Dungog Shire is located approximately 150 kms north east of Sydney and its southern boundary is approximately 40 km north-north-west of Newcastle. Its boundaries generally follow a ring of ranges including those to the west of the Paterson River, the rugged Barrington Tops plateaux to the north, and the flanking range east of the Chichester and Williams Rivers. The Shire encompasses the valleys of the Paterson, Williams, Allyn, Chichester and Wangat Rivers and it was these rivers and their associated vegetation and soils which most influenced the shape of later European settlement (see Fig. 1).

The area may be seen both physiographically and historically as part of the Hunter River Valley, the only one of a belt of coastal lowlands which penetrates the eastern highlands of New South Wales.\(^1\) The Hunter Valley is bounded on the south by the scarp of Hawkesbury sandstone, and on the north by "high, deeply dissected carboniferous Ranges", the Barrington Tops area.\(^2\) The northernmost section of Dungog Shire falls within this plateau which reaches to around 5,000 feet. The Shire's five rivers, as well as the Hunter itself in the west and the Gloucester, Barrington and Manning tributaries in the east rise in the swampy valleys and "descend steeply with rapids and waterfalls through deep gorges, dropping as much as 3,000 feet in 8 miles".\(^3\)

Both the Williams and Paterson Rivers join the Hunter near its mouth and occupy valleys divided by ranges into two distinct portions: a narrow upper one with limited alluvial flats; and a wider, lower one abutting and forming part of the Hunter Valley proper. The constriction of both valleys occurs about 12 kilometres above the confluence with the Hunter, and the lower valleys contain extensive flood plains with portions of swampy land. There are also several swampy areas in the Upper Williams Valley, which also has wider alluvial terraces than the Paterson.\(^4\) In the areas just south of Paterson township, the river flats feature several billabongs, affording a potential wetland habitat.\(^5\) There is a considerable stretch of level and undulating land around Dungog and along the lower courses of the Williams River.\(^6\)
Fig. 1: Dungog Shire showing river valleys and Barrington Tops.
While the Barrington Tops area is basalt capped Devonian Carboniferous rock with intrusive granites, the basal unit of most of the rest of the district is sedimentary rock. This is reflected in the naturally poor soils in many areas, contrasting with the rich river alluvials. In places the sedimentary formation is overlain by igneous rocks, giving rise to better soils, and the most recent formations are conglomerates. Basalt-capped hills rising to around 1,000 feet form the dividing range between the Paterson and Williams Valleys and most of this is cleared and used as pasture. These steep slopes are predominantly covered by shallow lithosols, while the undulating land below features red and yellow podsolics. The richest soils are the alluvials on the river and creek flats, and these vary considerably throughout the Hunter Valley. Most are rather sandy (fine sandy loams or sandy silts) and are darker and richer where they contain material washed from basaltic areas. Sandy clay soils and clay silts are found in the lower Hunter.

The district's surviving original vegetation directly reflects the various types of landform and soils. The valley floors of the Barrington Tops have a woodland vegetation in which white and yellow box trees, red ironbark, white cypress, kurrajongs, spotted gums and angophoras are widely spaced in grasslands dominated by spear and wallaby grasses. Where the wide treeless swamps occur a growth of sphagnum moss is found. The slopes bear a fairly close wooded or mixed forest of eucalypts (snow gums, mountain gums), cypress pines, angophoras and kurrajongs, and some of the variety of other interesting vegetation is unique to the area. In the higher, wetter, more protected valleys of the east are found dense rainforests. Some of these rainforest trees, particularly red cedar, were also originally found in a quasi-rainforest in parts of the Paterson Valley where there were areas of alluvium that were not repeatedly flooded. The Paterson was in fact originally named 'Cedar Arm'. Other trees in this temperate rainforest would have included white cedar, black bean, flame tree, silky oak and native fig. Other areas of the broad alluvial flat along the rivers were thinly timbered grassy plains (paperbarks and oaks). The foothills behind them and the watershed ranges between the rivers would have
been covered with a Eucalypt forest, with coastal box and apple on the better soils, and spotted gum, forest red gum and ironbarks on the poorer soils. 10

Most of the region receives an average rainfall of 1000 mm, increasing towards the north to the heavy falls experienced in the Barrington Tops (up to 2,500 mm). Winter snowfalls are not uncommon on the plateau, but the snow does not lie on the ground for long. 11 The Shire's climate is, like that of the lower Hunter, wetter than the areas of the Upper Hunter, a factor which lead to the early division of landuse - the pastoralists took up the drier areas to the north while the lower Hunter went to the agriculturalists. 12 This pattern is reflected on a smaller scale within the Shire during the early years. Crops were grown on the fertile river flats and the better land adjoining it, while the upper foothills and slopes were utilized for cattle grazing.

Floods have had the most dramatic impact on European settlement. They are generally caused by heavy rains on the tributaries descending from the mountains, but sometimes (1930, 31) by heavy local rain. Large areas of the lower reaches of the valleys are irregularly inundated - for example, floods may occur for a number of consecutive years, followed by a five-year flood free period. The same irregularity occurred between 1830 and 1850, when floods and freshes in 1832, 1834, 1840 and 1841 were interspersed with dry and drought periods (1831, 1837-39, 1842, 1845-47 and 1850). 13

Of the Shire's three topographical components - the rivers and their flats, the foothills, and the plateaux - it was the first which most closely shaped the multifarious activities of the area's human inhabitants. The Williams and Paterson Rivers brought the first white explorers searching for good land, timber and coal and also the subsequent early, shifting population of timber getters who camped on the banks and used the waters to float down rafts of red cedar. The area's stock of precious timber rapidly vanished and the men moved northwards. After the valley was opened up to free settlers in 1822, the area's pioneers were drawn, as they had been since the establishment of the colony, to the rich
alluvials along the river flats. They continued the clearing operations, and planted wheat, maize, tobacco and grape vines, and harnessed the rivers to water wheels for grinding their wheat and corn. The waterways also provided access to markets and sources of goods, for land-links with Sydney over the sandstone plateaux to the south were slow, difficult and tedious, in spite of the massive application of convict labour to the Great North Road between 1826 and 1836. The growth in river trade during the nineteenth century and the availability of materials fostered a booming shipbuilding industry around Clarence Town and also at Paterson. During the 1870's and 1880's these towns became, by virtue of their locations near the heads of navigation on the Williams and Paterson Rivers, busy ports through which the produce of this flourishing area was directed. The availability of clear, clean water also encouraged the establishment of the numerous creameries, butter and cheese factories in the area during the ascendancy of the dairy industry from the 1890s.

The rivers thus dictated the location of towns, and, with their dividing watersheds, defined and delineated one district from another, for example, the Paterson area from the Clarence Town - Dungog area; the Gresford - Allynbrook area from the Chichester - Bandon Grove area. In the narrow upper valleys, far beyond the heads of navigation, the more numerous water courses were barriers, rather than means of conveyance, and they forced the development of the myriad small settlement centres and communities so characteristic of the Shire's northern area. Each had a school and maybe a church, but gradually, as the numerous bridges were opened and the coming of motor transport broke down the barriers, these small settlements declined and/or disappeared.

Encouraged by such advisors as Henry Dangar (1828) the settlers brought with them seeds of plants, and grasses in particular, some of which later became pests. By the 1890's tussock grass and paddy's lucerne were being laboriously cut out and burnt, and the problem of nut grass, reputedly brought in by George Townsend of Trevallyn in the 1820's, still plagues the area, along with the ubiquitous lantana.
The caprice of climatic conditions offset the high yields of good years. Dangar in 1828 expressed the dilemma of the rich yet flood-prone alluvial plains. Floods, in spite of the damage they caused:

"...cannot be held as an objection to the possession of lands on banks .... settlers are indebted for the fertile meadows they occupy .... without such lands as these, this part of N.S.W. would have no particular fertility to boast of, nor would the soil offer any great inducement for the labour of agriculture."  

He had not yet seen the terrible destruction of the great floods to come. The waters could rise overnight, drowning people and animals, ruining entire crops, and sweeping away building and valuable land. Wetness brought the end of wheat and tobacco growing in the areas in the 1860's and 1870's with the onset of rust and blue mould. The flourishing early vineyards of Cawarra, Lewinsbrook and Gostwyck, around Gresford, also eventually ceased and the wine industry became centred in the drier Pokolbin region.

Following the drought years of the early twentieth century, and with the great increase in population in the mining areas of the lower Hunter, the Chichester River Gravitational Scheme was approved in 1915 and work began on the damming of the Chichester and Wangat Rivers in 1918. The project involved hundreds of workers, was completed in 1925 and began supplying an enormously increased quantity of water to the entire lower Hunter Valley. After the 1965 drought, tenders were called in 1968 for the construction of Lostock Dam on the upper reaches of the Paterson River.

The region where the rivers rise, the Barrington Tops, was declared a national park in January 1968 and extended in the same year. Although the Barrington Tops League, formed by Dungog businessmen in the 1920's, hoped for the Tops' popularity to match that of the booming Blue Mountains, this never eventuated. The park has however drawn campers and hikers over the century, while the fertile river valleys with their historic towns and undulating hills also attract tourists each weekend. The lower valleys have also been favoured by hobby farmers seeking rural retreat from the urban centres of..."
Newcastle and Sydney. The north eastern part of the Shire, encompassing the farming valleys of the Williams, Chichester, Allyn and Paterson Rivers within the foothills of the Barrington Plateau, has been classed as a scenic protection area by the National Trust of Australia (N.S.W.) and is under consideration for a classified listing as a Landscape Conservation Area.¹⁹
THEME 1 : THE NATURAL ENVIRONMENT

NOTES.

1. D.N. Jeans, An Historical Geography of New South Wales to 1901, Sydney, 1972, p.32.


4. Perry, p.54.


9. Archer, p.3; Perry, p.54.

10. Perry, p. 55; Hunter 2000, p.20; Archer, p.3.

11. Archer, p.2; Brock, p.1; Hunter 2000, p.20; Perry, p.12.


15. Dangar, p.45.


18. Scone Advocate 30 January 1968 and 23 February 1968; Information Sheet prepared by Barrington Tops League, c1923, held in Newcastle Local History Library, Local History Files.