

NEW SOUTH WALES.

AREA AND BOUNDARIES.

THE State of New South Wales lies almost entirely between the 29th and 36th parallels of south latitude, and between the 141st and 153rd meridians east of Greenwich. It is bounded on the east by the Pacific Ocean, to which it presents a coast-line extending over 700 miles, from Point Danger at its north-eastern extremity to Cape Howe at the south-east. From the point last mentioned, which is also the north-east limit of the state of Victoria, it is bounded by an imaginary line, running in a north-westerly direction to the source of the Indi, a stream rising at the foot of Forest Hill, a few miles south of the Pilot Mountain, one of the most conspicuous peaks of the Australian Alps. The southern boundary of the state follows the course of the Indi, and afterwards of the Murray, into which the first-named stream ultimately merges, as far as the 141st meridian of east longitude. The intersection of the Murray with this meridian forms a common point of the three states of New South Wales, Victoria, and South Australia.

On the west, the state is separated from South Australia by the line of the 141st meridian, as far as its intersection with the 29th parallel of south latitude, at which point New South Wales, South Australia, and Queensland touch. Commencing at this point, the northern boundary of the state follows the 29th degree of latitude, till it is crossed by the Macintyre River, one of the upper branches of the Darling, not far from the 149th meridian. Thence it follows the course of the Macintyre upward, to the junction of its tributary, the Dumaresq; leaving the Macintyre, it follows the tributary stream till it meets a spur extending from the Main Dividing Range to the junction of Tenterfield Creek and the Dumaresq. The boundary runs along this spur until it joins the main range, thence, almost parallel to the coast, it follows the Dividing Range to Wilson's Peak, where the Macpherson Range branches eastward. Following the last-named range, the northern boundary reaches the coast at Point Danger.

The area comprised within these limits is estimated at 310,700 square miles. The length of the state, from Point Danger on the north to Cape Howe on the south, is 680 miles. From east to west, along the 29th parallel, the breadth is 760 miles, while diagonally from the south-west corner, where the Murray passes into South Australia, to Point Danger, the length reaches 850 miles.

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COASTAL FEATURES.

The coast-line of New South Wales, while not deeply indented, is by no means monotonous in outline. Rugged and precipitous cliffs alternate with long stretches of silver or golden sands, varied by curving bays and wide river estuaries. In places the coast-range approaches so close to the shore that the mountains appear to rise sheer out of the ocean. In no instance do the capes project very far out from the mainland, and the coast is singularly free from dangerous reefs or shoals, while lighthouses have been erected at various prominent points. The general trend of the shore-line is from north-east to south-west through about four degrees of longitude, from Point Danger on the north in longitude 154 degrees E. (about) to Cape Howe on the south in longitude 150 degrees E.

Commencing on the north, the principal indentations are as follow :—

Byron Bay, inside the cape of the same name offers shelter, in all but north-east weather, to vessels trading to Queensland. A large pier has been constructed, by means of which the produce of the neighbouring districts of the Brunswick and Tweed may be shipped when an entrance to these rivers is impracticable.

At Shoal Bay, the entrance to the Clarence, the anchorage is safe and commodious, and when the works designed for improving the river entrance are completed, it promises to be one of the best ports on the coast.

Trial Bay, at the mouth of the Macleay, Port Macquarie, at the mouth of the Hastings, and the harbour at Forster, near Cape Hawke, afford good anchorage. Port Stephens, a little farther south, is a safe and commodious port, and the scenery of its shores is remarkably beautiful. At present this harbour is little used, owing to its proximity to Newcastle and the sparseness of the population in its immediate neighbourhood.

Twenty miles farther south is Port Hunter, at the mouth of the river of that name. When first used, the harbour was inconvenient and dangerous; but this has been altered entirely by the breakwaters and training-walls which have been constructed. Newcastle harbour is now safe and roomy, with shipping facilities equal to those found in any other Australian port.

A few miles farther south is Lake Macquarie, in the centre of the coal-field of the Newcastle district, and covering an area of 44 square miles. The great drawback to the lake as a shipping port has been the shallowness of its entrance; but extensive dykes and training-walls have been commenced, which have already increased the draught of water in the channel.

Broken Bay, 15 miles north of Port Jackson, forms the mouth of the River Hawkesbury. It has a bold entrance, and on Barranjoey, the southern headland, a fine lighthouse has been erected. The bay has three branches, Brisbane Water being the northern, the Hawkesbury mouth the centre, and Pittwater the southern arm. The first-named opens

out into a series of lakes, and the town of Gosford, standing at the head of one of them—the Broadwater—is the centre of an important district. The scenery at and around Broken Bay is characteristically Australian, and in natural beauty rivals even Sydney Harbour. South of Broken Bay the coast-line is a succession of high cliffs and sandy beaches.

The entrance to Port Jackson lies between perpendicular cliffs of sandstone several hundred feet high, and only 74 chains, or nearly one mile, apart. Sydney Harbour has been too often described to require a lengthy reference here. It holds the first place amongst the harbours of the world for convenience of entrance, depth of water, and natural shipping facilities. Its natural beauties charm all who visit its shores, and in the quiet waters of its numerous bays and coves the navies of the world might securely rest. The area of water surface of the harbour proper is 15 square miles, and the shore-line is 165 miles in circuit. At the South Head is erected a splendid lighthouse, fitted with an electric arc light, visible at a distance of 25 miles. On the shores of Port Jackson stands Sydney, the capital of New South Wales and the mother city of the Australias.

Botany Bay, the first port entered by Captain Cook, lies a few miles south of Sydney. It covers an area of 24 square miles, and receives the waters of several small rivers. The bay has very little trade; but it is frequented by craft in search of shelter during stress of weather.

Wollongong, Kiama, and Ulladulla are small harbours which have been snatched, as it were, from the sea, and are important shipping places.

About 80 miles to the south of Sydney the coast is broken by an important inlet called Jervis Bay. Its entrance is 2 miles wide, and on its bosom safe anchorage may be found in any part. It is surrounded by rich agricultural and mineral country.

Bateman's Bay, at the entrance to the Clyde, is an inlet of some importance, and coastal steamers also load produce at the mouths of the Moruya, Tuross, and Bega Rivers.

Twofold Bay is a magnificent sheet of water, near the southern limit of the state. Formerly it was the seat of a large whaling trade, which is now, however, all but extinct. It is well sheltered, and a fine jetty affords ample shipping facilities. Its trade is chiefly with the neighbouring states, in produce and live stock, the bay being the nearest outlet on the sea-coast for the rich district of Monaro. A railway is planned to connect the port with the table-land and the metropolis, and Twofold Bay promises to become a considerable shipping place in the near future. On its shores is situated the town of Eden.

No islands of any note belong geographically to New South Wales. The Broughton Islands, lying a few miles northward of the Heads of Port Stephens, are the largest in extent. Solitary Island, situated near the northern part of the coast, between the Bellinger and Clarence Rivers, and Montagu Island, 18 miles south-east of the Moruya River estuary, have been selected as sites for lighthouses, but are not

otherwise important. Norfolk Island, having an area of 8,607 acres, has recently been placed under the administration of the New South Wales Government; and Lord Howe Island, 3,220 acres in extent, and lying some 360 miles off the coast, in the latitude of Port Macquarie, belongs politically to the state.

GENERAL PHYSICAL CHARACTERISTICS.

The surface of New South Wales is divided naturally into three distinct zones, each widely differing in general character and physical aspect, and clearly defined by the Main Dividing Range, which traverses the country from north to south. The table-land, which forms the summit of this range, comprises one of these zones, and marks the division between the coastal region, forming the eastern watershed, and the great plain district of the interior.

The tableland district is divided into two sections, a northern and a southern, and these are traversed by the vast cordillera known as the Great Dividing Range. The width and altitude of the tableland are the greatest in the south-eastern portion of the State, which has the appearance of having been convulsed in past ages by some tremendous plutonic force. In the Muniung Range, the southernmost section of the cordillera, are found the loftiest peaks in Australia—Mount Kosciusko and Mount Townsend rising to a height of 7,328 and 7,260 feet respectively. The former is interesting, from the fact that it is probably one of the oldest land surfaces in the world. It has now the appearance of being the denuded remnant of a much higher peak—probably of volcanic origin—and must have stood out as a prominent landmark at the time when the sea extended through Central Australia, and washed the foothills of the Eastern ranges, when Tasmania was but a peninsula of the mainland, and when the Alps and the Himalayas were lying fathoms deep beneath the waters of the ocean. For six months of the year snow may be seen on the high peaks of the Muniung Range, and although Kosciusko is 700 feet below the snow line, heavy snowfalls have been known to occur even in the middle of summer. The Monaro Range, as the next northern section of the Dividing Chain is called, averages about 2,000 feet in height, although the head of the Kybeyan River reaches an altitude of over 4,000 feet. This range encloses on the south the rich and beautiful pastoral and agricultural district known as the Monaro Plains. As the tableland runs northward, it decreases in height and width, until it narrows to a few miles only, with an elevation of scarcely 1,500 feet. Further north the plateau widens again, and also increases in altitude, although the average height of the Main Range is inconsiderable, compared with that of its principal lateral spurs. The Blue Mountains district is the best known portion of this division. It extends eastward from the Main Range, and is bounded on the north by the Colo River; on the

south and south-west by Cox's River, and on the east by the Nepean-Hawkesbury Valley. Its chief peaks are Mount Clarence (4,000 feet); Mount Victoria (3,525 feet), and Mount Hay (3,270 feet). These ranges for long offered an inaccessible barrier to the first settlers in New South Wales, and it was not until 1813 that they were successfully crossed by Messrs. Wentworth, Lawson, and Blaxland, and the way opened to the rich plains of the west. The Blue Mountain scenery possesses a charm, which is peculiarly and distinctively Australian. Seen from the plains, the mountains appear tame and insignificant; but the first view from some point on the edge of the tableland into the depths below, leaves a never-to-be-forgotten impression on the memory of the beholder. The mind here recoils with awe at the sight of the majestically stupendous scale on which Nature has worked. In many places, cliffs of bare sandstone, stained with various shades of brown and grey, rise almost perpendicularly to a height of 2,000 feet from the valley below. The hoary antiquity of these silent ranges appeals strongly to the mind of the scientific inquirer, for examination shows that these awe-inspiring precipices and stupendous gorges have not been caused by violent volcanic upheaval, but have been carved out by the slow but irresistible erosive agency of running water. On clear days the distances are softened by a curtain of delicate blue haze, a fact that has earned for the ranges their appellation of Blue Mountains. The prevailing Australian gum tree gives a somewhat monotonous aspect to the tableland, but in the valleys and on the mountain sides the wealth of beautiful ferns and characteristic Australian flowers lends a charming diversity to the scene.

The Dividing Range gradually decreases north of the Blue Mountains until as a narrow ridge it divides the waters of the Goulburn and Hunter on the east from those of the Namoi and Castlereagh on the west. The mass widens out once more in the Liverpool Ranges, where Mount Oxley rises to a height of 4,500 feet, and farther north in the New England Range, the highest peak of which, Ben Lomond, reaches an elevation of 5,000 feet. The average height of the northern tableland is between 2,500 and 3,000 feet. Mount Wingen, situated in a spur of the Liverpool Range, and close to the town of Scone, is one of the natural curiosities of Australia. It is a burning mountain. Its fires, however, are not volcanic, but result from the combustion of seams of coal some distance underground, and geologists have estimated that the burning has been going on for at least 800 years.

The main range throws off many spurs towards the sea on the eastern slope. These divide the waters of the numerous rivers which flow into the Pacific Ocean, but the ranges in the coastal district, as a rule, run parallel with the tableland, of which in some places they form the eastern edge.

The North Coast Range runs from north to south from Mount Marsh in the Richmond Range to the Hastings River district, at an average distance of 35 miles from the coast. It is not of great altitude,

the average elevation being about 2,000 feet. The Illawarra Range forms the western boundary of the Illawarra district. It commences at Clifton, on the sea coast, and gradually recedes inland, although its average distance from the ocean is only about five miles. As it approaches the north bank of the Shoalhaven it becomes locally known as the Cambewarra Range. Valuable coal seams occur on the seaward face of the Illawarra Range, and these are profitably worked at Clifton, Bulli, Corrimal, Mount Keira, and Mount Kembla. The Currockbilly Range commences near Marulan, on the south bank of the Shoalhaven, and terminates on the north bank of the Moruya, about eight miles from the ocean. Its chief elevations are Budawang (3,630 feet), Currockbilly (3,619 feet), and Pigeon House (2,398 feet). Throughout a large portion of its course, the range forms the eastern fringe of the southern tableland. The South Coast Range is a spur from the Monaro Range running in a southerly direction towards the Victorian border, on nearing which it deflects to the westward, and terminates on the left bank of the Snowy River. Its highest peak in New South Wales is Coolangubra (3,712 feet).

In addition to the above, there are various isolated peaks standing out as prominent landmarks in the coastal district. Mount Warning, so named by Captain Cook, is situated near the head of the Tweed River, and in clear weather is visible 60 miles away. Mount Wohiman, or Clarence Peak, lies to the south of Shoal Bay, and is about 1,200 feet in height. Mount Seaview, 3,100 feet in height, is about eight miles south of the Hastings Range and 40 miles from the coast. The Brothers are three conspicuous peaks, 1,700, 1,650, and 1,910 feet high respectively, situated near Camden Haven. They were so named by Captain Cook. Jellore, seven miles north-east of Mittagong, and 2,372 feet in height, may occasionally be seen from Sydney, 70 miles distant. Coolangatta, near the mouth of the Shoalhaven, is 1,000 feet in height. Dromedary, so named by Captain Cook, is a prominent landmark, south of the Tuross River, about 2,700 feet in height.

The western slope of the cordillera is entirely different from the eastern just described. Numerous ramifications of the general mountain system are thrown off, but all slope gently towards the great central plain of the interior. So gentle, indeed, is the declivity that the dividing lines of the various watersheds as they extend westward are scarcely visible, being only indicated by a succession of low ridges and isolated elevations.

In the extreme west of the state, verging on South Australia, another mountain system exists, forming the western edge of an immense depression, through which the largest rivers of the Australian Continent hold their devious course. The Barrier and the Grey Ranges are part of this system. They consist of low hills, hardly rising to the dignity of mountains, and culminating in a few solitary peaks, such as Mount Arrowsmith and Mount Lyell, which attain an elevation of only 2,000 feet above sea-level.

Traces have been found of the existence at some earlier period of a range of primary rocks, extending from Orange to Cobar and Wilcannia, and forming the watershed between the Lachlan and part of the basin of the Darling. The range no longer exists as a landmark, for owing to denudation it has almost entirely disappeared.

The main range already described, traversing the country from north to south, gives rise to numerous rivers flowing into the South Pacific.

In the extreme north of the state, the Tweed and Brunswick Rivers flow through a rich country of semi-tropical aspect. Their courses are short, and bar-entrances render them navigable only for small craft.

A few miles south of the Brunswick, the Richmond descends from the heights of the Macpherson Range, on the slope of Mount Lindsay, one of the highest peaks of the northern table-land. The river has three branches, and is navigable on the main arm as far as Casino, 62 miles, and on Wilson's Creek to Lismore, 60 miles from the sea. The Richmond drains an area of about 2,400 square miles of country, rugged in its upper basin and heavily timbered, and in its lower course flowing through rich alluvial land, where the produce of semi-tropical climes grows luxuriantly.

Immediately south of the last-named stream is the Clarence—the largest river on the eastern watershed. It takes its rise in a spur of the Main Dividing Range, and runs in a south-easterly direction for 240 miles, carrying a considerable body of water through one of the richest districts of the state, and emptying itself into the Pacific at Shoal Bay. The upper part of its basin is very rugged, so much so that its principal tributaries, the Mitchell, Nymboi, Timbarra, and Orara Rivers, rising in the New England table-land, between Armidale and Tenterfield, all flow in an opposite direction to the course of the main stream, generally trending to the north-east, and even, in the case of the Orara and the Nymboi, to the north-west. The Lower Clarence is a magnificent stream, averaging half-a-mile in width, from its mouth upwards, for nearly 50 miles, and it is navigable for 67 miles, as far as Copmanhurst. Ocean-going steamers of large tonnage ascend the river as far as Grafton, 42 miles from the sea. The area of country drained by the Clarence is over 8,000 square miles, or nearly half as large again as the basin of the Thames, whose course, although about as long as that of the Clarence, is navigable for only 60 miles.

Two short rivers, the Bellinger and the Nambucca, both navigable for some distance by small craft, enter the Pacific between the Clarence and Trial Bay.

Into Trial Bay, the Macleay, one of the principal rivers of the coast, discharges, after a course of 200 miles from its source near Ben Lomond. With its principal feeders, the Guyra, the Apsley, and the Chandler, the Macleay drains an area of 4,800 square miles of country, the upper part of which, especially that portion through which the Apsley flows, is extremely rugged and precipitous. Series of waterfalls, some of which have a perpendicular descent of over 200 feet, mark the course of this

stream, as it runs through narrow gorges whose sides rise in places to a height of about 2,000 feet ; in its lower course the valley widens very considerably into magnificent alluvial plains. The Macleay is navigable for more than 30 miles, as far as the town of Greenhills, a few miles above Kempsey. The country through which it flows is for the most part thickly timbered.

The Hastings is the next stream met with, and empties itself into the sea at Port Macquarie. The country which it drains is rich, undulating, and densely wooded, and the area within its watershed is 1,400 square miles. Its chief arm is formed by the Wilson and Maria Rivers, on the left bank, the latter joining the main stream a few miles above Port Macquarie.

The Manning rises in the Main Dividing Range, and flows almost due east. The valley through which it flows is densely wooded, and the agricultural land on both sides of the river is unsurpassed for fertility. The Manning has a length of 100 miles, and, like most of the rivers of the seaboard, its course lies through undulating country, broken in the upper portion, but widening out as it nears the sea. Its chief tributary is the Barrington, on the right bank ; on the left, it receives the Barnard River, the Dawson, the Lansdowne, the Nowendoc, Rowley's River, and other small streams. The Manning is navigable for ocean-going vessels as far as Wingham, about 20 miles from its mouth.

Before reaching the Hunter, several small streams are met with, amongst which may be mentioned the Wollomba and Maclean, falling into Wallis Lake ; the Myall, which empties into Myall Lake ; and the Karuah, which reaches the ocean at Port Stephens.

The Hunter is one of the chief rivers of the state, and has its source in the Liverpool Range. It flows first in a southerly direction, until its confluence with the Goulburn ; thence it takes an easterly course, and reaches the sea at Port Hunter, on the shores of which is situated the city of Newcastle. The Hunter receives numerous tributaries. The chief of these, in addition to the Goulburn, already mentioned, are the Wollombi, the Paterson, and the Williams. With its tributaries, the Hunter drains a country extending over 11,000 square miles—an area more than twice as large as the basin of the Thames. The river is navigable for ocean-going vessels as far as Morpeth, 34 miles from the sea ; whilst the Paterson and the Williams are both navigable, the one for a distance of 18 miles, and the other for 20 miles. The upper courses of the main river and its branches are through hilly, if not mountainous districts ; but its lower course is mainly through rich, sandy, alluvial flats. Through its lower course, the river drains the largest and most important coal-field in Australia. The length of the Hunter is over 200 miles.

Though less important than the Hunter, from a commercial point of view, the Hawkesbury, which reaches the sea at Broken Bay, is none the less one of the finest rivers of the eastern seaboard. It is formed

by the united waters of many streams, each of considerable local importance. Its chief tributaries come from the table-land or gorges of the Blue Mountains, but the principal branch of the river itself rises in the main range, farther south. The range forming the watershed between the Hawkesbury and the streams flowing eastward, leaves the main range near Lake Bathurst, runs north-easterly, and terminates at the sea near Coalcliff.

Under the name of the Wollondilly, the Hawkesbury has its source not many miles from Goulburn. Flowing past that town, it proceeds in a northerly direction until it receives the waters of the Cox River, which come from the Blue Mountains, after passing through wild gorges, wherein may be found some of the most magnificent scenery in Australia. From the junction of the Cox River the stream is known as the Warragamba, which name it retains until its junction with the Nepean. Though smaller than the Warragamba, the Nepean gives its name to the united waters of the two streams. After receiving the Nepean, the river flows along the foot of the Blue Mountains, through a rich valley highly cultivated. From the Blue Mountains it is augmented by the waters of two streams, the Grose and the Colo, and from the junction of the latter the river is called the Hawkesbury. Still running northward, it is joined by the Macdonald, an important stream, navigable for some distance above its confluence with the Hawkesbury. The Macdonald comes from the north, and joins the river on the left bank. After turning to the east, the Hawkesbury holds its course through broken country, the scenery of which has been pronounced equal to any other river scenery in the world, and finally reaches the sea at Broken Bay. Its course extends over 330 miles, and the drainage area may be set down as 8,000 square miles. Navigation is possible as far as Windsor, 70 miles from the mouth, and a little dredging would enable sea-going vessels to reach that town.

In the neighbourhood of Sydney, some small streams fall into Botany Bay. Two of these, the Woronora and George's River, have their sources on the eastern slope of the ranges in which the Nepean, Cordeaux, and Cataract rise, and after rapid courses unite their waters before falling into the bay.

Generally speaking, the rivers south of Sydney are of less importance than those to the north, as the width of the coastal strip narrows considerably. The Shoalhaven, nevertheless, merits more than passing notice. Rising in the coastal range and following the direction of the coast, it flows northerly through deep gullies, marked by magnificent scenery peculiarly Australian; then turning sharply to the east, it enters the alluvial plains, which are counted amongst the richest and most productive in the country. The Shoalhaven is 260 miles in length, but is navigable only for a few miles, and drains a district 3,300 miles in area. Farther south, in the narrow belt between the ranges and the sea, flow the Clyde, Moruya, Tuross, and Bega Rivers. They all pass through rich, undulating, agricultural country, and each has an average length

of 60 to 70 miles. The Towamba River, at the extreme south of the state, empties itself into the Pacific at Twofold Bay.

The physical aspect of the eastern rivers is much the same, their upper courses being amidst broken and mountainous districts, and their lower waters flowing through undulating country with rich alluvial flats along their banks, for the most part highly cultivated. Where uncultivated, the country is densely covered with timber, some of which attains a magnificent growth, yielding the finest hardwood, and, in the north, cedar and pine.

Though belonging to another river system, the upper basin of the Snowy River is situated in New South Wales. This river receives the snow-fed streams rising on the southern slopes of the Monaro Range, its principal tributaries being the Bombala and the Eucumbene. The Snowy River and its tributaries water a considerable portion of the highest table-land of the state, between the mountain ranges of which are found large tracts of arable land. After leaving New South Wales, the Snowy has a rapid and tortuous course, and finally enters the sea between Cape Howe and Bass Straits, in the state of Victoria. The area of its watershed in New South Wales is about 2,800 square miles.

The western watershed of the state is, in its physical features and geographical character, the antithesis of the eastern. Instead of a narrow strip of country shut in by the sea and mountains, and intersected by numerous short rivers with a rapid flow, the western watershed forms a vast basin through which the quiet waters of a few great rivers have their long though uncertain courses. The rivers of the western region all belong to the fluvial system of the Murray, which carries to the Southern Ocean, through the state of South Australia, the drainage of a watershed immense in extent, embracing the northern portion of Victoria and the western and larger part of New South Wales, and reaching almost to the centre of Queensland.

The Murray, or Hume, the southern branch of this vast river system, rises in the Snowy Mountains, from which its three principal sources, the Hume, the Tooma, and the Indi descend. The first two of these streams rise on the northern and western slopes of Mount Kosciusko; the Indi, which is really the main river, has a longer course, rising in a gully near the Pilot Mountain, at an elevation of 5,000 feet above the sea. From the confluence of these rivers the Murray rapidly descends towards the plains below Albury, where it is only 490 feet above sea level, with a course of 1,439 miles still to run. From Albury downwards the river receives many tributaries on both banks, those from New South Wales being the most important. Above Albury the tributaries are for the most part mountain torrents, carrying to the main stream the melted snows of the Australian Alps. In its lower course, however, the Murray is augmented, through the Murrumbidgee and the Darling, by the waters of secondary systems as important as its own.

Before being joined by the Murrumbidgee, the Murray receives, from a series of ana-branches, the drainage of a large portion of the country lying between the two main streams. The Billabong Creek runs almost through the centre of the plain spreading between the Murray and Murrumbidgee; in the middle of its course it communicates with the latter river, through Colombo and Yanko Creeks, whilst on the south it feeds the Murray by the channel of the Edward River. The Edward itself is an important stream. With the Wakool, Tupal, and Bullatale Creeks, and many other smaller and less important water-courses, it forms a fluvial system, interlacing the whole country from Tocumwal to the Murrumbidgee junction, which has been aptly named Riverina. From its farthest source at the foot of the Pilot Mountain to the town of Albury, the Murray has a length of 280 miles; thence to the Darling River junction its course is 852 miles; and from that point to the sea, below Lake Alexandrina, it is 587 miles in length. The river has thus a total course of 1,719 miles, of which 1,250 are between the states of Victoria and New South Wales. It has been navigated as far as the Ournie gold-field, about 150 miles above Albury, and 1,590 miles from its mouth.

The Murrumbidgee has its source at the foot of a hill overlooking the Coolamon Plains, at a height of nearly 5,000 feet above the sea. Its course first shapes itself southward, but near the town of Cooma it takes a sharp curve and runs in a northerly direction until it approaches Yass. Here it curves again, trending to the west in a line parallel to the Murray; but turning south-west on receiving the Lachlan, it finally joins the main river after a course of 1,350 miles. The area drained by the Murrumbidgee is estimated at 15,400 square miles. In the upper part of its course it receives from both sides numerous rivers and creeks, the most important of which are the Umaralla, Molonglo, and Yass Rivers on its right, and the Goodradigbee and Tumut Rivers on its left bank. All these flow through mountainous country over a series of plateaux, which from the Coolamon and Coorangorambula Plains to the plains round Gundagai and Wagga successively diminish in height from 5,000 feet to 720 feet and 607 feet above the sea.

The chief tributary of the Murrumbidgee is the Lachlan, rising in the Main Dividing Range, where its principal feeders also have their source. These are the Boorowa, Crookwell, Abercrombie, and Belubula—all rapid streams, occasionally swollen by melted snows from the table-land. After receiving the Boorowa, the Lachlan flows to the Murrumbidgee, through 500 miles of plain country, without receiving any tributary of a permanent character. The water-courses which carry off the surplus water from the plains on each side of the river, only reach it in time of flood. The total length of the stream is 700 miles, and its basin has an area of 13,500 square miles. The lines of demarcation between the Lachlan basin and that of the Murrumbidgee on the south and of the Darling on the north-west, are hardly perceptible on the ground, so flat is the country through which these great rivers flow.

Of all the tributaries of the Murray, the Darling drains the largest area, extending as it does over the greater portion of the western district of New South Wales, and embracing nearly all Southern Queensland. From its confluence with the Murray at Wentworth up to its junction with the Culgoa a few miles above Bourke, the Darling receives only two tributaries, the Paroo and the Warrego, both intermittent, though of vast size in times of flood. For over 1,000 miles this great river holds its solitary course, Nile-like, feeding the thirsty plains of the south with water falling many hundred miles distant on the downs of Queensland. The course of the river is tortuous in the extreme: in many places a narrow neck of land, a mile or two across, separates parts of the river 20 miles distant if the stream were followed. The Darling presents the phenomenon, not uncommon in Australian rivers, of banks much higher than the plain behind; indeed, the river bed itself, though from 30 to 40 feet beneath the bank, is in some places but little below the general level of the country. Successive floods have added to the height of the banks, and have raised the bed of the stream correspondingly.

The Darling has no source under that name, which applies only to that part of the river as far as the Bogan junction. Above this point it takes the name of the Barwon, until its confluence with the Gwydir; then it is known as the Macintyre, and afterwards the main branch receives the name of the Dumaresq. The last-named stream has its source in the Dividing Range, on the summit of the table-land at the extreme north-east of the state, not far from the head of the Richmond. The Dumaresq, Macintyre, and Barwon form, however, what might really be called the Upper Darling, and this appellation would be geographically accurate. The variety of names by which, not only the Darling, but many other Australian rivers are known, is due to the fact that they were discovered in sections, the identity of which was not established until years afterwards, and the sectional names have survived.

The Darling receives, in its upper course, many tributaries, which drain the southern portion of Queensland, but these rivers only flow for a short part of their courses in New South Wales. Chief among them are the Mooni, Narran, Bokhara, Culgoa, Warrego, and Paroo. The principal affluents of the Darling within the boundaries of New South Wales are on the left bank. The Gwydir, Namoi, Castlereagh, Macquarie, and Bogan are the most important. These streams are all of considerable length and similar in character; their upper valleys are on the tablelands, and their lower courses lie through alluvial plains and good pastoral country. The Darling is navigable, in times of freshets, as far as the township of Walgett, 1,758 miles from its confluence with the Murray; thence to the sea the distance is 587 miles, making a total length of navigable water from Walgett to the sea of 2,345 miles, and it therefore ranks high amongst the rivers of the world, as estimated by navigable length. Unfortunately, however, its upper course is open only during part of the year.

Here and there along the course of the western rivers are found lakes, sometimes of considerable dimensions. These lakes are in reality shallow depressions, receiving water from the overflow of the rivers in times of flood, and in return feeding them when the floods have subsided. Lake Urana is the most important in the Murray and Murrumbidgee basin, and Lakes Cowal, Cudgellico, and Waljeers, in that of the Lachlan. Along the Darling are Lakes Poopelloe and Gunyulka on the left bank, and Laidley's Ponds and Lakes Pammaroo, Tandou, and Cawndilla on the right, near Menindie. On the South Australian frontier are Lake Victoria, formed by the overflow of the Murray, and others of less importance. The area of these lakes is undefined, as they vary in size according to the rainfall, sometimes covering a vast extent of country, and at other times being reduced to the proportions of mere waterholes, whilst in seasons of great drought they are absolutely dry.

On the summit of the Main Dividing Range, and within a few miles of the inland towns of Goulburn, Queanbeyan, and Braidwood, two of the principal lakes of the state are situated. Lake George is 16 miles in length and 6 miles in width, draining a basin whose area is about 490 square miles. It is situated at an elevation of 2,200 feet above the sea, and the scenery around it is very beautiful. This lake exhibits the phenomenon of a large drainage area without a visible outlet, for though it receives many small water-courses, no stream leaves it. Lake Bathurst, a few miles east of Lake George, is another depression on the summit of the Dividing Range, and covers in ordinary seasons an area of about 15 square miles. It is similar in character to Lake George, having no outlet to the sea. Both lakes, in periods of great drought, shrink considerably in area; but Lake George in most seasons is a fine sheet of water.