total	..	..	..	6,140

Year 1954

Jan.	0	0	0	0
Feb.	0	0	0	0
Mar.	0	0	0	0
Apr.	0	0	0	0
May	0	0	0	0
June	0	0	0	0
July	0	0	0	0
Aug.	0	0	0	0
Sept.	0	0	0	0
Oct.	3000	0	198	12,278
Nov.	2400	0	384	23,017
Dec.	1	0	0.10	6
Total	..	..	..	35,301

Year 1955

Jan.	0	0	0	0
Feb.	No Records			
Mar.	No Records			
Apr.	No Records			
May	No Records			
June	No Records			
July	No Records			
Aug.	No Records			
Sept.	No Records			
Oct.	No Records			
Nov.	No Records			
Dec.	No Records			
Total	..	..	..	..

Year 1956

Jan.	12	6	9	532
Feb.	37400	8	3262	189,204
Mar.	3300	87	494	30,628
Apr.	97	97	97	5,820
May	6190	97	675	41,824
June	21450	97	1413	84,782
July	No Records			
Aug.	No Records			
Sept.	No Records			
Oct.	No Records			
Nov.	No Records			
Dec.	No Records			
Total	..	..	..	

Year 1964 ø

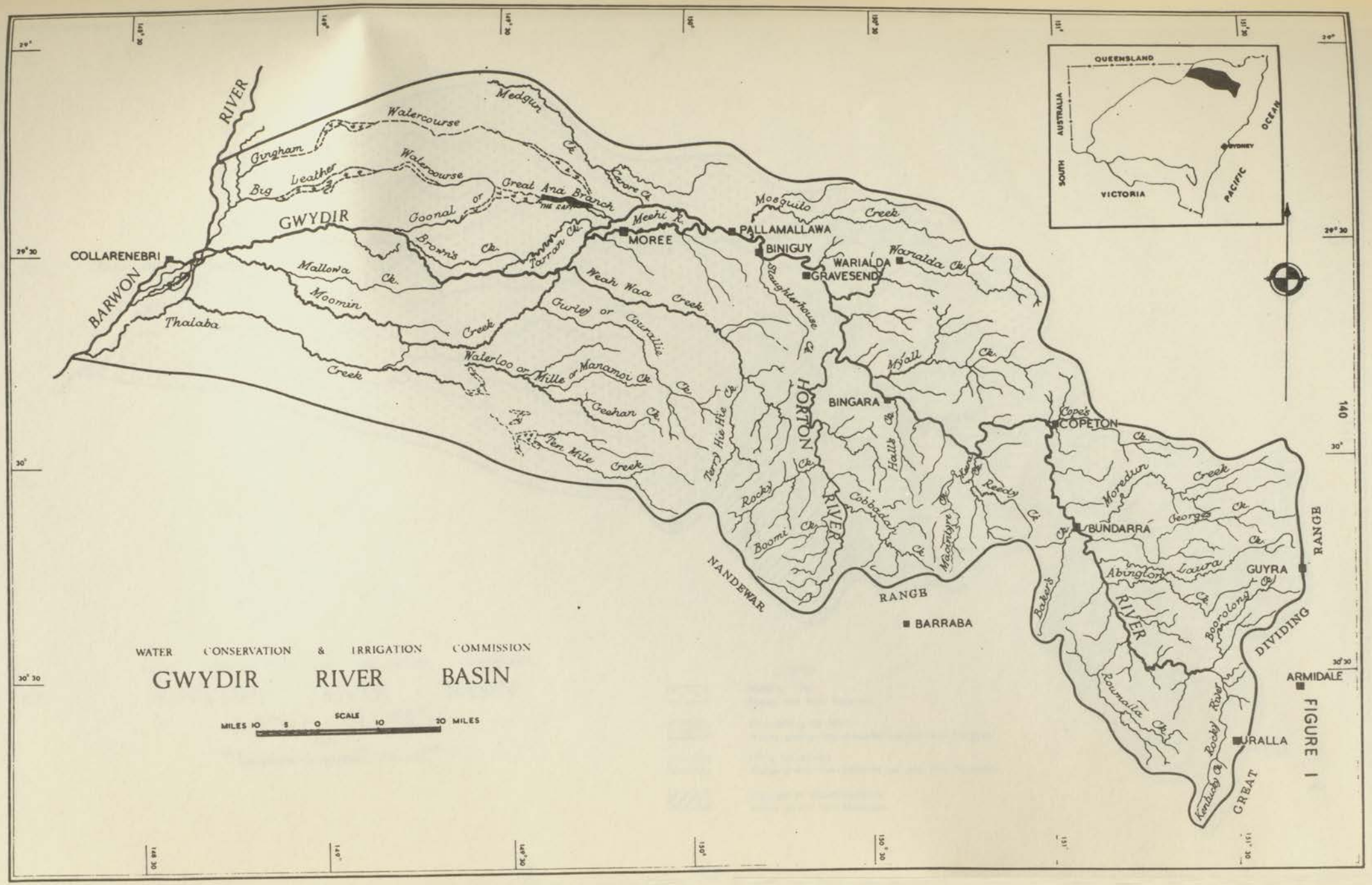
Jan.	No Records			
Feb.	No Records			
Mar.	15	3	9	530
Apr.	640	1	35	2,080
May	17	1	4	248
June	11	0	3	188
July	460	3	103	6,360
Aug.	10	3	6	348
Sept.	520	1	22	1,350
Oct.	720	13	154	9,540
Nov.	52	5	14	870
Dec.	62	1	7	462
Total	..	..	..	

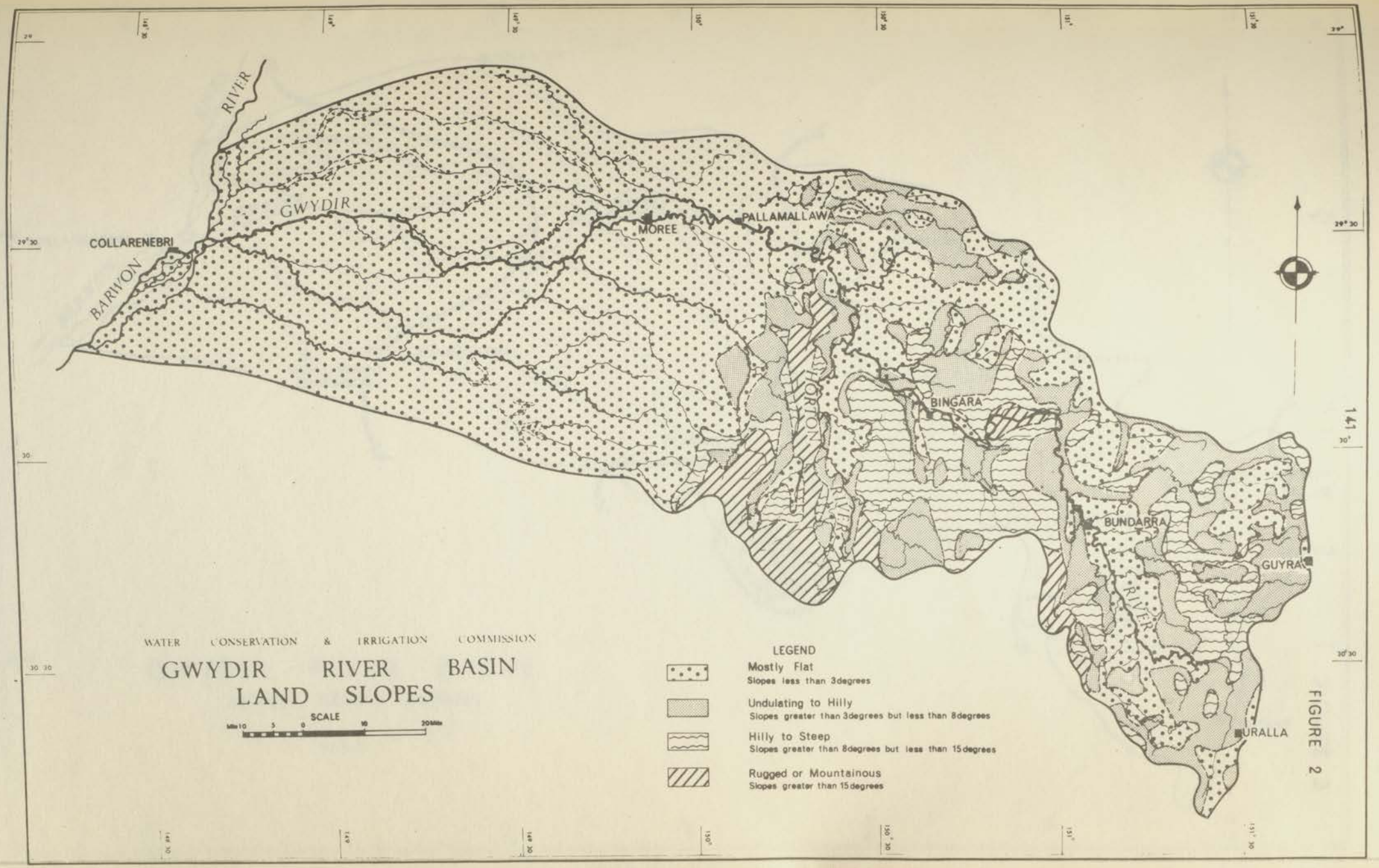
ø No records were obtained from July 1956 to February 1964.

MEEHI RIVER AT MOREE

Year 1965

Month	Discharge in Cusecs			Discharge for Month Acre Feet
	Max.	Min.	Mean	
Jan.	No Records			
Feb.	0	0	0	0
Mar.	0	0	0	0
Apr.	0	0	0	0
May	0	0	0	0
June	0	0	0	0
July	0	0	0	0
Aug.	0	0	0	0
Sept.	0	0	0	0
Oct.	0	0	0	0
Nov.	0	0	0	0
Dec.	940	0	147	9,130
Total	..	..	..	


QUEENSLAND
AUSTRALIA
SOUTH
VICTORIA
SYDNEY
PACIFIC
OCEAN
RIVER
Gingham
Watercourse
Medgun Ck
Leather
Watercourse
Big
Great Ana Branch
THE GAP
Lavore Ck
Meehi R.
Mosquito
Creek
PALLAMALLAWA
MOREE
BINIGUY
WARIALDA
GRAVESEND
Warialda Ck
GWYDIR
Goonal or
Browns Ck
Tarran Ck
COLLARENEBRI
BARWON
Mallowa Ck
Moomin
Creek
Thalaba
Creek
Weah Waa Creek
Gurley or Cornelia
Waterloo or Mille or Manamor Ck
Ck
Ck
Geehan Ck
Ten Mile Creek
Terry Hie Hie Ck
Slaughterhouse Ck
HORTON
Myall Ck
BINGARA
Cope's
COPETON
Ck
Moredun
Creek
George's
Ck
Ck
BUNDARRA
Abington
Laura
Ck
GUYRA
RANGE
Boorolong Ck
DIVIDING
ARMIDALE
Rocky Ck
Boomi Ck
RIVER
Cobbadah Ck
Halls Ck
Macintyre R.
Reedy Ck
Ck
Baker's
Ck
RIVER
Rocky River
Kentucky Ck
GREAT
URALLA
Rounalla Ck
NANDEWAR
RANGE
BARRABA
WATER CONSERVATION & IRRIGATION COMMISSION
GWYDIR RIVER BASIN
SCALE
MILES 10 5 0 10 20 MILES
FIGURE 1


RIVER
GWYDIR
COLLARENEBRI
BARWON
MOREE
PALLAMALLAWA
HORTON
BINGARA
BUNDARRA
GUYRA
RIVER
URALLA
WATER CONSERVATION & IRRIGATION COMMISSION
GWYDIR RIVER BASIN
LAND SLOPES
SCALE
Mile 10 5 0 10 20Miles
LEGEND
Mostly Flat
Slopes less than 3degrees
Undulating to Hilly
Slopes greater than 3degrees but less than 8degrees
Hilly to Steep
Slopes greater than 8degrees but less than 15degrees
Rugged or Mountainous
Slopes greater than 15degrees
29°
29°30
30
30°30
148°30
149°
149°30
150°
150°30
151°
151°30
141
30°
FIGURE 2

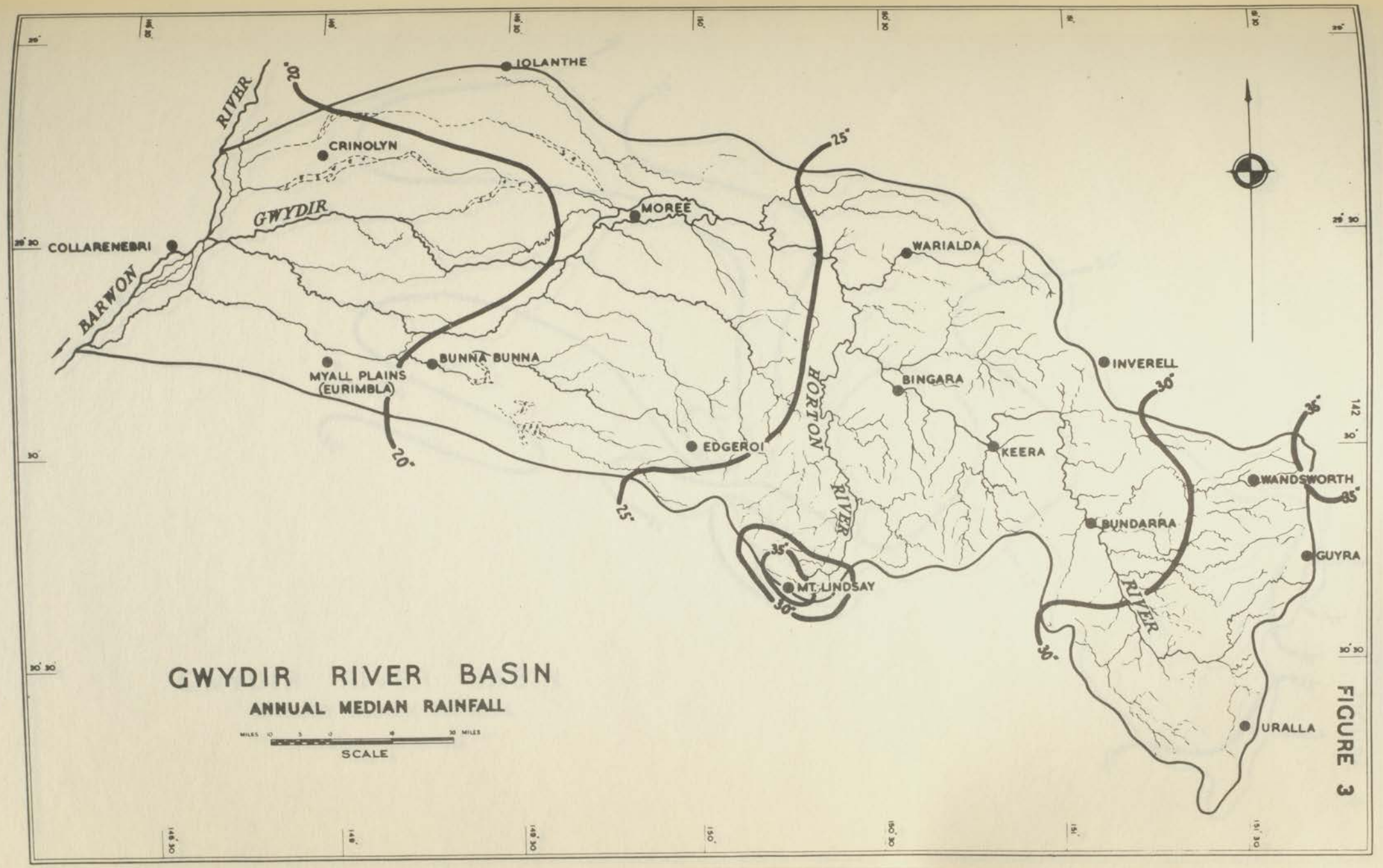
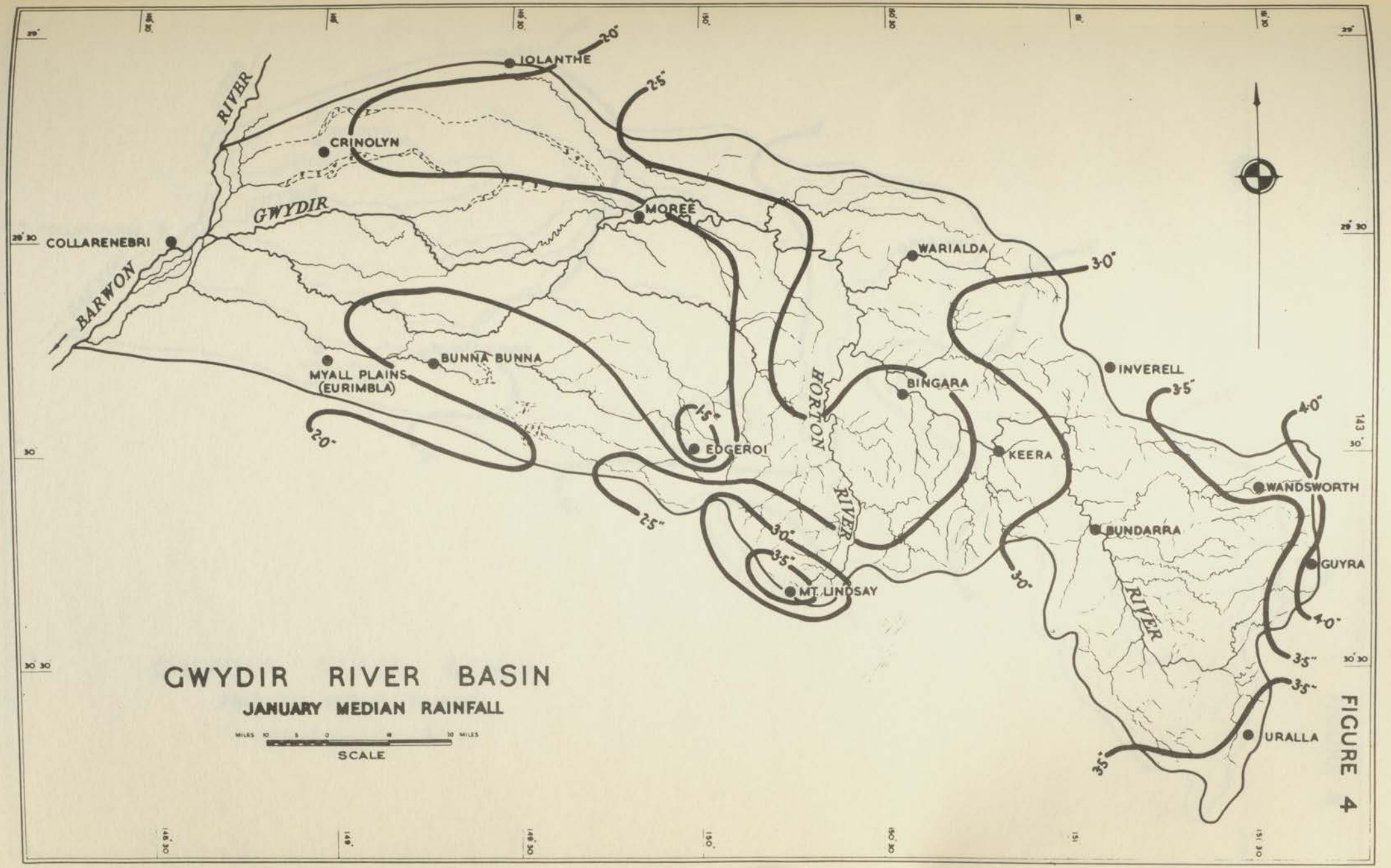

IOLANTHE
RIVER
CRINOLYN
GWYDIR
MOREE
COLLARENEBRI
BARWON
WARIALDA
INVERELL
BUNNA BUNNA
MYALL PLAINS
(EURIMBLA)
BINGARA
HORTON RIVER
EDGEROI
KEERA
WANDSWORTH
BUNDARRA
GUYRA
MT. LINDSAY
RIVER
URALLA
20°
25°
30°
35°
GWYDIR RIVER BASIN
ANNUAL MEDIAN RAINFALL
SCALE

FIGURE 3



GWYDIR RIVER BASIN

JANUARY MEDIAN RAINFALL

MILES 10 5 0 10 20 MILES

SCALE

FIGURE 4

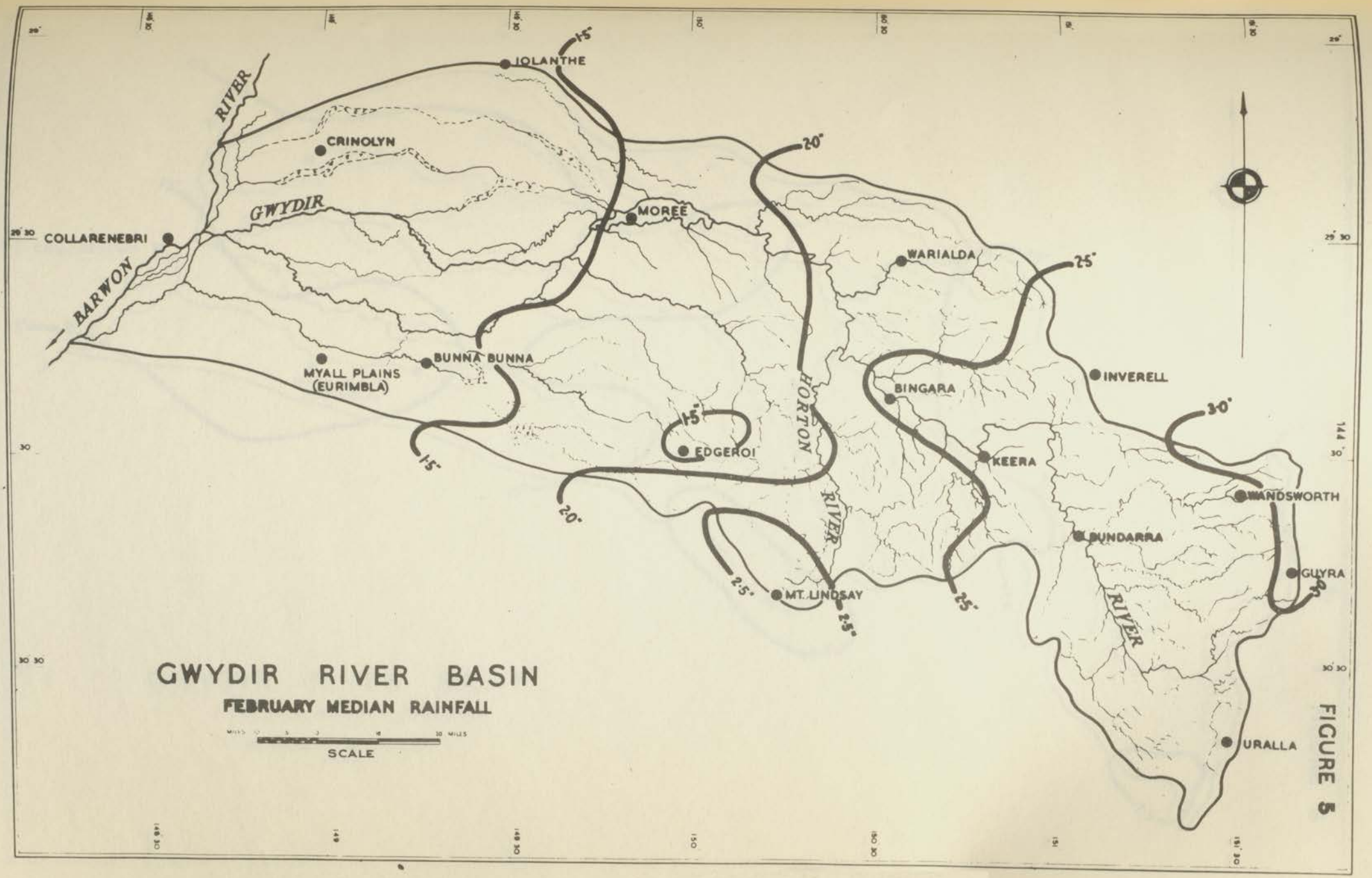
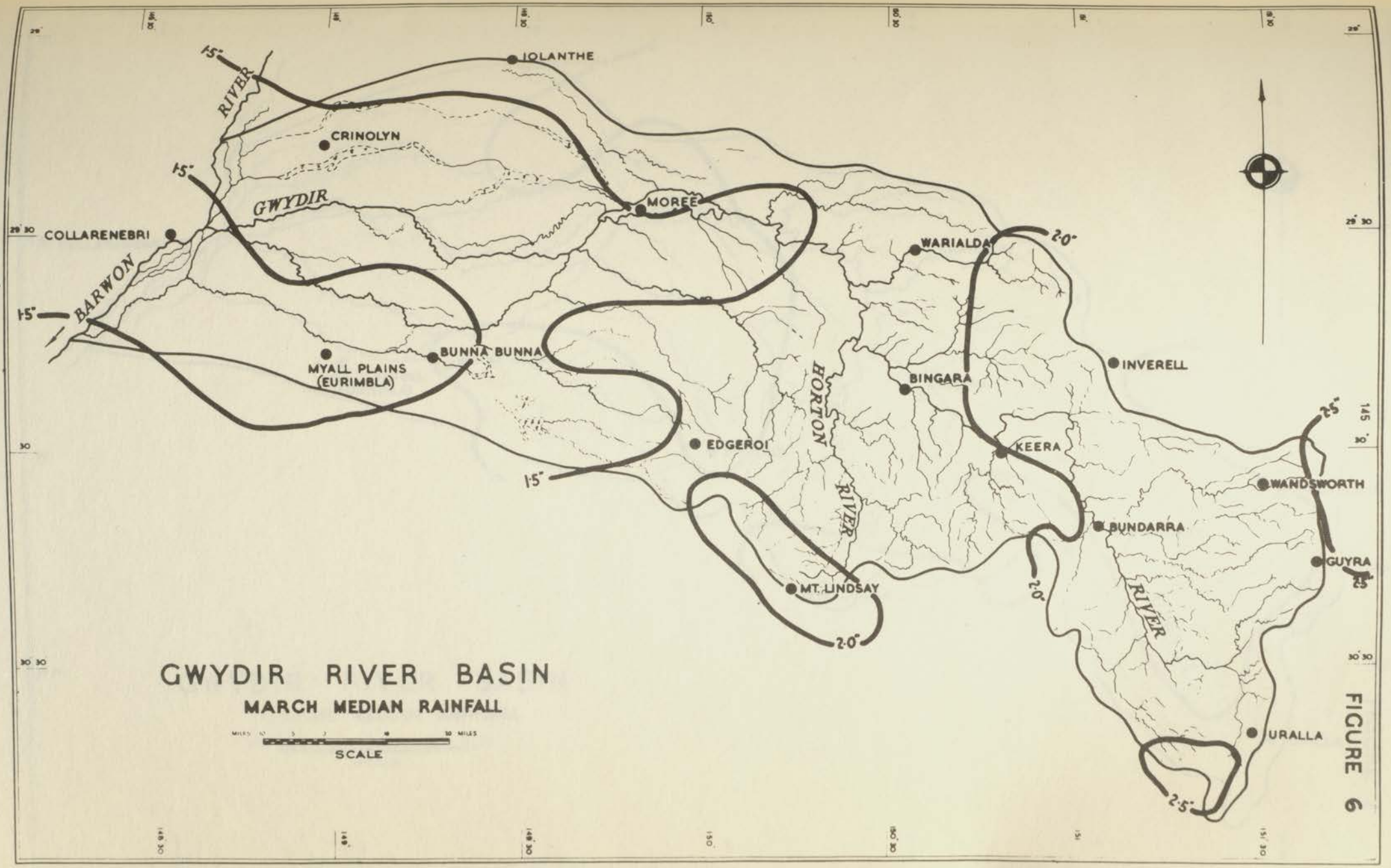

IOLANTHE
CRINOLYN
RIVER
GWYDIR
COLLARENEBRI
BARWON
MOREE
WARIALDA
MYALL PLAINS
(EURIMBLA)
BUNNA BUNNA
EDGEROI
HORTON
RIVER
BINGARA
INVERELL
KEERA
WANDSWORTH
BUNDARRA
GUYRA
MT. LINDSAY
RIVER
URALLA
1·5"
2·0"
2·5"
3·0"
3·5"
GWYDIR RIVER BASIN
FEBRUARY MEDIAN RAINFALL
SCALE

FIGURE 5


IOLANTHE
CRINOLYN
MOREE
COLLARENEBRI
WARIALDA
INVERELL
BINGARA
MYALL PLAINS
(EURIMBLA)
BUNNA BUNNA
EDGEROI
KEERA
WANDSWORTH
BUNDARRA
GUYRA
MT. LINDSAY
URALLA
BARWON
GWYDIR
HORTON
RIVER
1·5"
2·0"
2·5"
GWYDIR RIVER BASIN
MARCH MEDIAN RAINFALL
SCALE
FIGURE 6

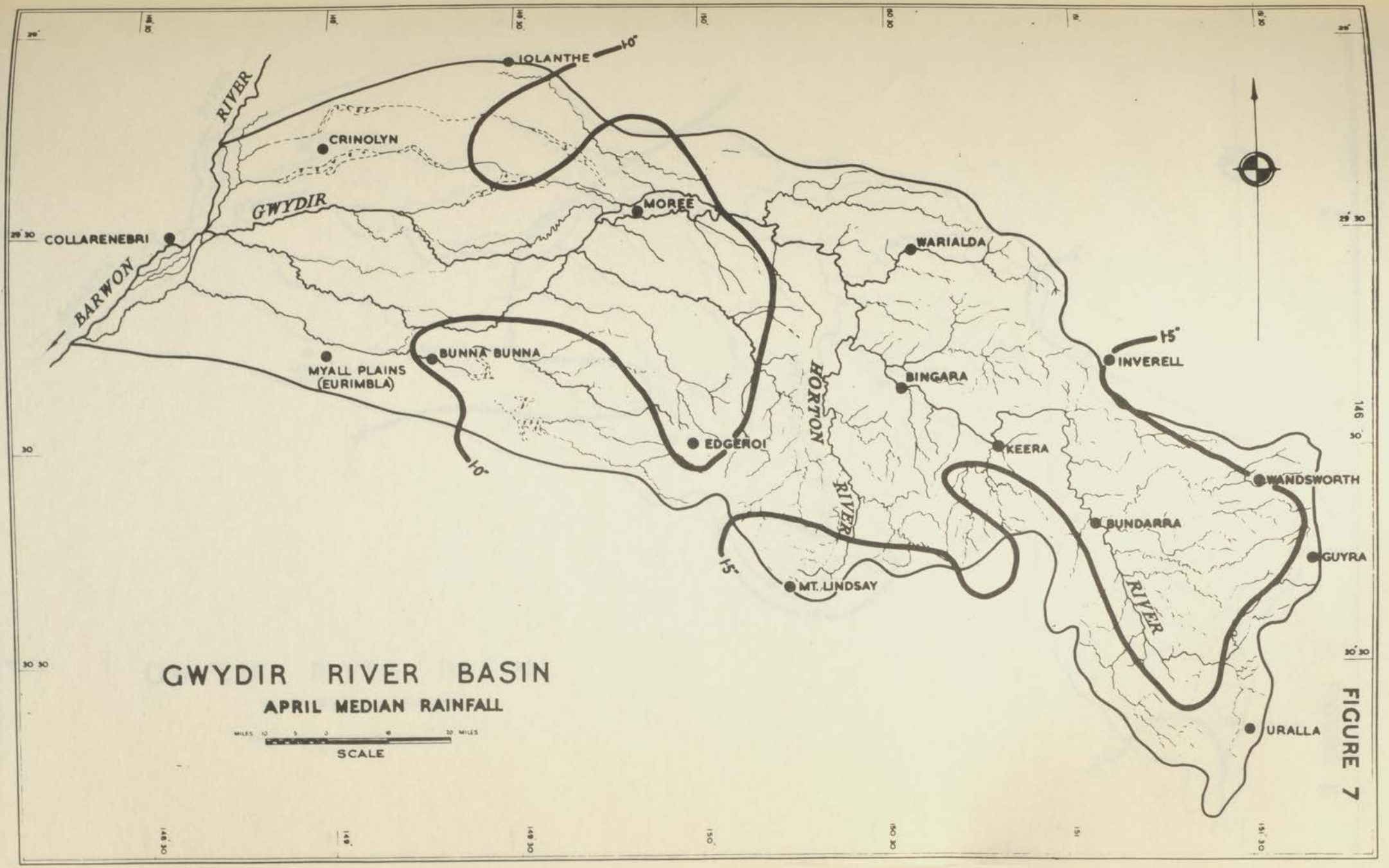
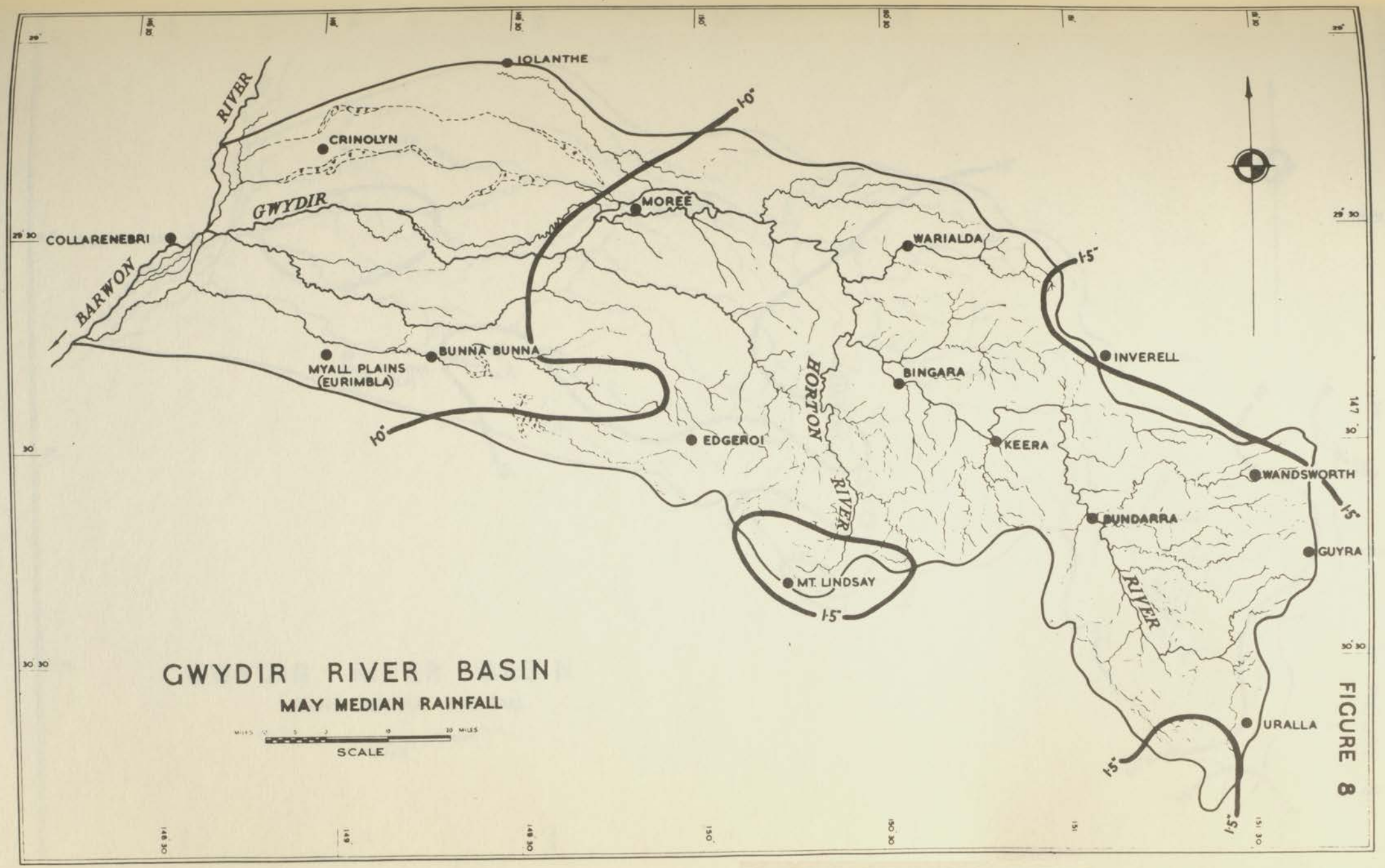
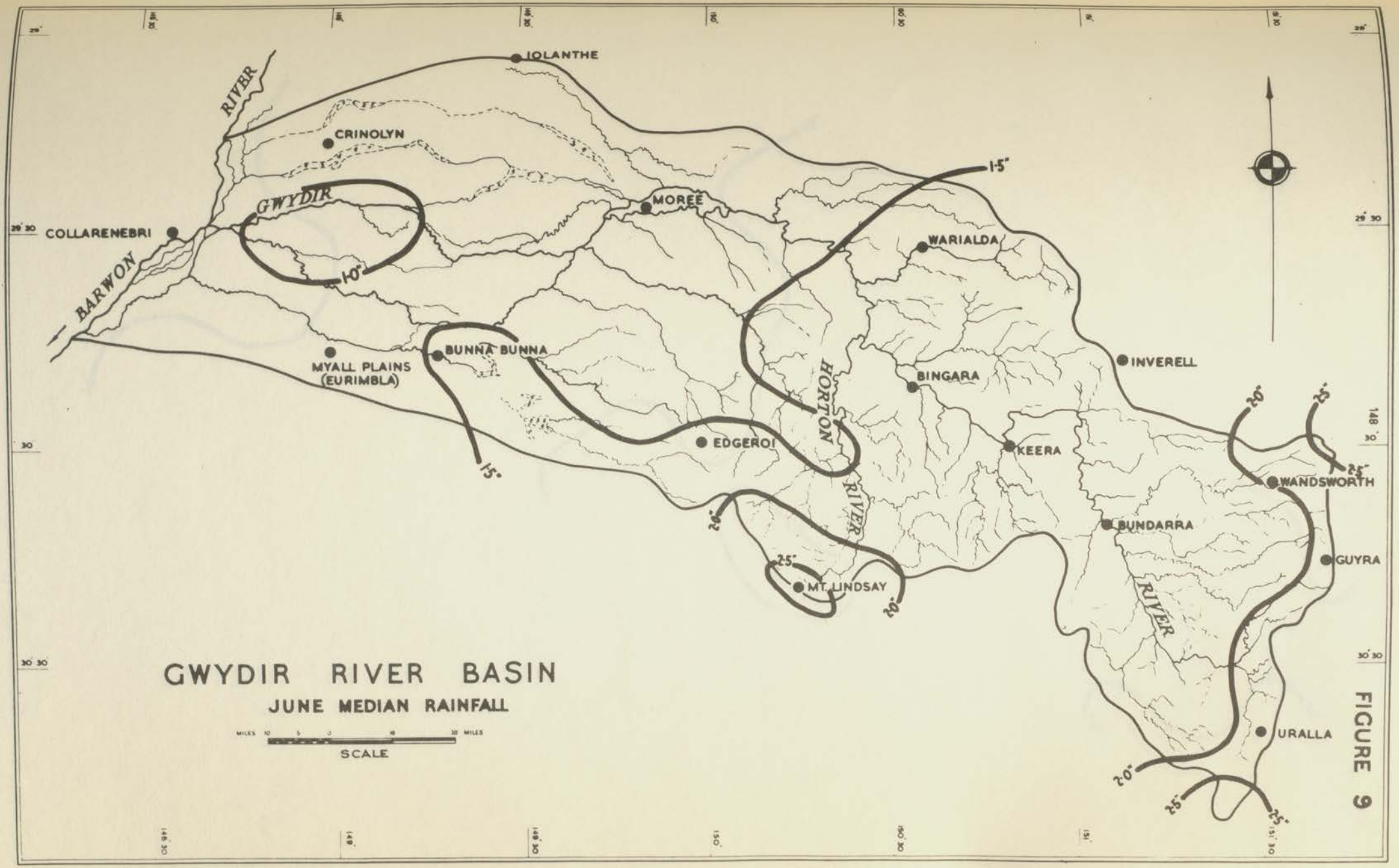
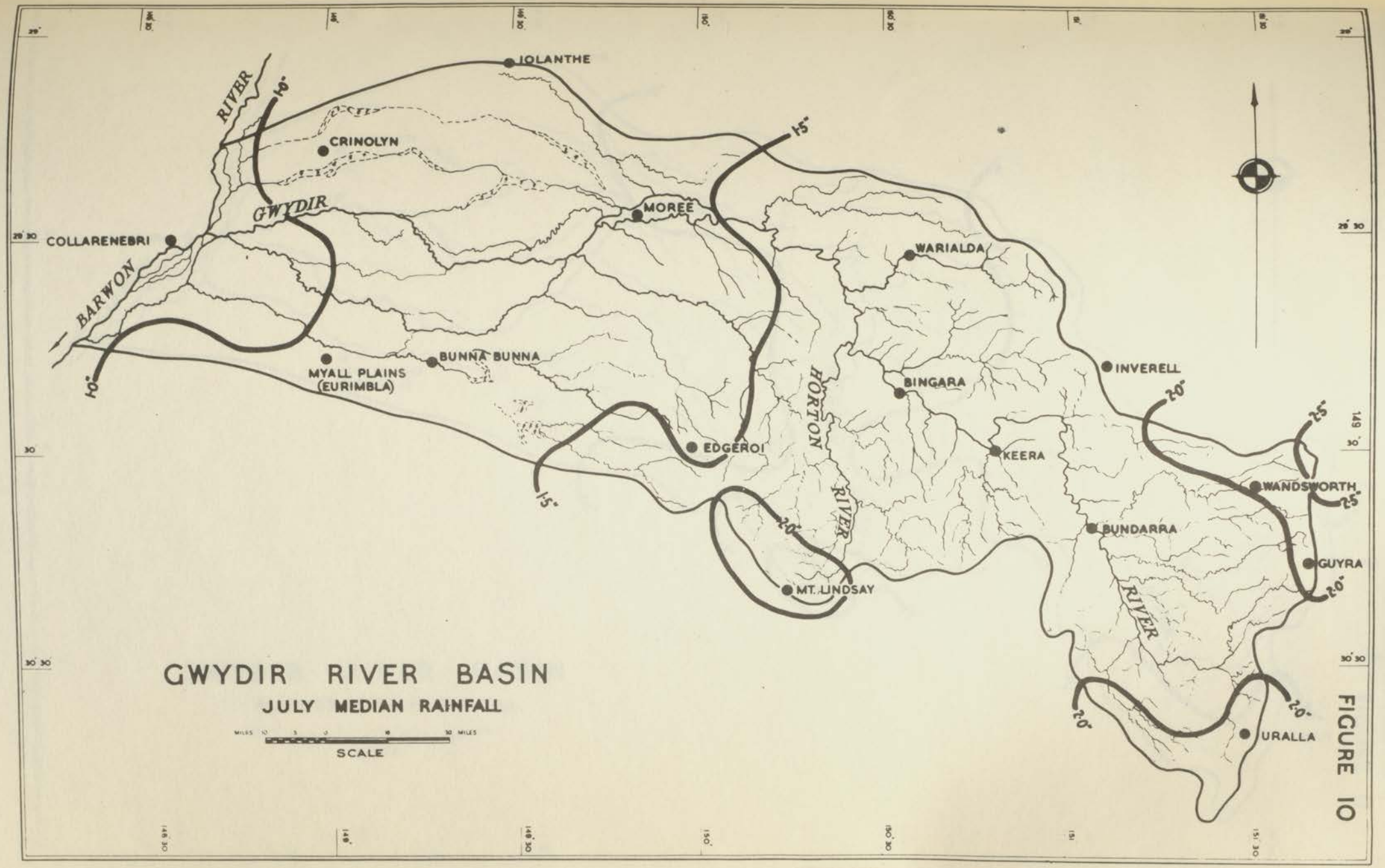

IOLANTHE
10"
RIVER
CRINOLYN
GWYDIR
MOREE
COLLARENEBRI
BARWON
WARIALDA
15"
INVERELL
BUNNA BUNNA
MYALL PLAINS
(EURIMBLA)
BINGARA
HORTON
RIVER
EDGEROI
KEERA
WANDSWORTH
BUNDARRA
GUYRA
MT. LINDSAY
RIVER
URALLA
GWYDIR RIVER BASIN
APRIL MEDIAN RAINFALL
SCALE

FIGURE 7


IOLANTHE
RIVER
CRINOLYN
GWYDIR
MOREE
COLLARENEBRI
BARWON
WARIALDA
1·0"
1·5"
INVERELL
BUNNA BUNNA
MYALL PLAINS
(EURIMBLA)
BINGARA
HORTON
RIVER
EDGEROI
KEERA
WANDSWORTH
BUNDARRA
GUYRA
MT. LINDSAY
RIVER
URALLA
GWYDIR RIVER BASIN
MAY MEDIAN RAINFALL
SCALE
FIGURE 8

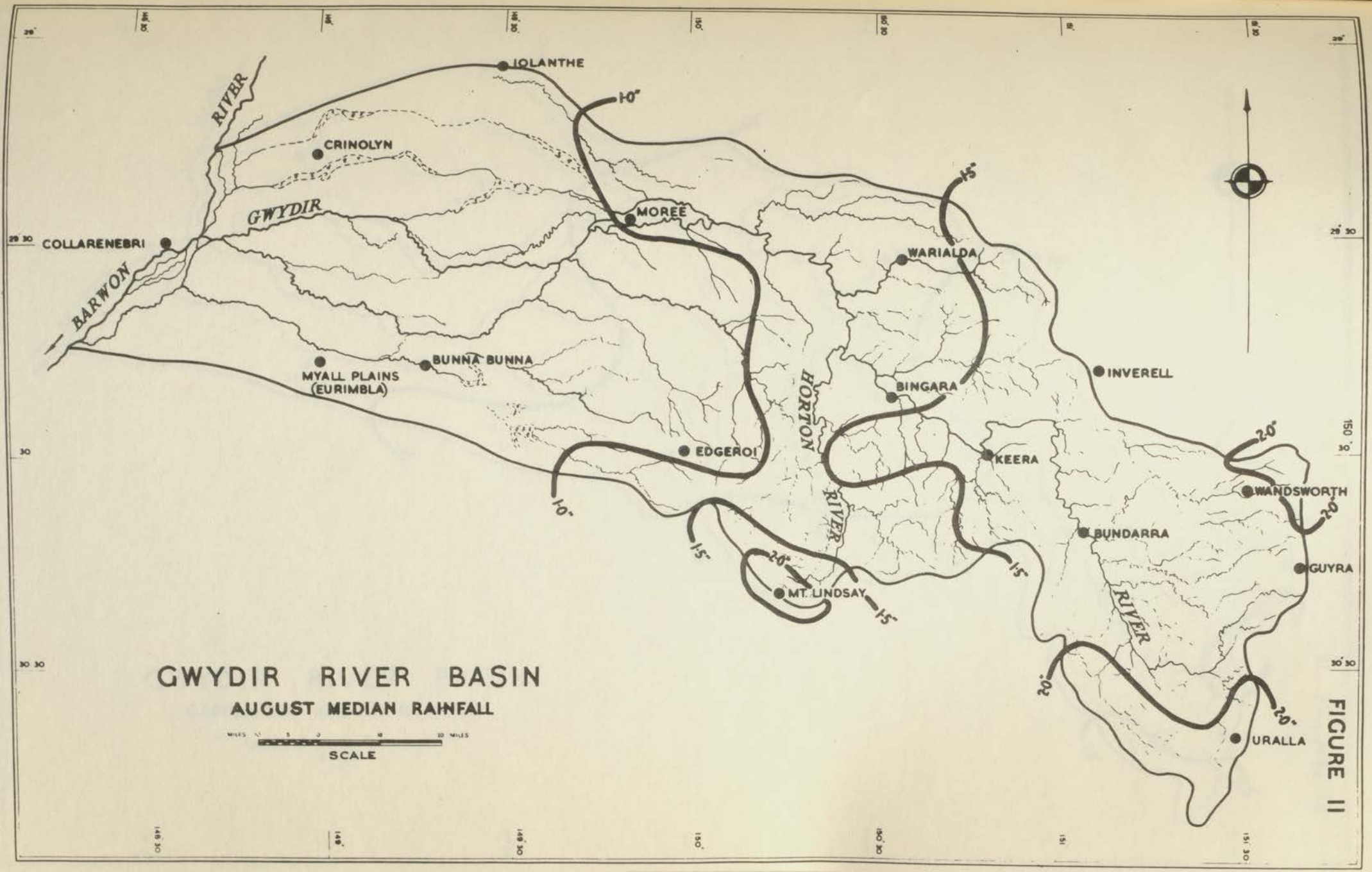

IOLANTHE
RIVER
CRINOLYN
GWYDIR
MOREE
COLLARENEBRI
BARWON
WARIALDA
1·0"
1·5"
MYALL PLAINS
(EURIMBLA)
BUNNA BUNNA
INVERELL
BINGARA
HORTON
RIVER
EDGEROI
KEERA
2·0"
2·5"
WANDSWORTH
BUNDARRA
GUYRA
MT. LINDSAY
RIVER
URALLA
GWYDIR RIVER BASIN
JUNE MEDIAN RAINFALL
MILES 10 5 0 10 20 MILES
SCALE
FIGURE 9

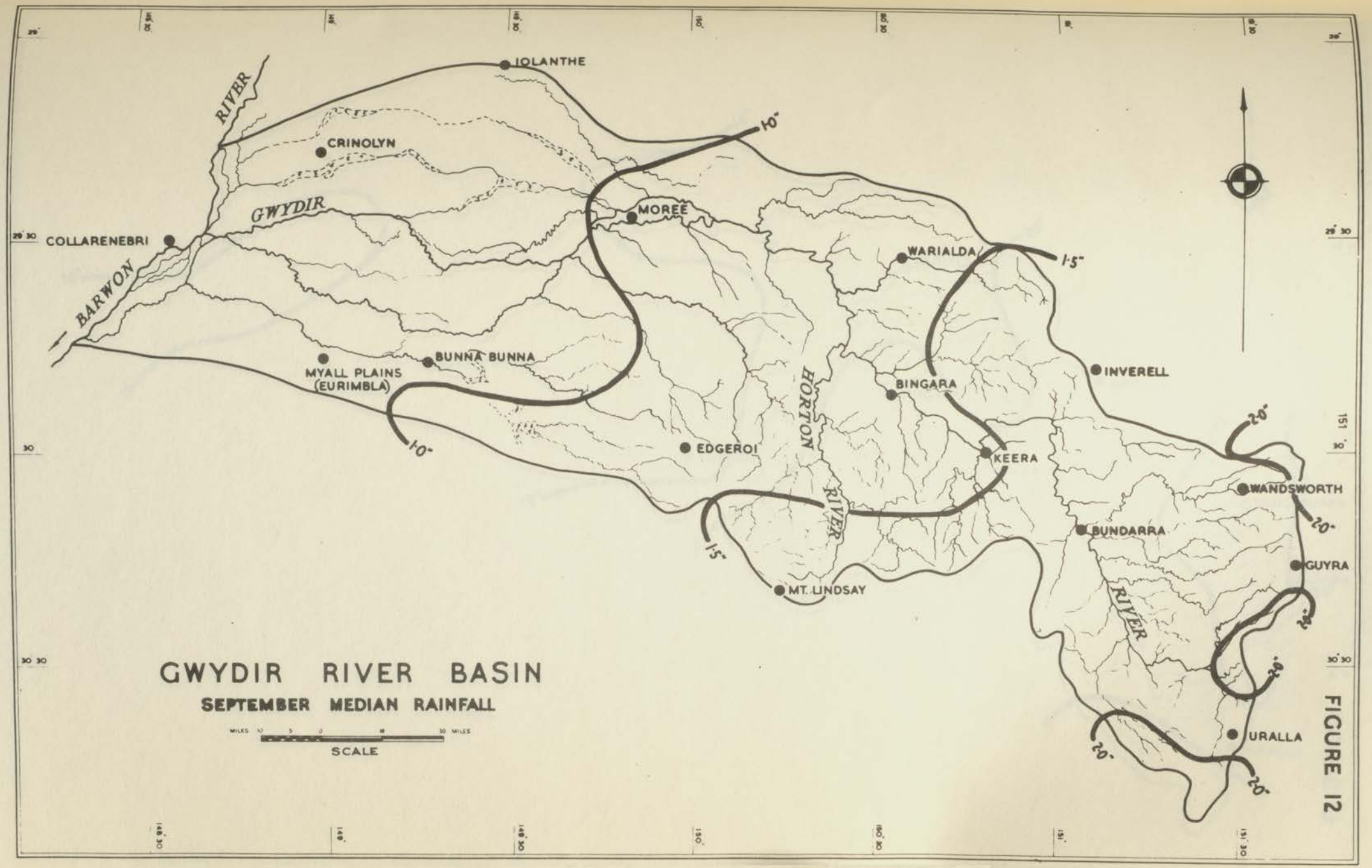


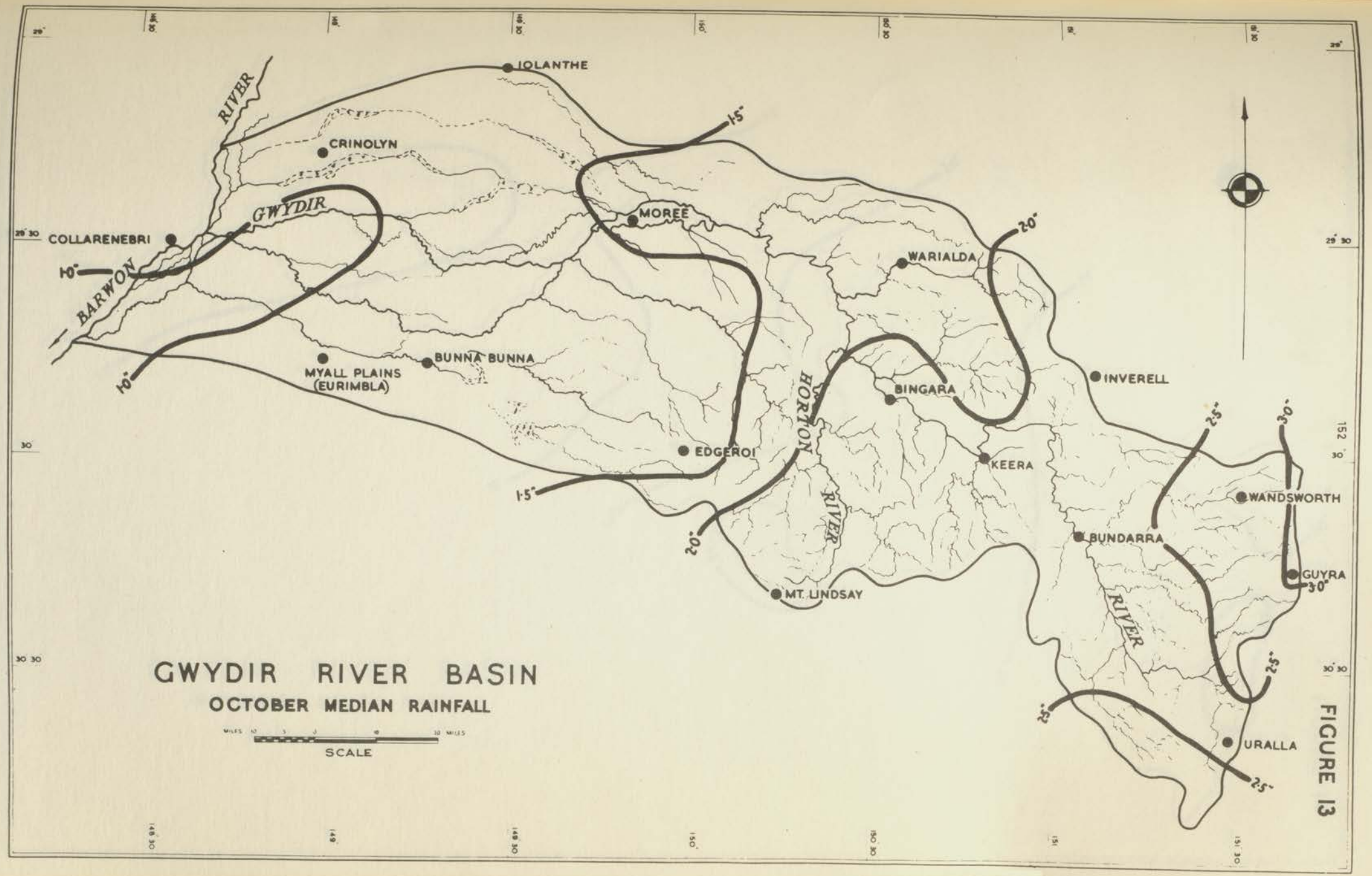
GWYDIR RIVER BASIN

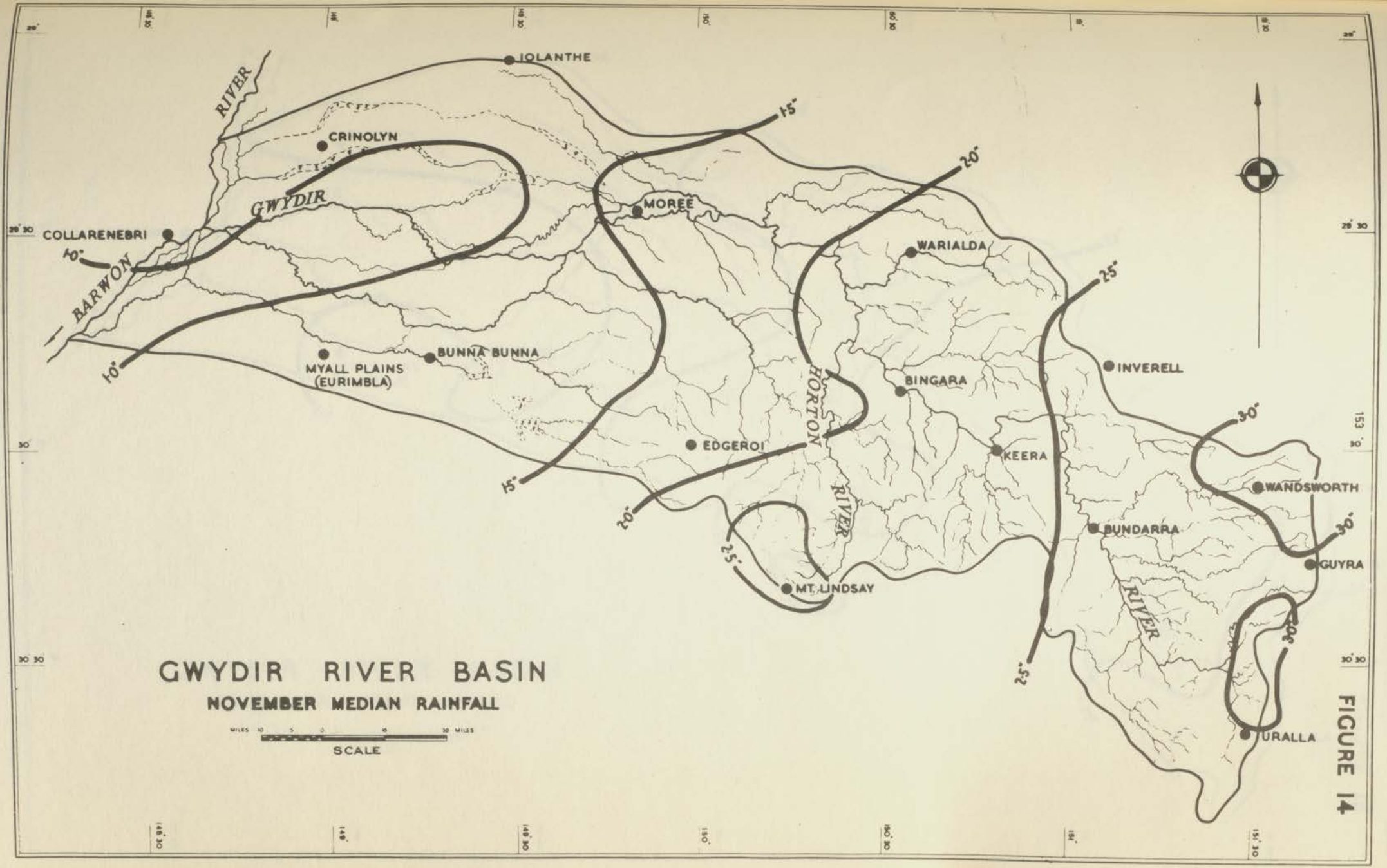
JULY MEDIAN RAINFALL

FIGURE 10


IOLANTHE
RIVER
CRINOLYN
GWYDIR
MOREE
COLLARENEBRI
BARWON
WARIALDA
INVERELL
BUNNA BUNNA
MYALL PLAINS
(EURIMBLA)
BINGARA
HORTON
RIVER
EDGEROI
KEERA
WANDSWORTH
BUNDARRA
GUYRA
MT. LINDSAY
RIVER
URALLA
10"
15"
20"
GWYDIR RIVER BASIN
AUGUST MEDIAN RAINFALL
SCALE
FIGURE II


IOLANTHE
CRINOLYN
COLLARENEBRI
MOREE
WARIALDA
INVERELL
BINGARA
KEERA
EDGEROI
MYALL PLAINS (EURIMBLA)
BUNNA BUNNA
WANDSWORTH
BUNDARRA
GUYRA
MT. LINDSAY
URALLA
GWYDIR RIVER
BARWON RIVER
HORTON RIVER
BOOMI RIVER
1·0"
1·5"
2·0"
2·5"
3·0"
GWYDIR RIVER BASIN
SEPTEMBER MEDIAN RAINFALL
SCALE
MILES
FIGURE 12


IOLANTHE
RIVER
CRINOLYN
GWYDIR
MOREE
COLLARENEBRI
BARWON
WARIALDA
10"
15"
20"
BUNNA BUNNA
MYALL PLAINS
(EURIMBLA)
INVERELL
BINGARA
HORTON
RIVER
EDGEROI
KEERA
25"
30"
WANDSWORTH
BUNDARRA
GUYRA
MT. LINDSAY
RIVER
URALLA
GWYDIR RIVER BASIN
OCTOBER MEDIAN RAINFALL
SCALE
FIGURE 13


IOLANTHE
RIVER
CRINOLYN
GWYDIR
MOREE
COLLARENEBRI
BARWON
WARIALDA
BUNNA BUNNA
MYALL PLAINS
(EURIMBLA)
HORTON
RIVER
BINGARA
INVERELL
EDGEROI
KEERA
WANDSWORTH
BUNDARRA
GUYRA
MT. LINDSAY
RIVER
URALLA
10"
15"
20"
25"
30"
GWYDIR RIVER BASIN
NOVEMBER MEDIAN RAINFALL
SCALE
FIGURE 14

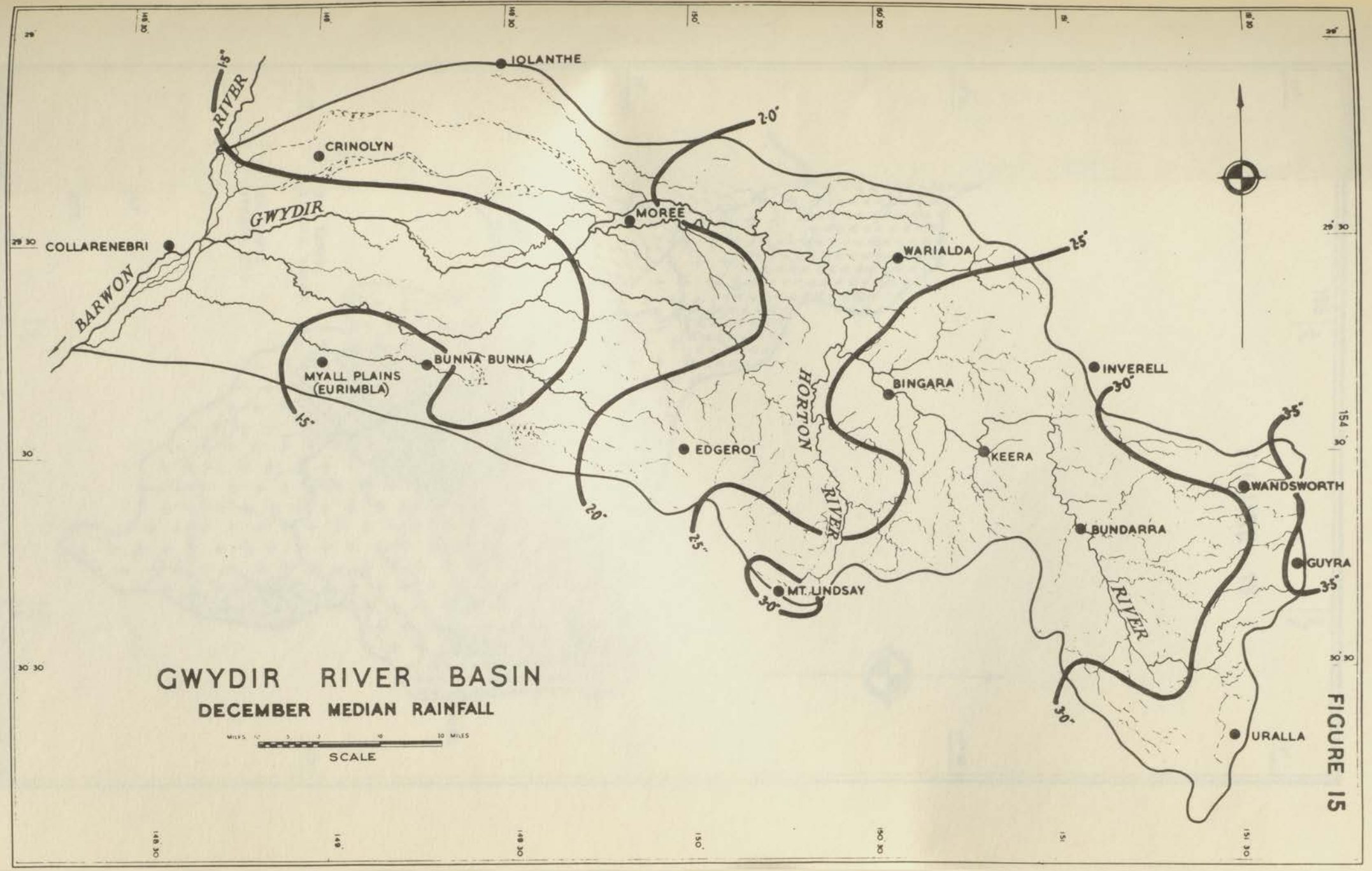
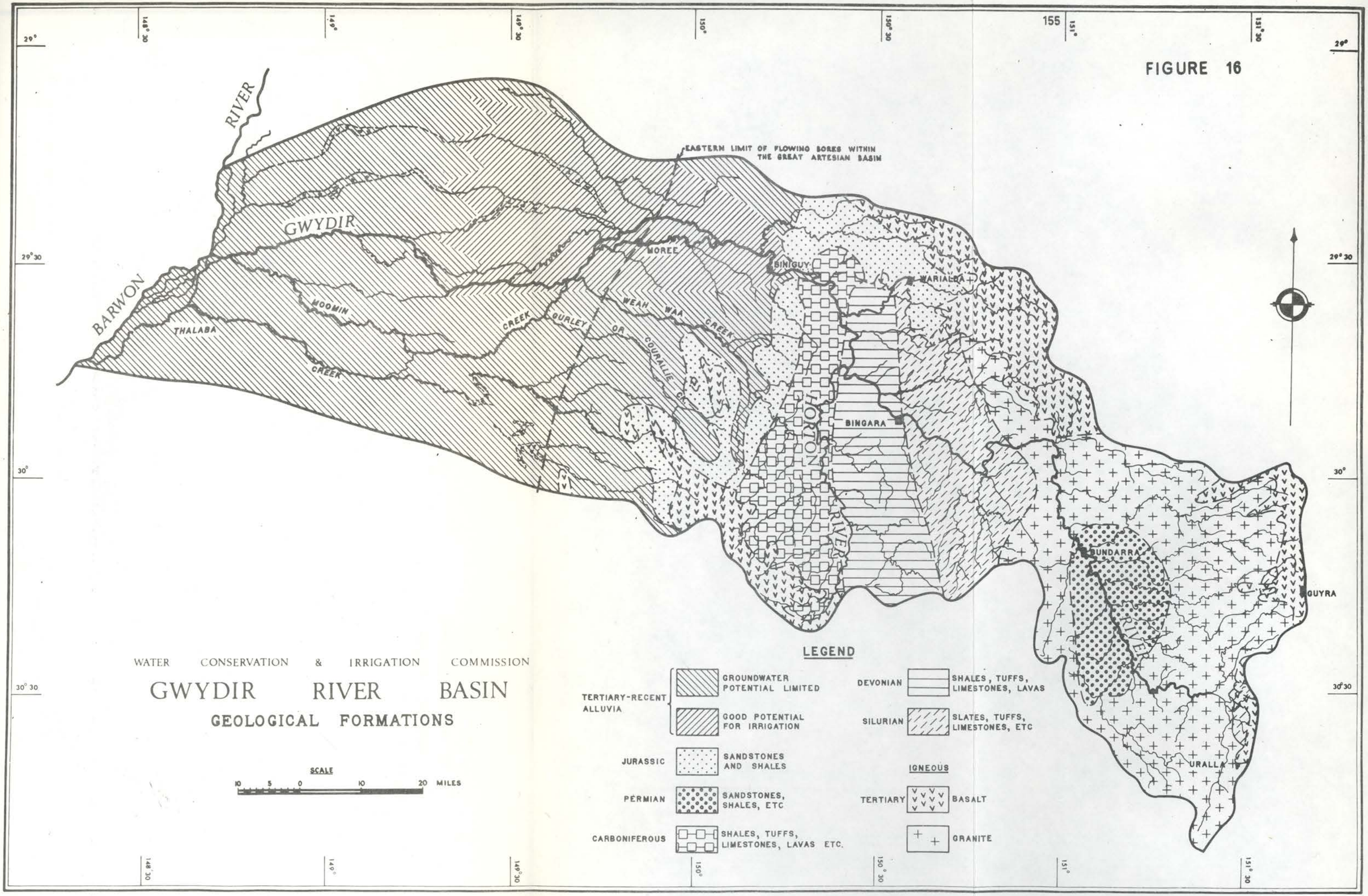
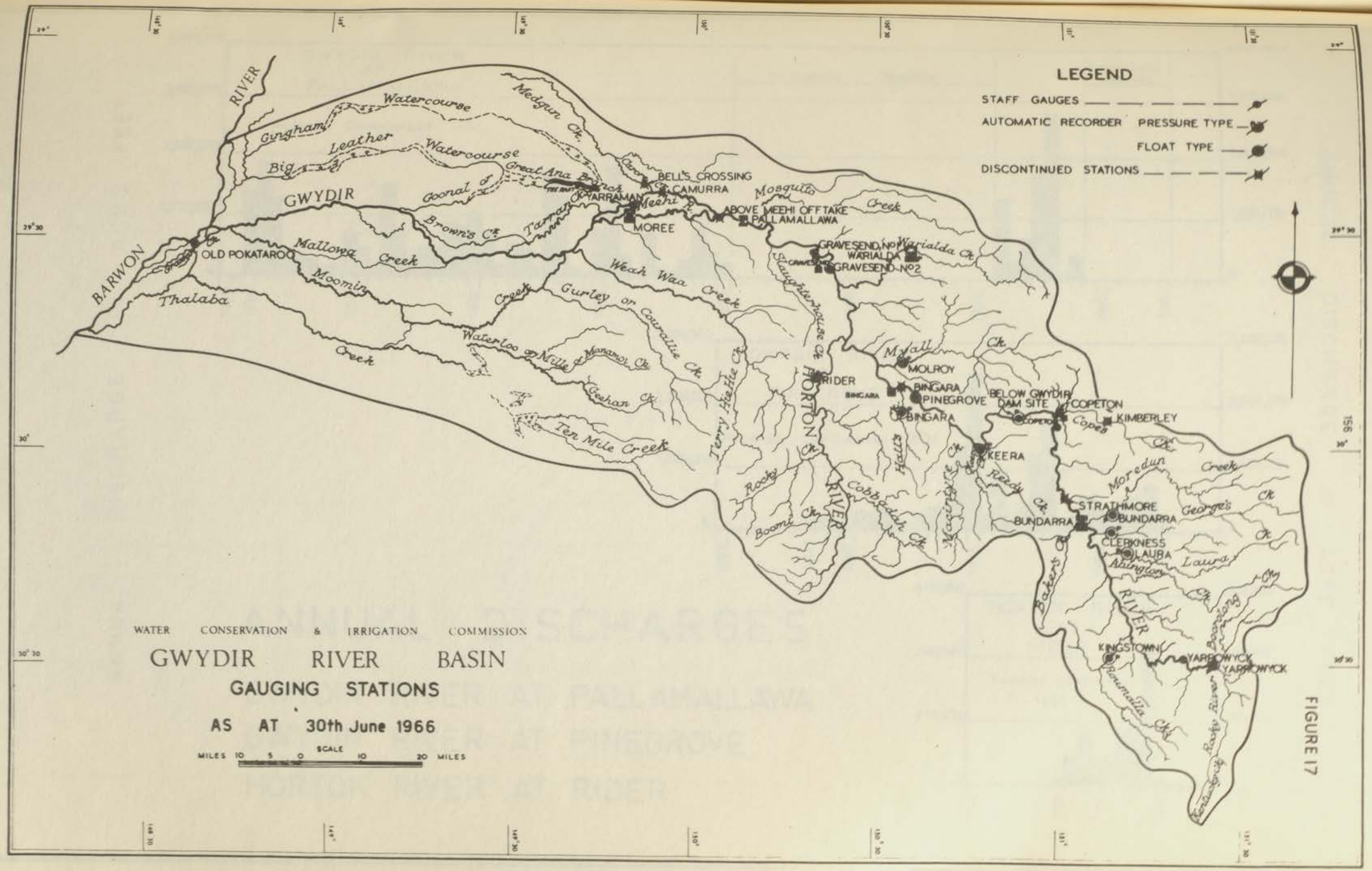
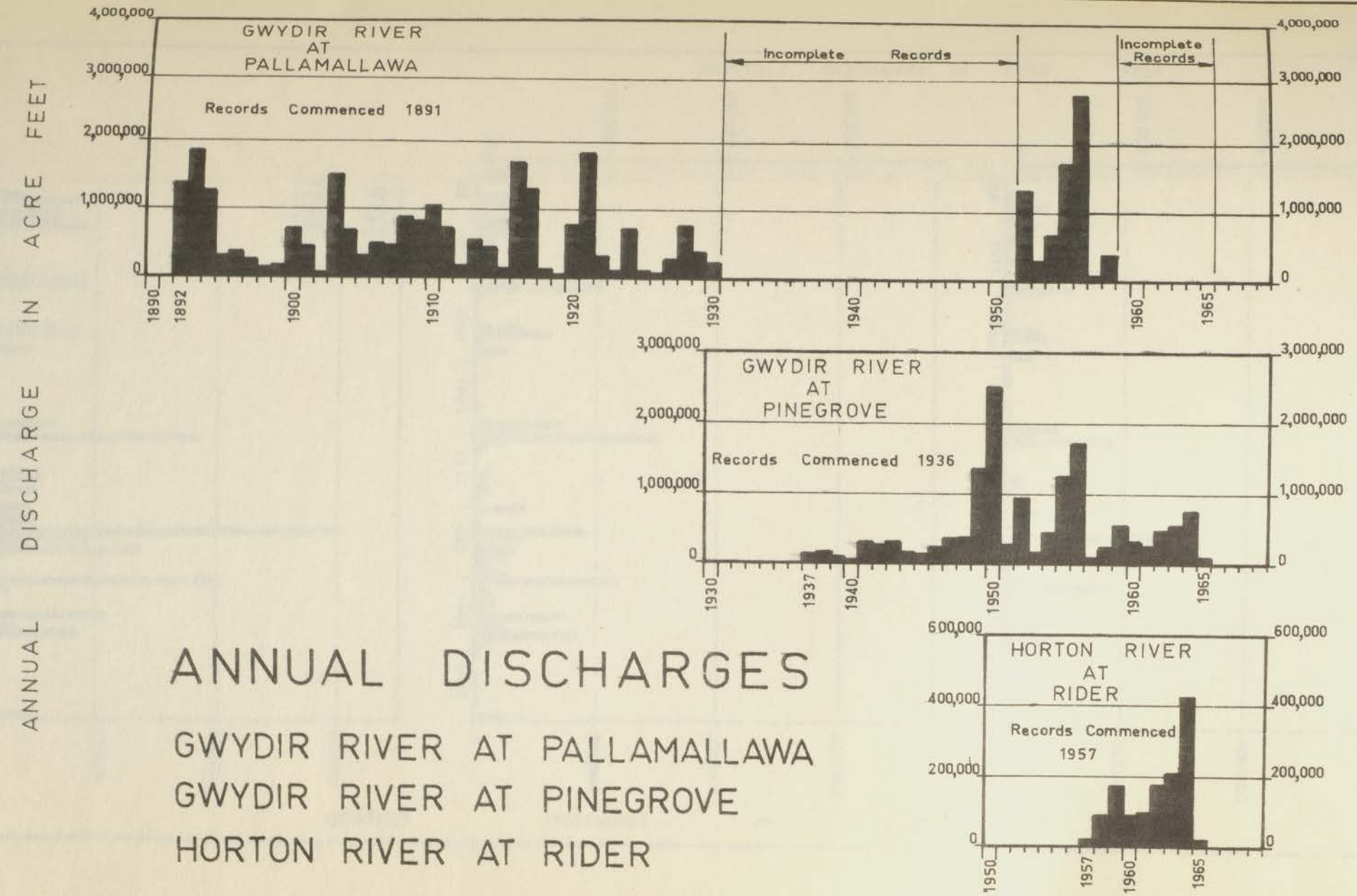

IOLANTHE
CRINOLYN
GWYDIR RIVER
COLLARENEBRI
BARWON
MOREE
WARIALDA
MYALL PLAINS (EURIMBLA)
BUNNA BUNNA
EDGEROI
HORTON RIVER
BINGARA
INVERELL
KEERA
WANDSWORTH
BUNDARRA
GUYRA
MT. LINDSAY
GWYDIR RIVER
URALLA
15"
20"
25"
30"
35"
GWYDIR RIVER BASIN
DECEMBER MEDIAN RAINFALL
SCALE

FIGURE 15

FIGURE 16


148° 30
149°
149° 30
150°
150° 30
155
151°
151° 30
29°
29° 30
30°
30° 30
RIVER
BARWON
GWYDIR
THALABA
WOOMIN
CREEK
GURLEY
OR
GOURALLIE CK
WEAH WAA
CREEK
MOREE
EASTERN LIMIT OF FLOWING BORES WITHIN THE GREAT ARTESIAN BASIN
BINIGUY
WARIALDA
BINGARA
NORTON
RIVER
BUNDARRA
GUYRA
URALLA
WATER CONSERVATION & IRRIGATION COMMISSION
GWYDIR RIVER BASIN
GEOLOGICAL FORMATIONS
SCALE
10 5 0 10 20 MILES
LEGEND
TERTIARY-RECENT ALLUVIA
GROUNDWATER POTENTIAL LIMITED
GOOD POTENTIAL FOR IRRIGATION
JURASSIC
SANDSTONES AND SHALES
PERMIAN
SANDSTONES, SHALES, ETC
CARBONIFEROUS
SHALES, TUFFS, LIMESTONES, LAVAS ETC.
DEVONIAN
SHALES, TUFFS, LIMESTONES, LAVAS
SILURIAN
SLATES, TUFFS, LIMESTONES, ETC
IGNEOUS
TERTIARY
BASALT
GRANITE


LEGEND
STAFF GAUGES
AUTOMATIC RECORDER PRESSURE TYPE
FLOAT TYPE
DISCONTINUED STATIONS
RIVER
Gingham
Watercourse
Medgun Ck.
Leather
Big
Watercourse
Great Ana Branch
GWYDIR
Goonal of
BELL'S CROSSING
CAMURRA
MOREE
Mosquito
Creek
ABOVE MEEHI OFF TAKE
PALLAMALLAWA
Brown's Ck.
Tarran
Meehi R.
Mallowa Creek
OLD POKATAROO
BARWON
Moomin
Creek
Thalaba
Creek
Weah Waa Creek
Gurley or Courallie Ck.
Waterloo or Mille
Monamoi Ck.
Ten Mile Creek
Geehan Ck.
Terry Hie Hie Ck.
HORTON
RIVER
Rocky Ck.
Boomi Ck.
Cobbadah Ck.
Slaughterhouse Ck.
GRAVESEND No1
WARIALDA
GRAVESEND No2
Warialda Ck.
M'Intyre R.
Reedy Ck.
Hall Ck.
MOLROY
RIDER
BINGARA
PINEGROVE
BINGARA
BELOW GWYDIR DAM SITE
COPETON
Copeton
KIMBERLEY
KEERA
Moredun Creek
STRATHMORE
BUNDARRA
BUNDARRA
George's Ck.
CLERKNESS
LAUBA
Abington
Laura Ck.
Baker's Ck.
RIVER
Boomey Ck.
KINGSTOWN
YARROWYCK
YARROWYCK
Roumalla Ck.
Rocky River
Kentucky Ck.
WATER CONSERVATION & IRRIGATION COMMISSION
GWYDIR RIVER BASIN
GAUGING STATIONS
AS AT 30th June 1966
SCALE
MILES 10 5 0 10 20 MILES
FIGURE 17

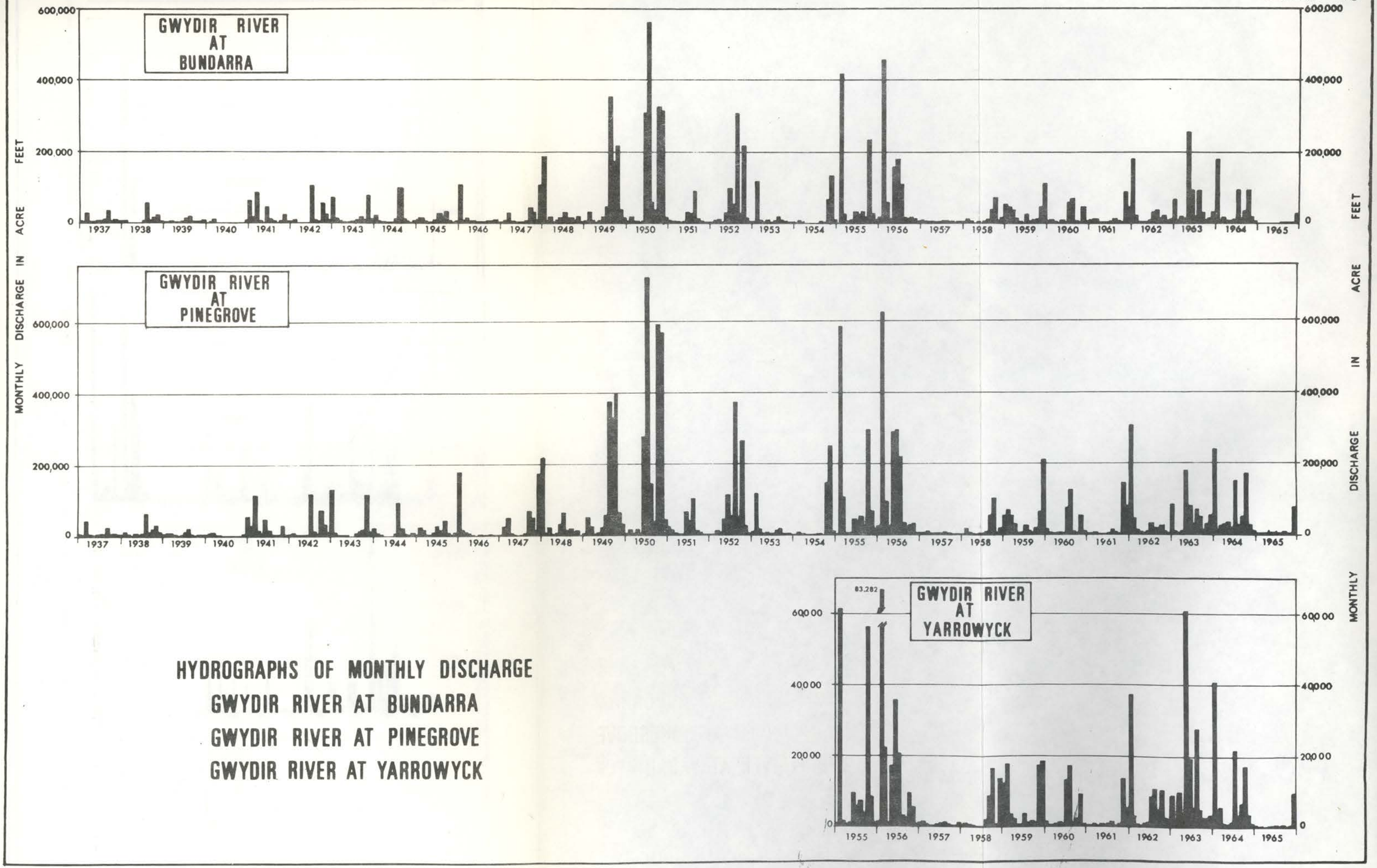


ANNUAL DISCHARGES

GWYDIR RIVER AT PALLAMALLAWA
GWYDIR RIVER AT PINEGROVE
HORTON RIVER AT RIDER

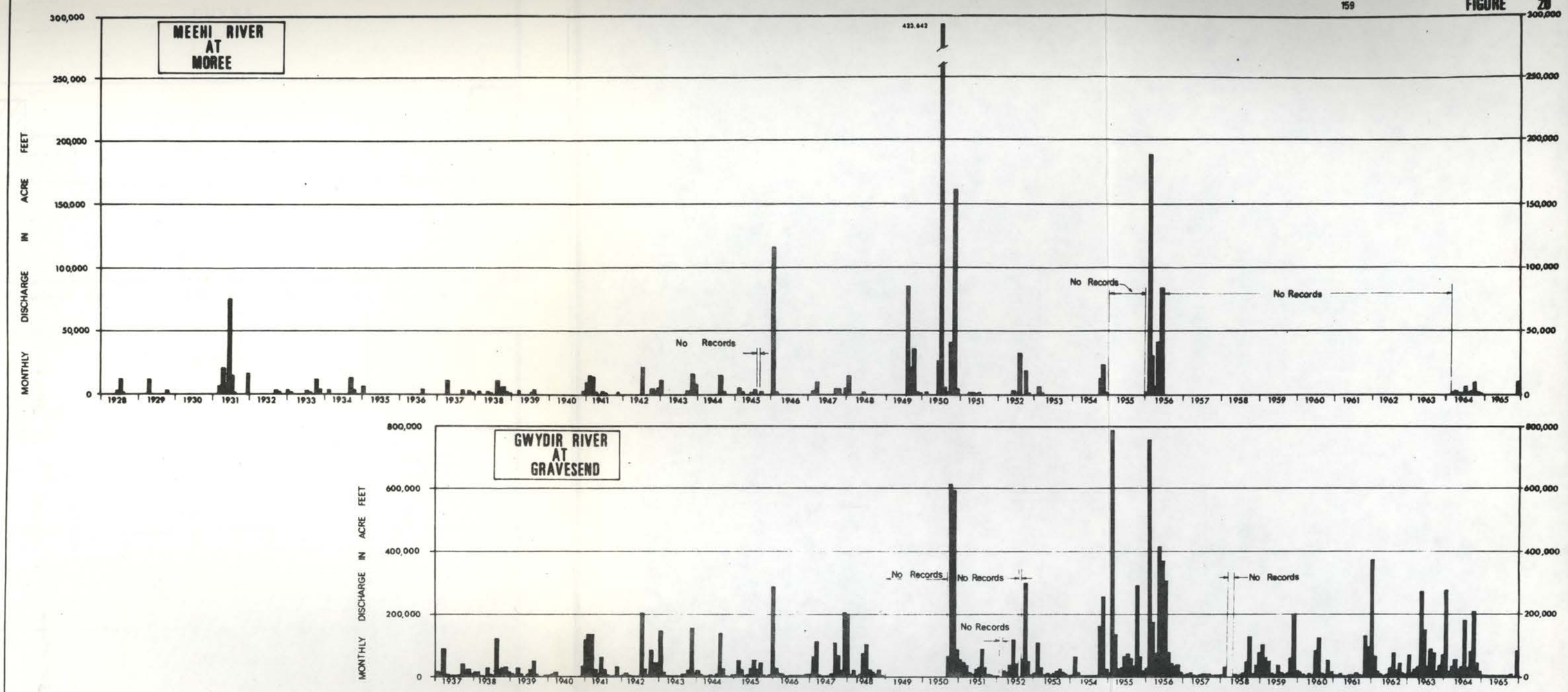
FIGURE 18

FIGURE 19



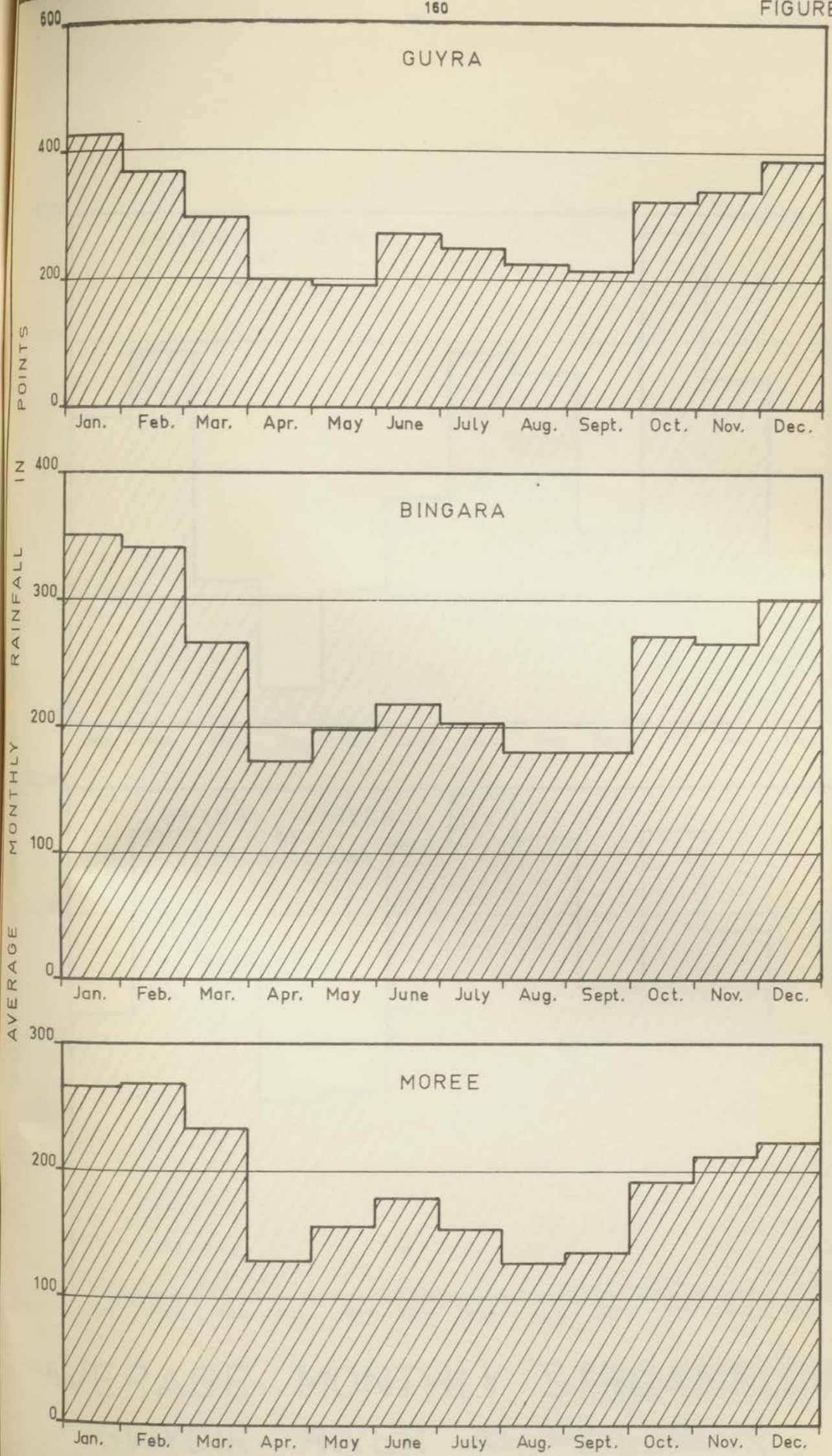
HYDROGRAPHS OF MONTHLY DISCHARGE
GWYDIR RIVER AT BUNDARRA
GWYDIR RIVER AT PINEGROVE
GWYDIR RIVER AT YARROWYCK

FIGURE 28



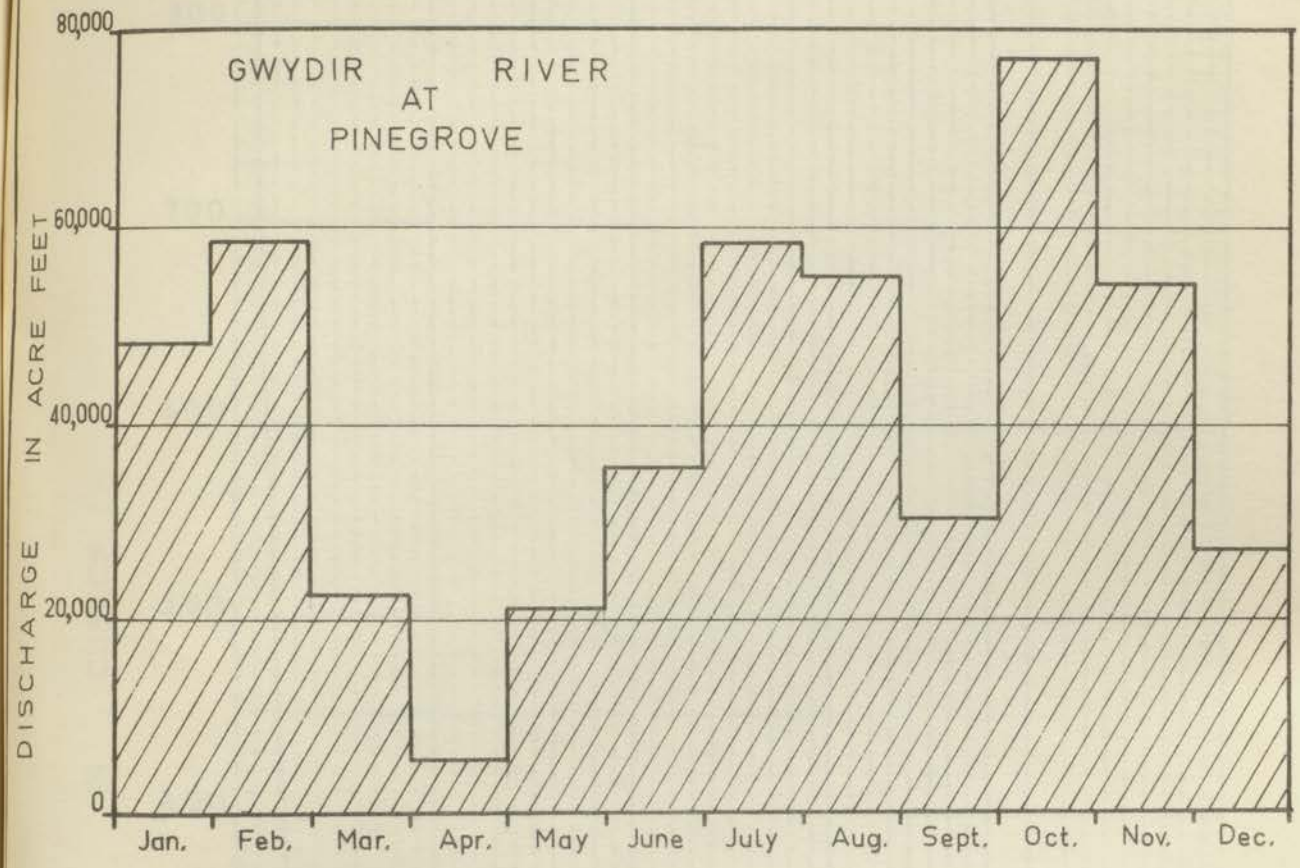
HYDROGRAPHS OF MONTHLY DISCHARGE
MEEHI RIVER AT MOREE
GWYDIR RIVER AT GRAVESEND
HORTON RIVER AT RIDER

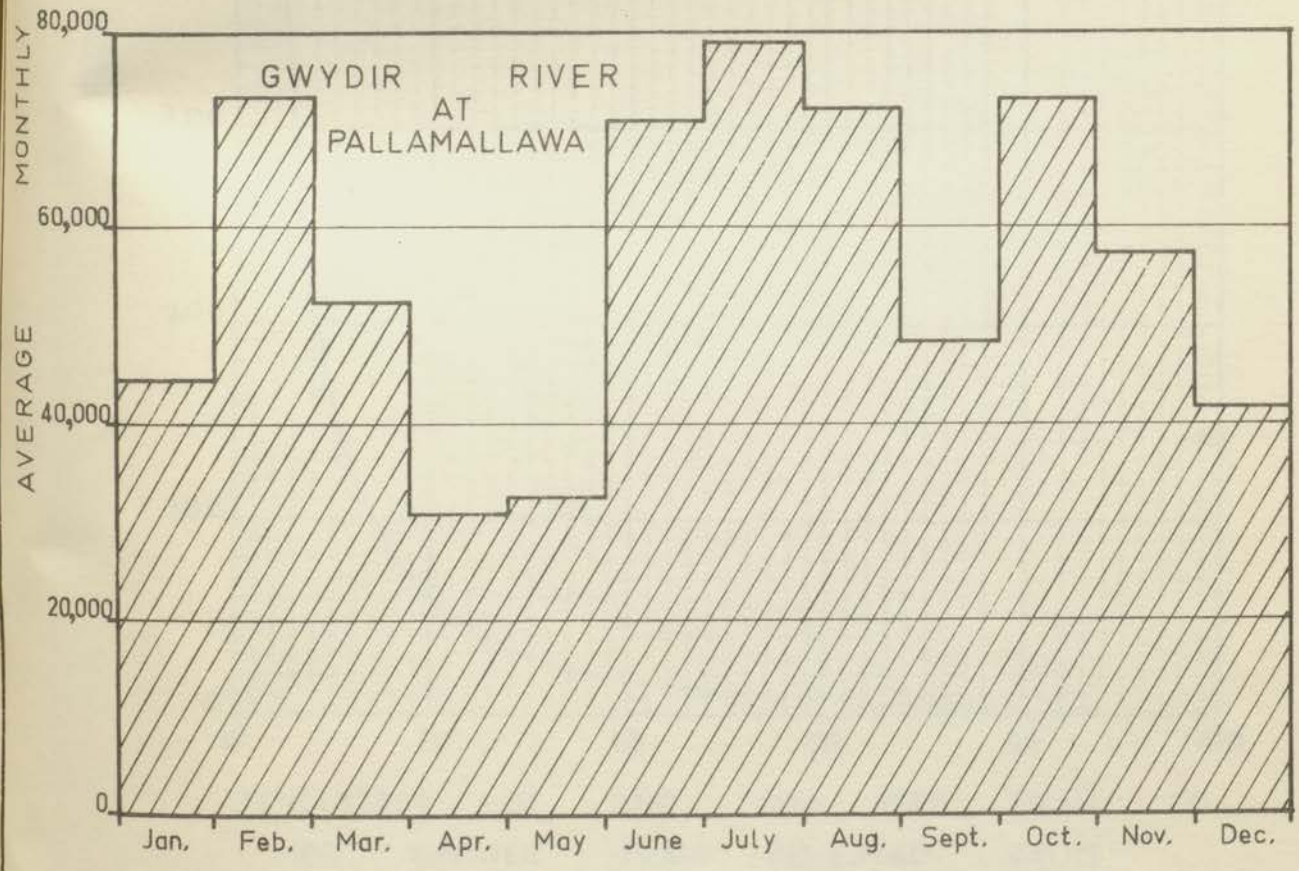
FIGURE 21



AVERAGE MONTHLY RAINFALLS GUYRA, BINGARA AND MOREE

FIGURE 22

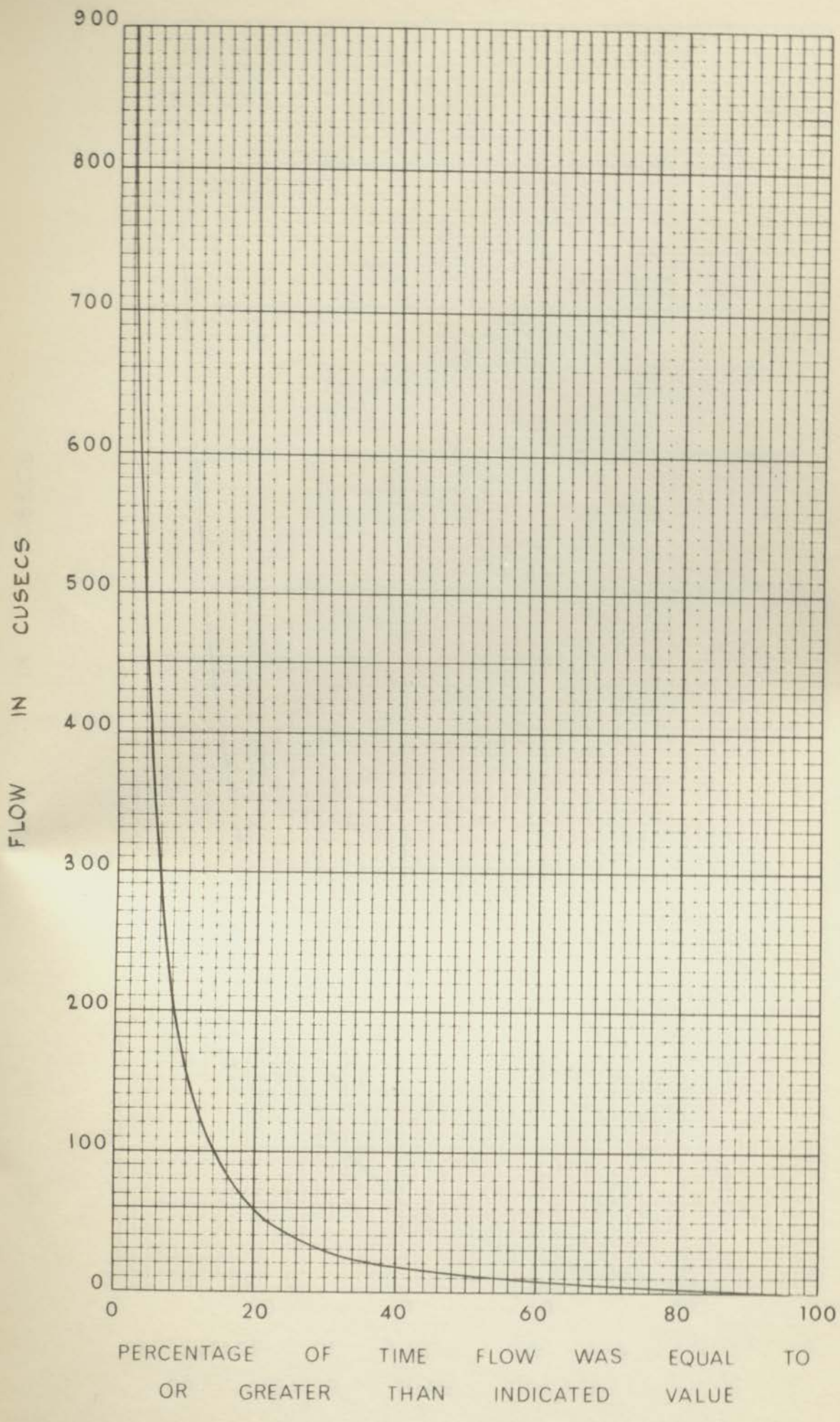




AVERAGE MONTHLY STREAMFLOWS

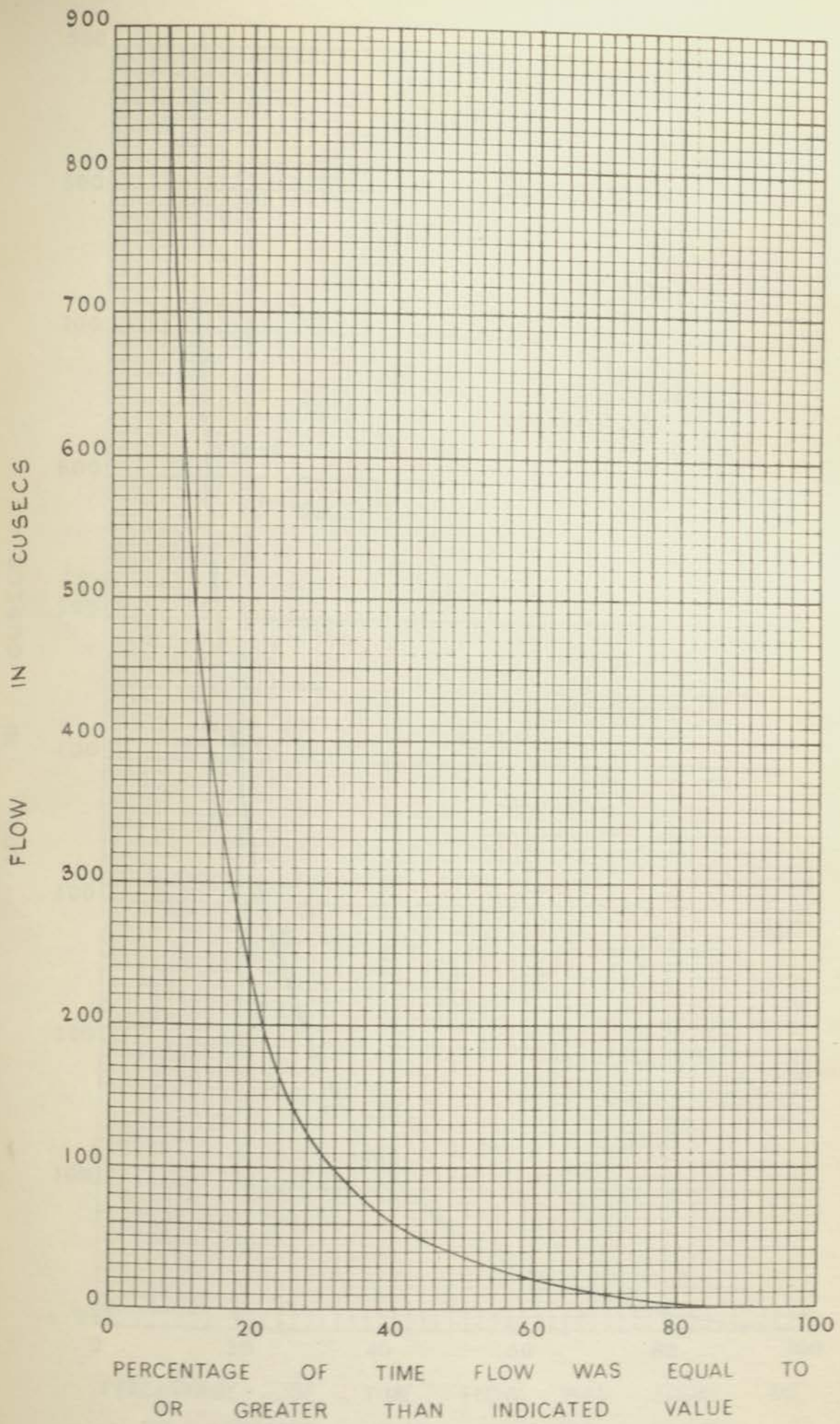
GWYDIR RIVER AT PINEGROVE
GWYDIR RIVER AT PALLAMALLAWA

FIGURE 23



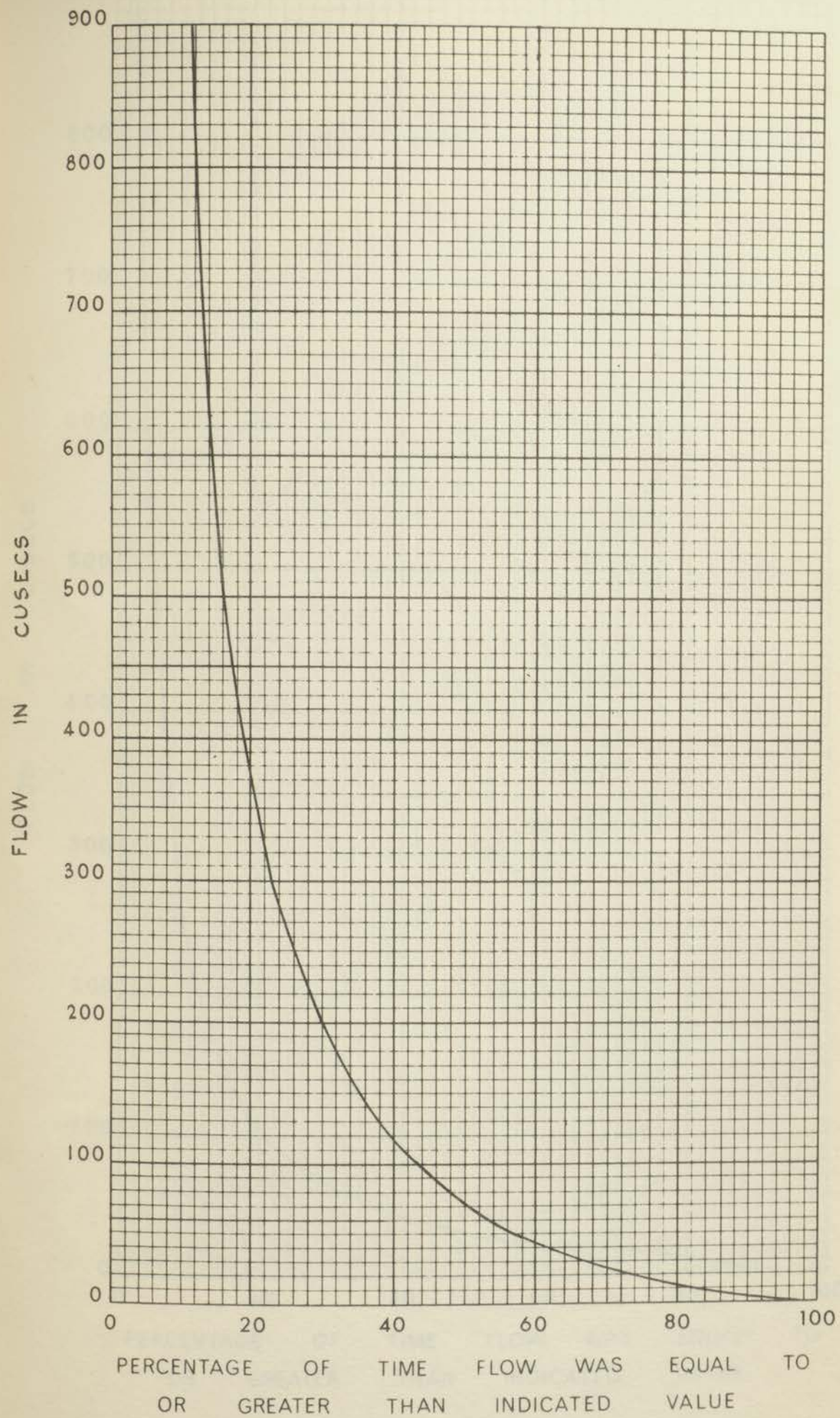
FLOW DURATION CURVE FOR GWYDIR RIVER AT YARROWYCK

FIGURE 24



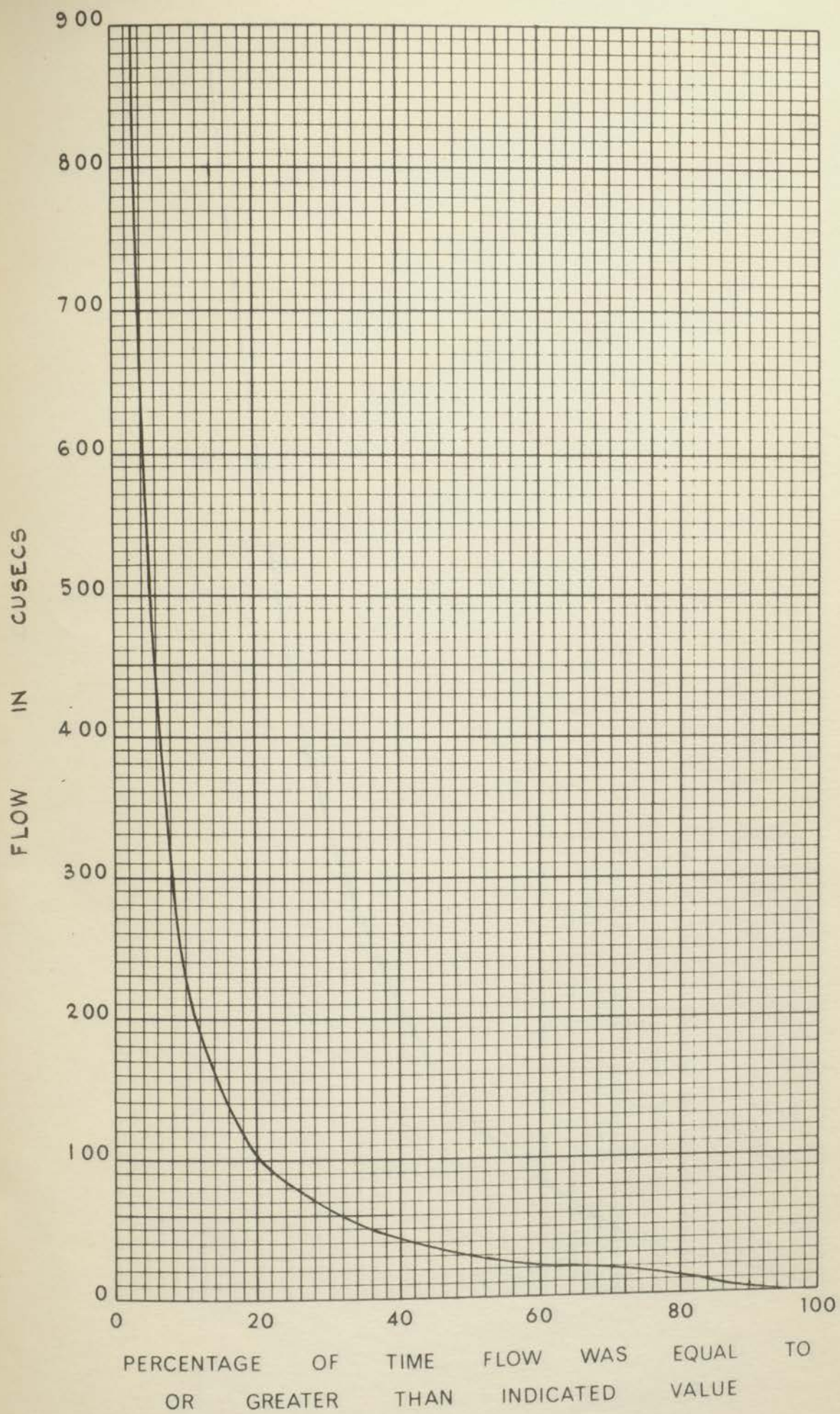
FLOW DURATION CURVE FOR GWYDIR RIVER AT BUNDARRA

FIGURE 25



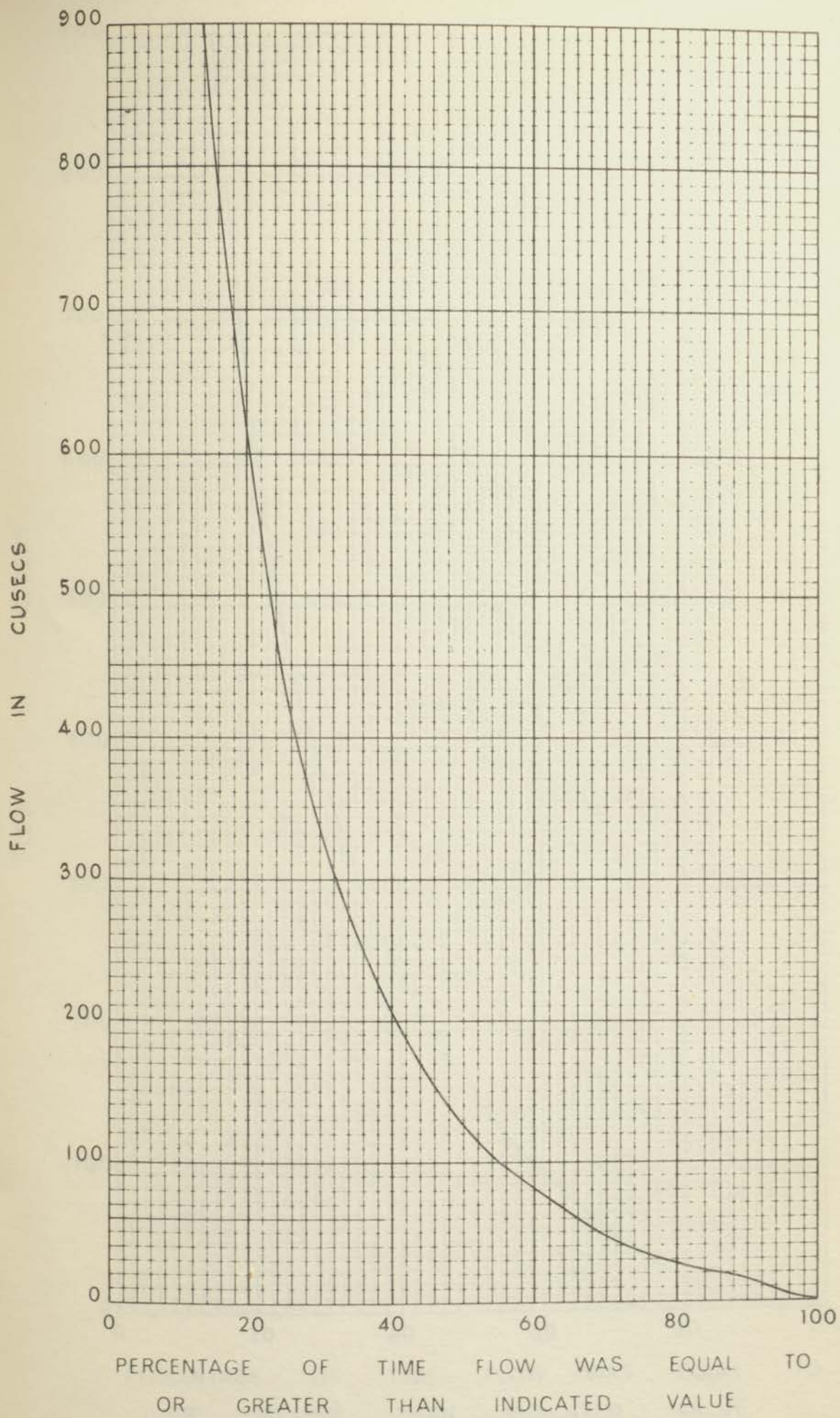
FLOW DURATION CURVE FOR GWYDIR RIVER AT PINEGROVE

FIGURE 26



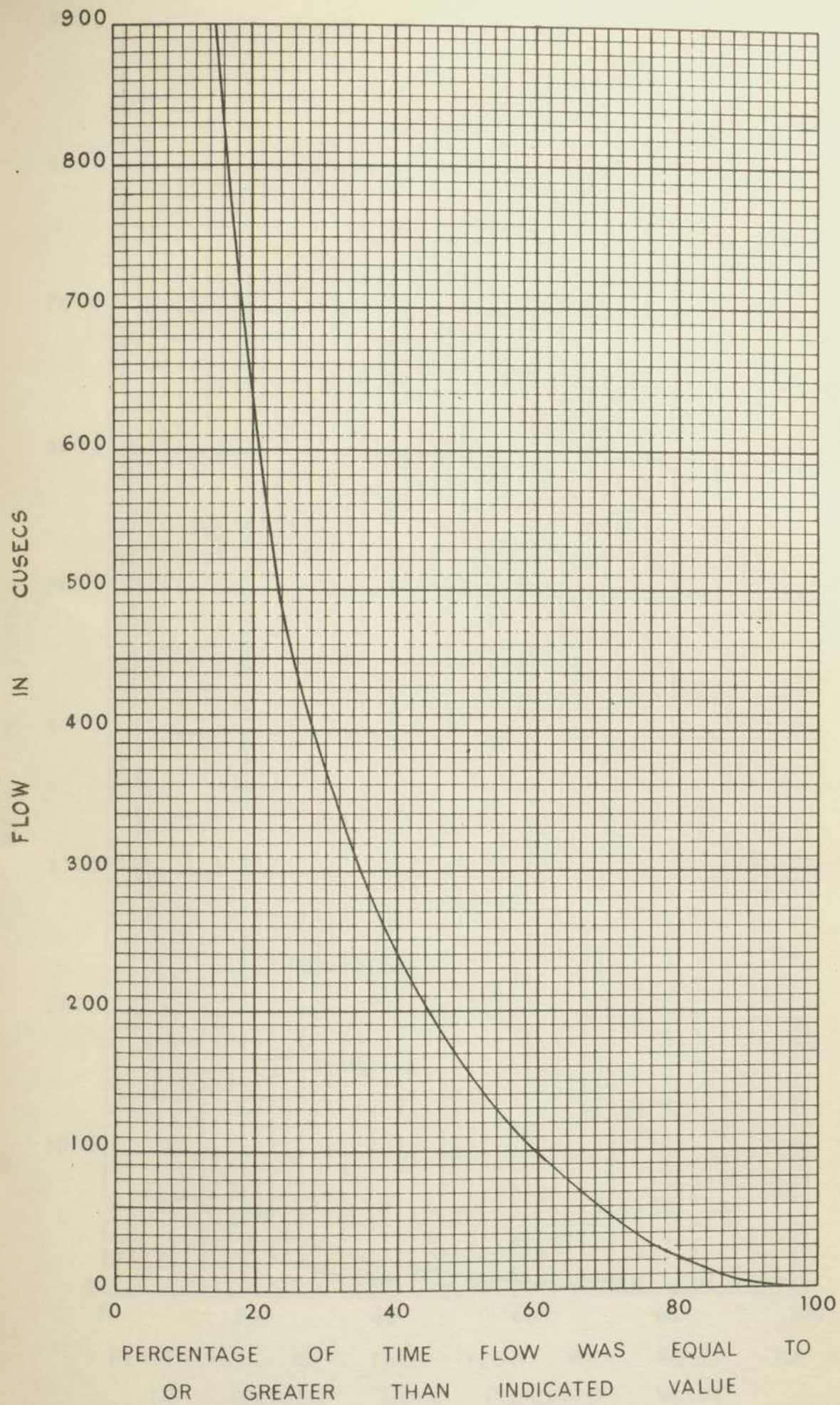
FLOW DURATION CURVE FOR HORTON RIVER AT RIDER

FIGURE 27



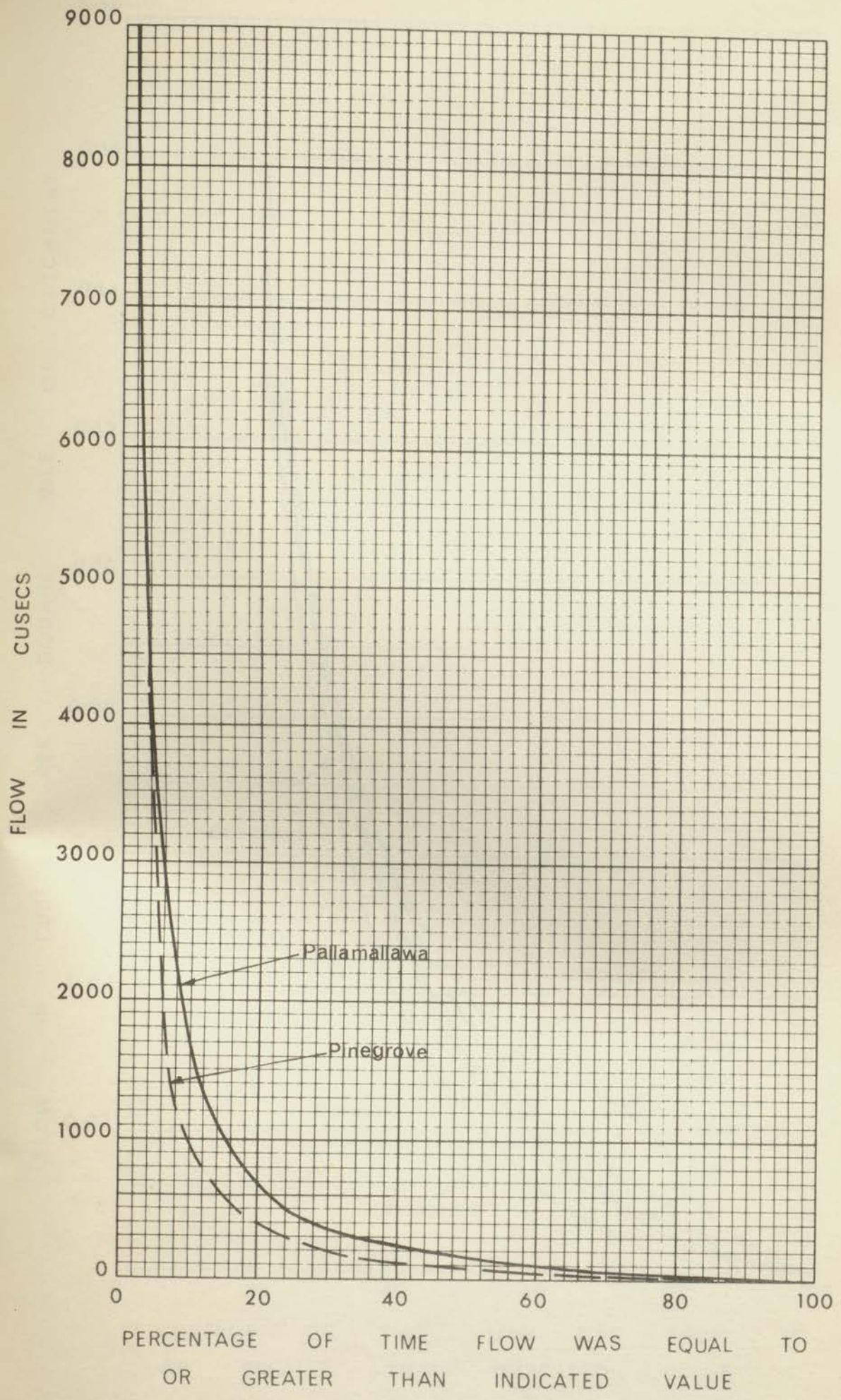
FLOW DURATION CURVE FOR GWYDIR RIVER AT GRAVESEND

FIGURE 28



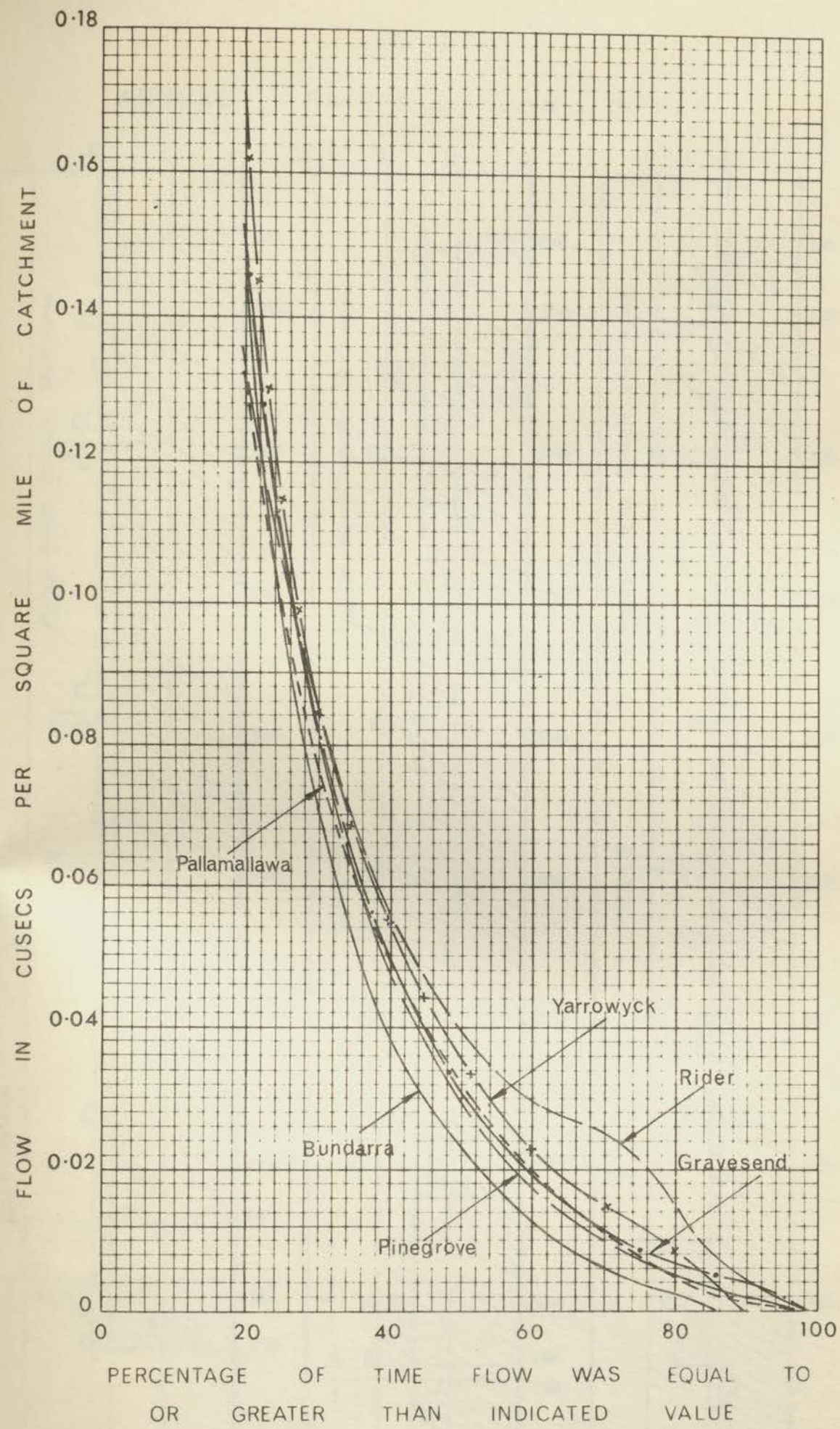
FLOW DURATION CURVE FOR GWYDIR RIVER AT PALLAMALLAWA

FIGURE 29



FLOW DURATION CURVES FOR GYWDIR RIVER AT PALLAMALLAWA AND PINEGROVE

FIGURE 30

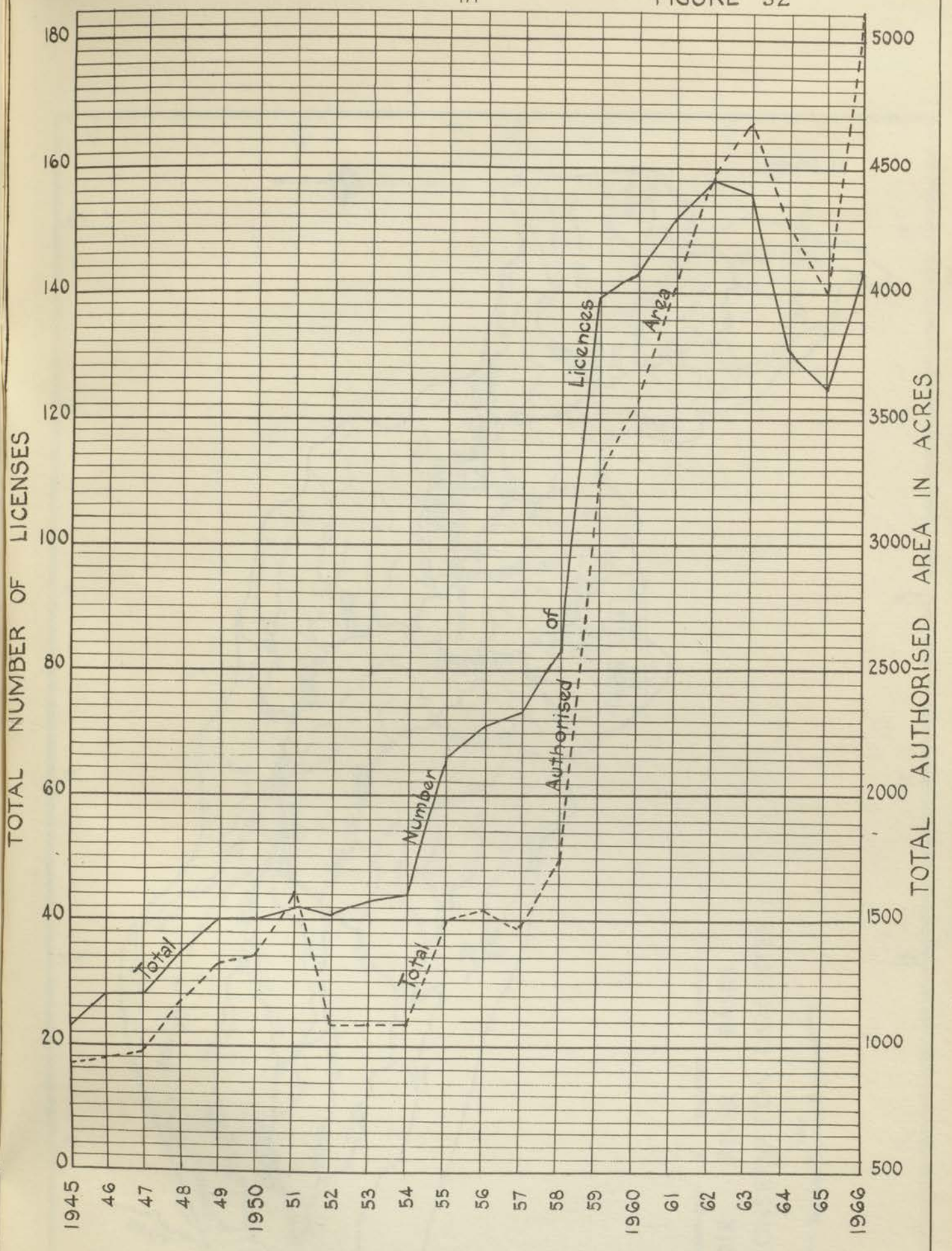


FLOW DURATION CURVES FOR THE GWYDIR AND HORTON RIVERS

FIGURE 31

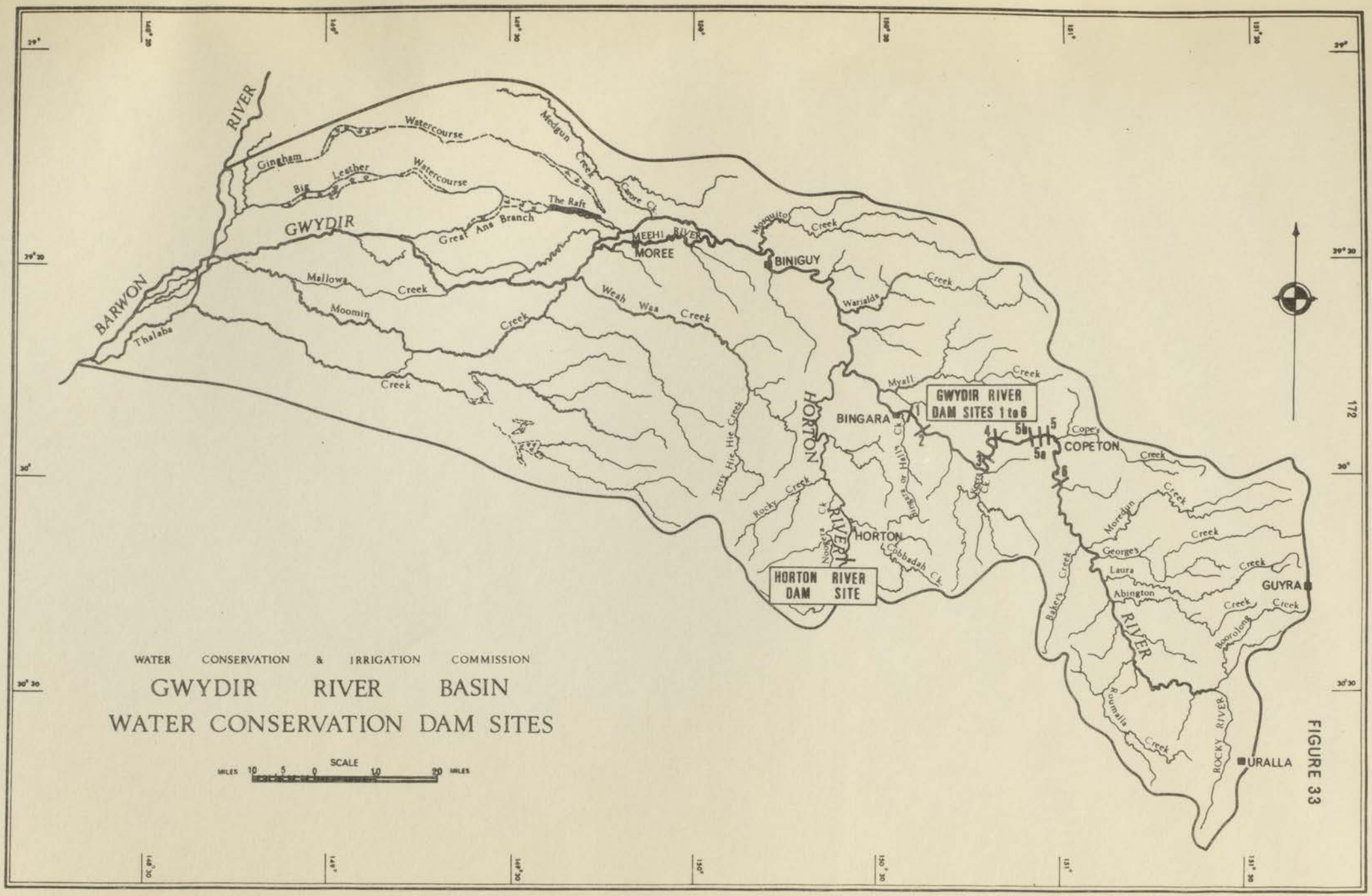
ANNUAL RAINFALLS
GUYRA, BINGARA AND MOREE

FIGURE 32



GWYDIR RIVER BASIN

AREA AUTHORISED FOR IRRIGATION AND TOTAL NUMBER OF LICENSES AT 30TH. JUNE FOR EACH YEAR INDICATED


BARWON RIVER
Gingham Watercourse
Big Leather Watercourse
GWYDIR
Great Ana Branch
The Raft
Medgun Creek
Moree Ck
MEEHI RIVER
MOREE
Mosquito Creek
BINIGUY
Warialda Creek
Mallowa Creek
Moomin Creek
Thalaba Creek
Weah Wea Creek
Terry Hie Hie Creek
HORTON
Rocky Ck
Nooroo Ck
RIVERY
HORTON
Cobbadah Ck
Bingara Hall Ck
BINGARA
Myall Creek
GWYDIR RIVER DAM SITES 1 to 6
Copes Creek
COPETON
Moredun Creek
Georges Creek
Laura Creek
Abington Creek
Baroulong Creek
GUYRA
Bakers Creek
RIVER
Roumalla Creek
ROCKY RIVER
URALLA
WATER CONSERVATION & IRRIGATION COMMISSION
GWYDIR RIVER BASIN
WATER CONSERVATION DAM SITES
HORTON RIVER DAM SITE
SCALE
MILES 10 5 0 10 20 MILES
172
FIGURE 33