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DIVISION OF LAND USE RESEARCH
CANBERRA

BUSHFIRE HISTORY OF THE SOUTH COAST
STUDY AREA

By J. A. Duggin

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The occurrence of unseasonal conditions can create extreme fire danger of the time when many small fires are burning. By far, the majority of bushfires are caused by either burning-off operations for grazing and land clearing purposes or from reigniting of these fires. The second type of season, in which extreme bush fire danger occurs in December-January, results from the prolonging of dry winter-spring conditions into the hotter summer months.

HISTORY OF SEVERE YEARS FOR BUSHFIRES

Severe bush fire years occur at frequent intervals within the south-eastern region of Australia. In N.S.W., the mountainous and forested regions from the tablelands to the coast have experienced bushfires of appreciable size and severity during the 1913, 1924, 1938-39, 1951-52, 1957-58, 1964-65, and the 1968-69 fire seasons (Gould 1973; Hurditch 1974). Not only were these years disastrous for the study area and adjacent regions, but bad bushfires were recorded in 1941-42, 1948-49 and 1953-54.

Records of bushfires occurring during the early history of settlement on the south coast are vague, and it is difficult to determine their magnitude and severity. Bayley (1973) makes several references to bushfires in his account of the history of Eurobodalla Shire. He reported that in 1883 the agricultural district around Moruya and the timbered country to the west was ravaged by fire. Conditions were extremely dry and fires "dropped" onto paddocks parched by the summer heat. Many houses, sheds and sawmills were destroyed. This was the first recorded disaster of such magnitude for the district. In 1903 Batemans Bay was threatened by bushfires. In January 1905, the Batemans Bay district from the ranges to the coast was reported to be ablaze with so much smoke that the sun was obscured and lamps had to be lit in town cottages. Bolaro, Buckenbowra, Runnymede and Nelligen all suffered serious losses, while settlers of Buskenbowra only saved their lives by sheltering in creeks. In 1929 fires swept down the Araluen valley from Braidwood to Moruya and the coast. Bodalla village was also threatened by fire in the same year.

Bushfires burning in excess of 10 000 ha and originating from within or travelling into the study area since 1938 are described below and shown in Figs. 3-10. Most of the information was provided from the personal experience and knowledge of Mr A.D. Christopher who for many years was a forester and then forest fire officer on the south coast of N.S.W. No detailed information is available for earlier bushfires. The boundary of each fire shown in the figures was the limit of that fire when considered under control. On several occasions the fires joined together after the emergency period had passed. During severe seasons and in the intervening years many smaller fires were recorded in addition to those described.

As indicated in Figs. 3-10 the origin of most bushfires was either on the edge of the tableland to the west of the study area or in

the mountainous country below the scarp. Many fires have been reported in the lower foothill and coastal areas but, because of moderate terrain and the presence of a more intensive road network, it has been possible to contain them to areas much less than 10 000 ha. These fires have not been reported here.

The 1938-39 Fire Season (January 1939)

Many large fires burnt throughout south-eastern Australia in January 1939. The Dandenong Ranges in Victoria were particularly devastated on one "blow-up" day now known as "Black Friday". Sixty-six people lost their lives during this fire (McArthur 1969). Two large fires, Monga (No. 1) and Congo (No. 2) were reported in the study area during the period 9-15 January 1939 (Fig. 3).

The Monga fire started from an eucalypt oil distillation plant located on the main road half-way between Braidwood and the top of Clyde Mountain. The fire spread out over the tablelands, then turned eastward moving on a broad front over the mountain into Currowan and Buckenbowra Creek catchments (Fds 2 and 3) and finally passed through Nelligen destroying 9 houses. The fire eventually stopped on the eastern side of the Clyde River following a favourable weather change.

The cause of the Congo fire is not known but originated on the tablelands in the Shoalhaven River catchment around Wyanbene. The fire burnt over the scarp spilling into Wyanbene Creek catchment and then moved rapidly in a narrow strip into the Oulla Creek catchment (FD 6). The fire produced spot fires some distance ahead of the main front in cleared country around Bergalia and Congo Point (FD 8). The fire finally burnt to the coast south of Congo Point.

The 1941-42 Fire Season

The season was reasonably mild throughout the state, but very dry conditions in spring and early summer on the south coast produced one major fire in the study area (Mt. Dromedary, No. 3, Fig. 4). The fire originated to the west of Mt. Dromedary (FD 10), and possibly resulted from burning-off by cattlemen. Conditions were so dry that many rain forest gullies on Mt. Dromedary were destroyed by fire. The fire was finally stopped along the Princess Highway near Central Tilba.

The 1948-49 Fire Season (October-November 1948)

On 15 October two major fires, Ulladulla (No. 4) and Currocockbilly (No. 5) were reported burning in the northern part of the study area (Fig. 5). The Ulladulla fire started on the tablelands to the west of the study area in the headwaters of the Corang River. The fire moved rapidly in a narrow band across rugged country in the southern portion of FD 1 towards Pigeon House and eventually came out into cleared agricultural land to the west of Ulladulla where control was ultimately affected.

Little is known about the cause and movement of the Currocockbilly fire. It most probably began on the tablelands and burnt into extremely rugged country in the north-western portion of FD 2. Because of difficult access, no action was taken to fight the fire and it eventually died out when weather conditions moderated later in the season.

The 1951-52 Fire Season (January 1952)

The season could possibly be one of the worst on record for eastern Australia when more than 8 million ha were burnt and monetary damage was estimated at that time to be in the order of \$100-\$150 million (McArthur 1968). The season began in late October 1951 with a series of lightning fires in southern central Queensland around Charleville. About 2.8 million ha were burnt in these fires. These were followed by very large fires in northern N.S.W. in November and in late January and early February many fires were reported in southern N.S.W. and Victoria. The Mangoplah fire, which originated from railway burning-off operations south of Wagga Wagga burnt 390 000 ha, of which 340 000 ha were burnt in a 7-hour period of 25 January 1952 (McArthur 1968). On this day alone about 1.4 million ha of grass and forest land were burnt in N.S.W. and Victoria (McArthur 1969).

On the south coast the Nowra fire started east of Bundanoon from land clearing operations and passed to the north of the study area reaching the coast south of Nowra. The Candelo fire burnt to the south of the study area in the Bemboka River valley and extended from Bemboka to the Princes Highway south of Bega. Three fires (Bega No. 6, Mt Dromedary No. 7 and East Lynn No. 8) burnt in the study area (Fig. 6).

The Bega fire originated from burning-off by graziers near the junction of the Back and Tuross Rivers in the southern region of tableland FD 12. The fire went unchecked over several weeks, during which time it moved slowly eastward, burning in rugged country around Wadbilliga Trig and then into the upper reaches of the Yourie and Brogo Rivers. On 25 January an intense depression located south-west of Tasmania generated strong, hot and dry north to north-west winds over south-eastern Australia (Rainbird 1958). Blow-up conditions pushed the fire rapidly out of the study area in a south-easterly direction. At this stage the fire was particularly dangerous as it burnt on a large front created by the fire moving unchecked in an easterly direction prior to blow-up day. The fire moved extremely rapidly, travelling some 35 km in one hour from Numbugga Walls west of Bega to the coastline south of Tathra. On 26 January a wave formed on the cold front now in the Southern Tasman Sea and gave rise to strong southerly winds which moderated later in the day, becoming light and variable at night (Rainbird 1958). During the next few days the winds were mild but had great variability in direction. These conditions reduced the danger and control was ultimately affected.

The Mt. Dromedary fire (No. 7) began near Reedy Creek and moved across the northern side of the mountain (FD 10) threatening the villages of Tilba Tilba and Central Tilba. The fire was brought under control along the Princes Highway.

The East Lynn fire (No. 8) resulted from burning-off by farmers around the junction of Clyde River and Cookwhy Creek (FD 3). It moved south-east, crossing the Princes Highway and burning to the coast near Durras Lake.

The 1953-1954 Fire season (December 1953)

Two large fires were reported in the study area (Fig. 7). The Khan Yunis fire (No. 9) commenced on Khan Yunis Station situated on the tablelands to the west of the study area and the Mogo fire (No. 10) burnt on the southern portion of Mogo State Forest.

The Khan Yunis fire broke out on Christmas Eve and spread rapidly from the tablelands across rugged country in the Deua River catchment. It eventually burnt most of the mountainous and hilly country of FD 6. On reaching cleared country to the west of Moruya, the fire front split in two and burnt to the coast at points to the north and south of Moruya. The fire burnt vigorously and started many spot fires ahead of the main front. Fires reported on Montague Island resulted from burning embers carried out from the main fire front which, at that time was 35 km from the Island. Most of the Island was burnt and several old wooden buildings were destroyed.

The Mogo fire started about the same time as the Khan Yunis fire and originated on the western side of Mogo State Forest. It spread quickly under the influence of strong, south-westerly winds. The fire jumped the Highway to the south of Mogo village and finally burnt into cleared country on the Tomaga River. The cause of this fire is unknown, but it was more than likely the result of spotting from the Khan Yunis fire. Both fires ultimately joined together after the emergency period had ended.

The 1957-58 Fire Season (October-November 1957)

This season gave rise to many grass fires burning throughout the tablelands of N.S.W. Three major fires were reported in the study area (Fig. 8). The Tianjara (No. 11) and Castle (No. 12) fires both began on the tablelands while the Oulla fire (No. 13) started in foothills of FD 6. All resulted from burning-off by either farmers or cattlemen.

The Tianjara fire began east of Nerriga and moved south-east into the headwaters of the Clyde catchment (FD 3). The fire passed south of Tianjara Trig, travelling quickly through the sandstone heath and mallee country and reached the coast north of Lake Conjola.

The Castle fire was similar to the Ulladulla fire of 1948-49. It began in the upper reaches of the Corang River on the tablelands and moved into rugged country in the upper reaches of the Clyde River. The front widened as it travelled through the northern portions of FDs 2 and 3 and burnt across Pigeon House Mountain and The Castle, finally reaching the coast around Toubourie.

The Oulla fire was started by cattlemen burning-off along Oulla Creek west of Moruya. It moved in a north-easterly direction, crossing the Princes Highway around Binbimbie, and burnt into open farmland on the Tomaga River where it was brought under control.

The 1964-65 Fire Season (February-March 1965)

This season was particularly severe in eastern Australia and coincided with bad drought conditions that followed good winter and spring rains. Rapid curing of abundant pastures and grasses, produced by good growing conditions, and the drying of forest fuels gave rise to a greater fire potential in this season than in 1951-52. Many large fires were reported in south-eastern Australia with fires burning 58 000 ha in the Blue Mountains south of Katoomba, 250 000 ha east of Goulburn, 75 200 ha in the Tumut River Valley and 305 000 ha in south-eastern Victoria west of Bairnsdale (Anon. 1966). The southern limit of the Bungonia and Chatsbury fires which began near Goulburn burnt to the north of the study area along the Nerriga - Tomerong Road.

The study area itself was fortunate to escape serious damage, but the potential for a bad season was high. The Pigeon House fire (No. 14) originated from lightning strikes and burnt within the limits of the Castle fire of 1957-58. The fire moved out of the sandstone country into cleared country to the west of Woodburn where it was brought under control (Fig. 9). Smaller fires all of which burnt less than 10 000 ha were reported along the coastal lowlands at Bergalia, Bodalla and Batemans Bay destroying timber and grassland and threatening villages (Bayley 1973).

The 1968-69 Fire Season (September-December 1968)

Extremely bad conditions prevailed during this season resulting in a severe bushfire season for south-eastern Australia. The bush fire danger period extended from early September to late March. Over 100 homes were burnt in the Blue Mountains and 20 lives were lost when fires swept through the small town of Lara in Victoria (Wettenhall 1976).

The south coast was particularly devastated with many fires burning concurrently. As a result an Emergency Fire Controller was appointed under Section 17 of the Bush Fires Act, 1949, for the period 16 September to 2 October 1968. Extremely dry conditions resulted from below average rainfall over the preceding 3 years, followed by the 1968 rainfall up to September being half that normally expected. Rain forest gullies and moist lower slope areas which are normally too wet to carry light fires for hazard reduction in the autumn and winter months were extremely dry and carried large volumes of readily combustible fuels. On drier sites the tonnage of available fuel increased as the larger components of the forest floor dried out and added to the available fuel load.

Five major fires were reported within the study area (Fig. 10). Many smaller fires burnt concurrently with the two large fires, Woila Creek (No. 16) and Merricumbene (No. 17), creating extremely dangerous conditions. Between 16 and 30 September, 9 fires were reported burning from Central Tilba to Ulladulla, with 4 major fires commencing within one week (Christopher 1968). During the declared emergency period of 16 days about 47 500 ha were burnt by these fires. Fire suppression was extremely difficult as weather conditions did not ease throughout the period. Even overnight conditions were unfavourable and made back burning for establishing fire breaks hazardous.

The Yourie Gap fire (No. 15) commenced in the same locality as the Bega fire on 1951-52. The fire originated from burning-off on the tablelands (FD 12) near the junction of the Tuross and Back Rivers and moved rapidly in a south-easterly direction across Wadbilliga and Murrabrine Trigs and then out of the study area. The major front passed through an area that had been control-burnt some five months earlier. Although the burnt area successfully reduced the intensity and rate of spread of the fire front, it was out-flanked some days later. The delaying action was sufficient to arrest the overall progress of the fire for several days and by the time it reached the Bega Valley farmlands, weather conditions had moderated sufficiently that control was affected.

The Woila Creek fire began on 12 September near the junction of Woila creek and Tuross River (Christopher 1968). It is uncertain how the fire started, but is most probably resulted from a poorly extinguished campfire. During the period 12 to 18 September strong south-easterly winds pushed the fire northwards into very rugged country around Woila Mountain where it became impossible to contain the northern front. On 23 September the wind direction shifted to the north-west and then west. This caused the fire to move on a large front into Gubenguin Creek catchment and to the headwaters of the Deua River where it burnt fiercely in the heavy ground fuels that had accumulated over the past years. No major bushfire has been recorded in this area since 1939. By 30 September the fire had jumped into the upper reaches of Bombo Creek, moving some 25 km in 2 hours. All plant and manpower were withdrawn early that morning to protect Bodalla as spot fires started in and around the town. By 2 October weather conditions had eased, the fire reached the coast north of Dalmeny and control was achieved.

The Merricumbene fire began on 23 September and was deliberately and irresponsibly lit for 16 km along the Merricumbene Fire Trail (Christopher 1968) in the central portion of FD 6. On 25 September the fire moved east on a 16 km front over inaccessible country which had not been burnt since the Khan Yunis Fire of 1953-54. The fire moved into the Burra and Oulla Creek catchments and then to cleared country west of Moruya. Like the Khan Yunis fire, the Merricumbene fire split into two fronts and burnt to the highway in the north and into Wanban Creek in the south where a smaller fire burnt about 3800 ha earlier that month.

Both the Woila Creek and Merricumbene fires continued burning in the rugged country of the Tuross and Deua River catchments as bad

fire weather conditions prevailed until December. By that time both fires had eventually joined together.

The Currowan fire (No. 18) was first noticed on 19 September and was believed to be started around Carters Creek. The fire appeared to be deliberately lit, possibly by cattlemen illegally grazing on vacant Crown land. The fire burnt many hectares in the Currowan area and was eventually stopped on the western side of the Clyde River.

The cause of the Clyde fire (No. 19) was possibly lightning strikes in the upper reaches of the Clyde River. The fire broke out around Pigeon House Creek on 26 October, and moved quickly under the influence of hot and dry, north-westerly winds. The fire front split in two on reaching cleared country and passed to the north of Milton and to the south of Ulladulla. Both fronts eventually burnt to the coast. This fire burnt over the same country as the Pigeon House fire of 1964-65. The fact that this area was able to carry a second bush fire in less than 4 years was the result of prolific regeneration and growth of fire weeds and Acacia spp. after the earlier fire.

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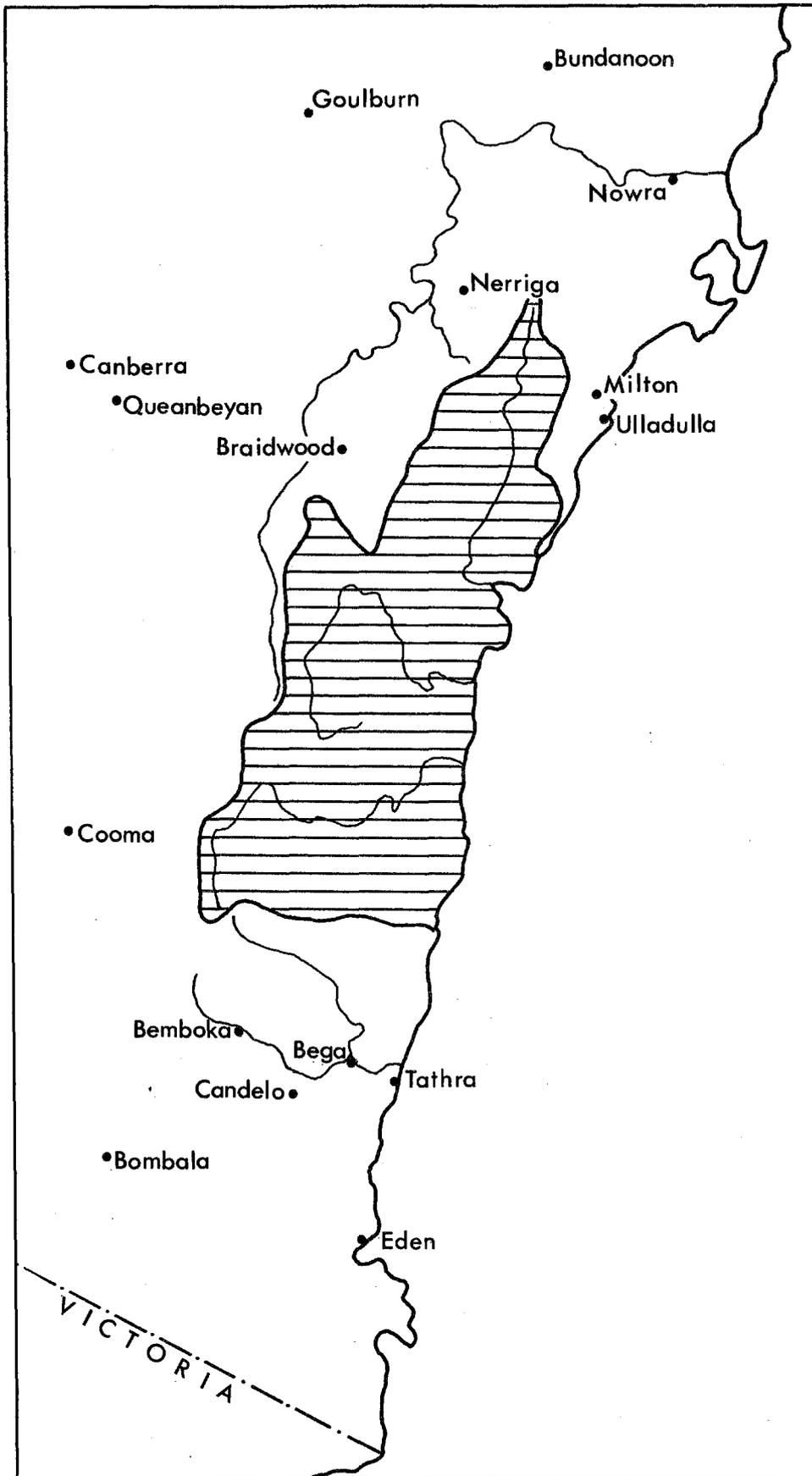


Fig. 1. The study area (shaded) shown in relation to the south coast and eastern portion of the southern tablelands.

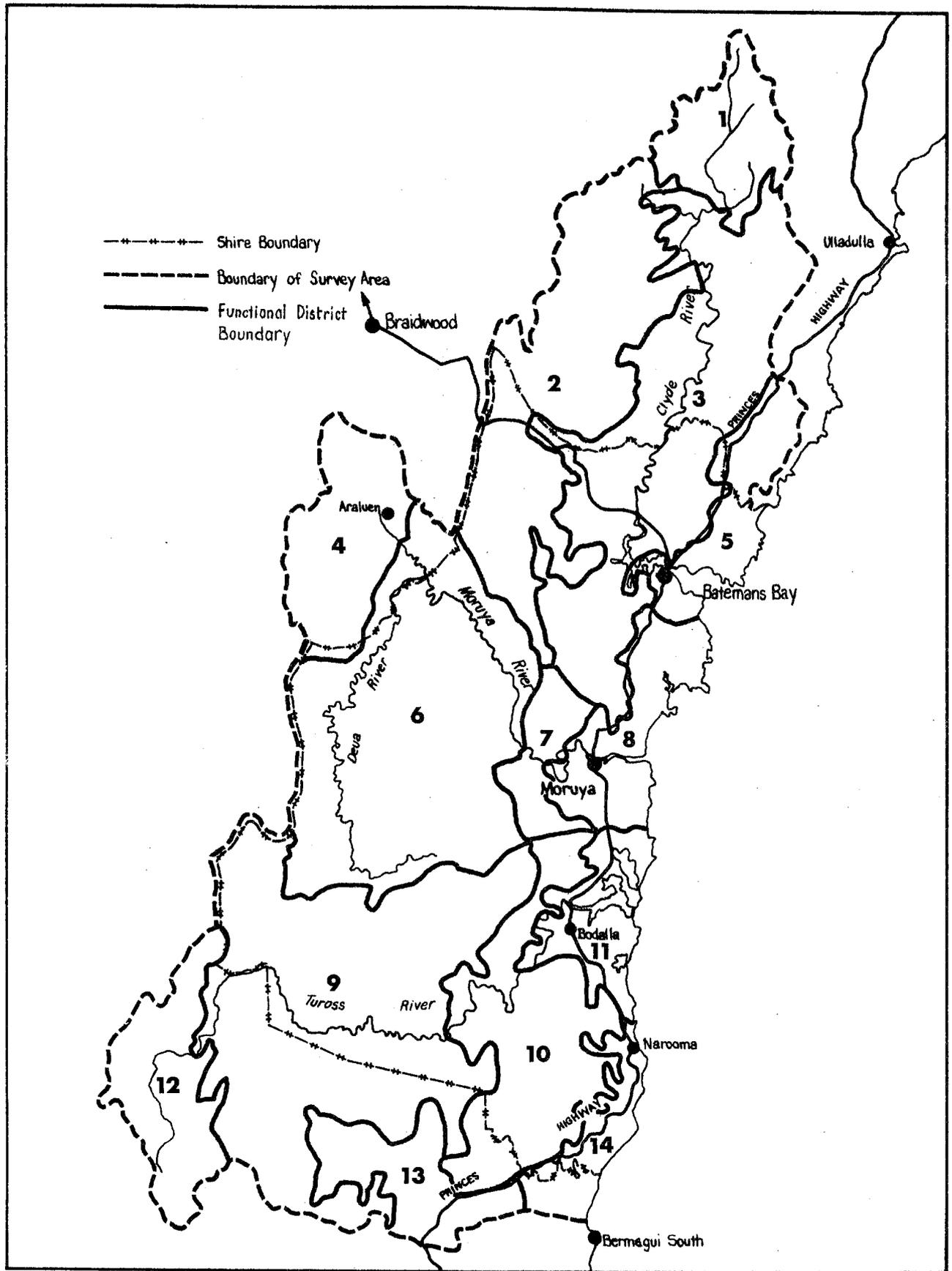


Fig. 2. The study area shown in detail. The functional districts are numbered.

1938-39

- 1 Monga
- 2 Congo

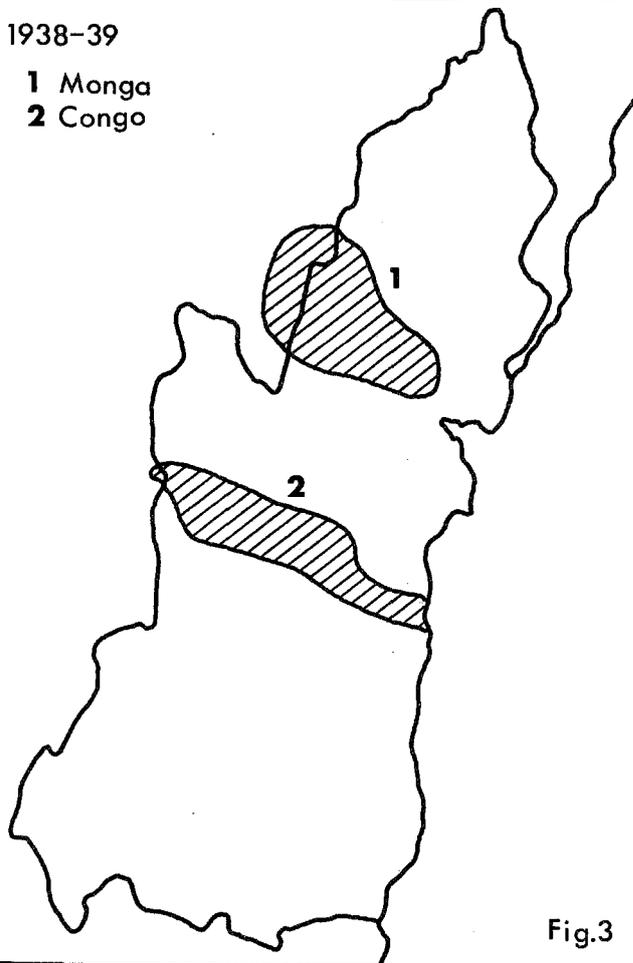


Fig.3

1941-42

- 3 Mt Dromedary

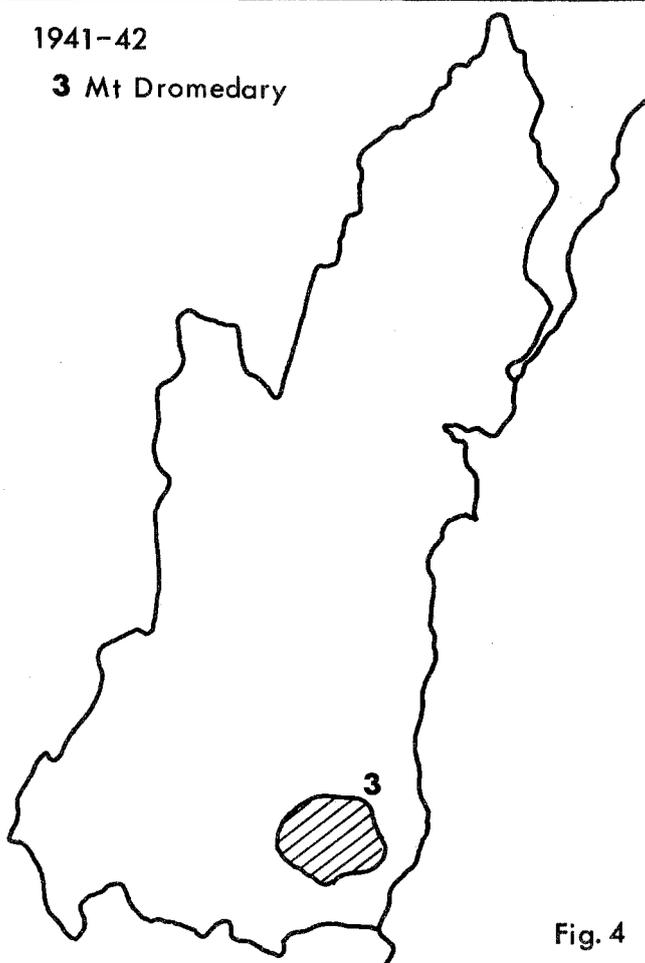


Fig. 4

1948-49

- 4 Ulladulla
- 5 Currocockbilly

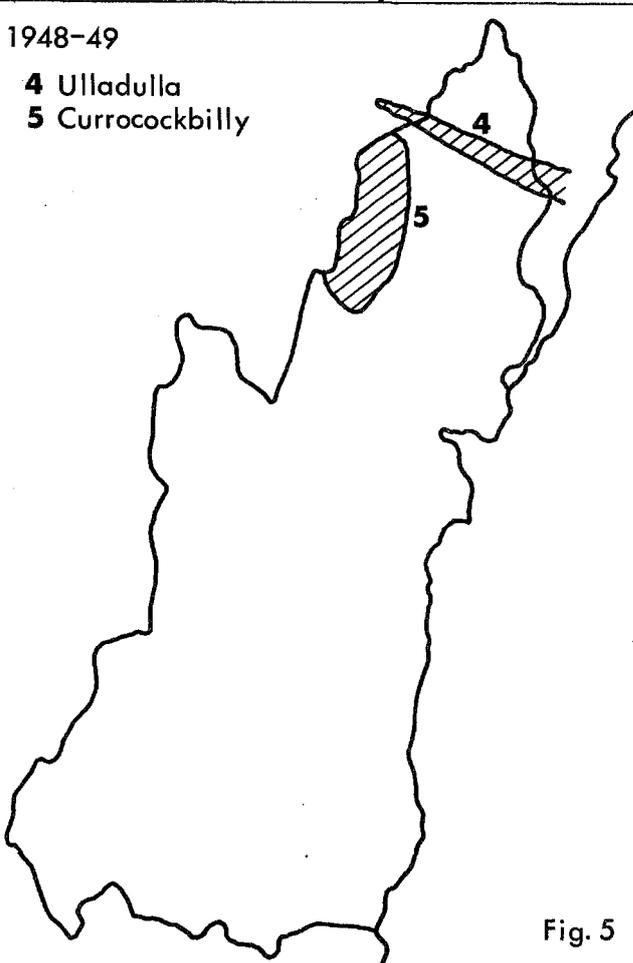


Fig. 5

1951-52

- 6 Bega
- 7 Mt Dromedary
- 8 East Lynn

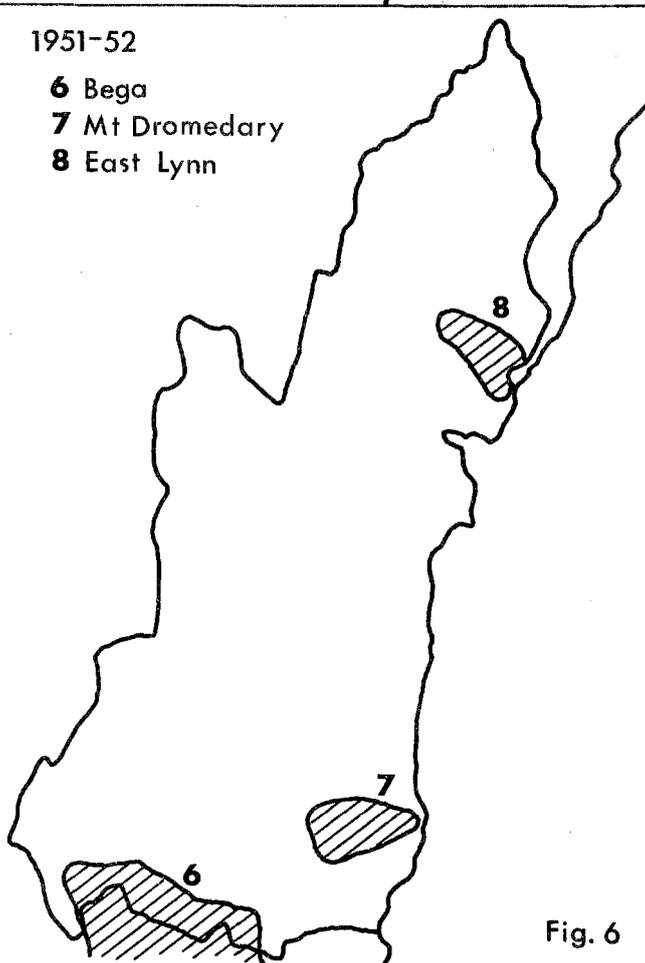


Fig. 6

1953-54

- 9 Khan Yunis
- 10 Mogo

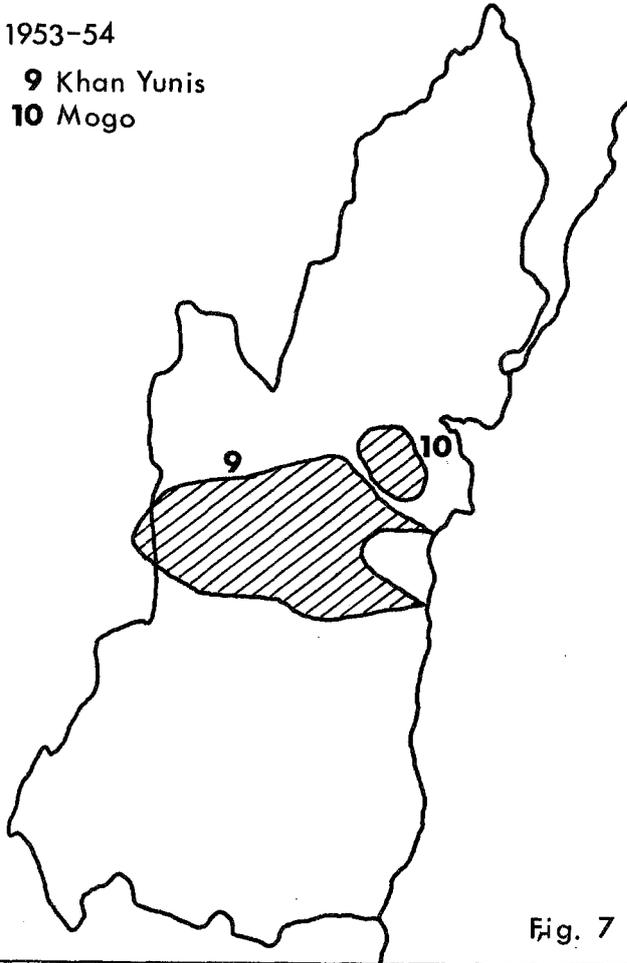


Fig. 7

1957-58

- 11 Tianjara
- 12 Castle
- 13 Oulla

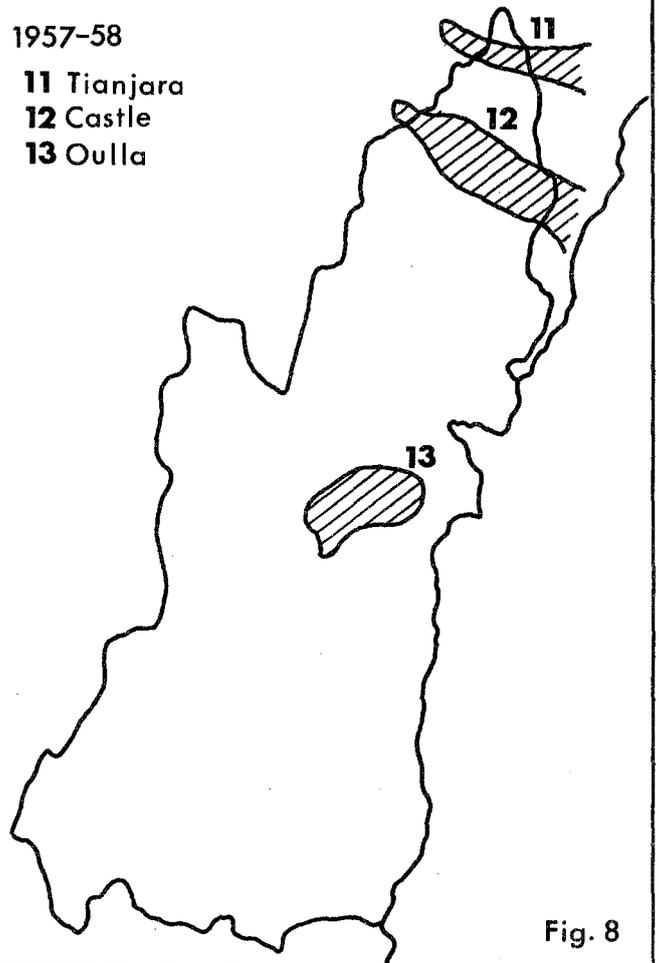


Fig. 8

1964-65

- 14 Pigeon House

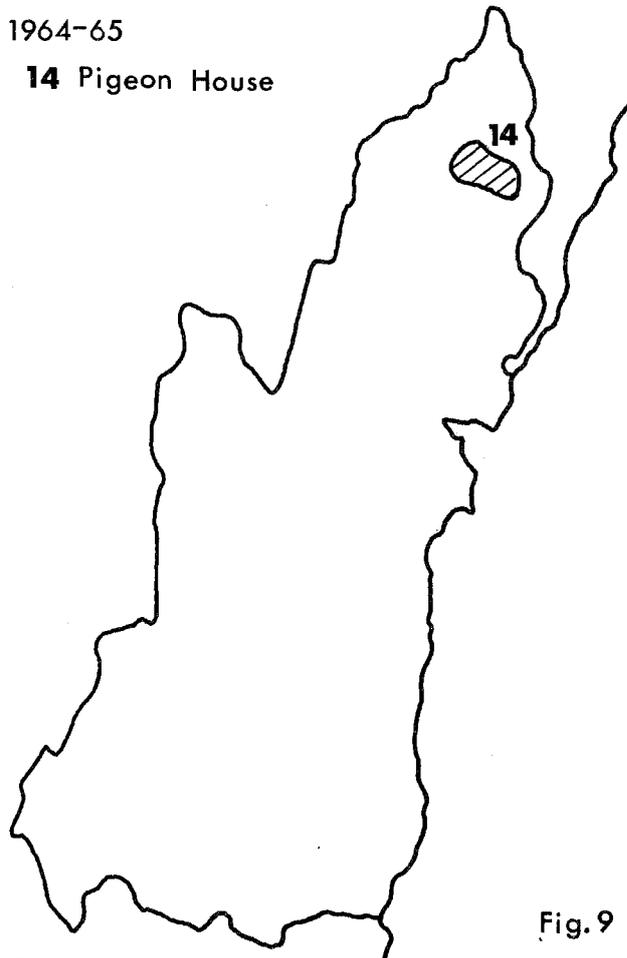


Fig. 9

1968-69

- 15 Yourie Gap
- 16 Woila Creek
- 17 Merricumbene
- 18 Currowan
- 19 Clyde

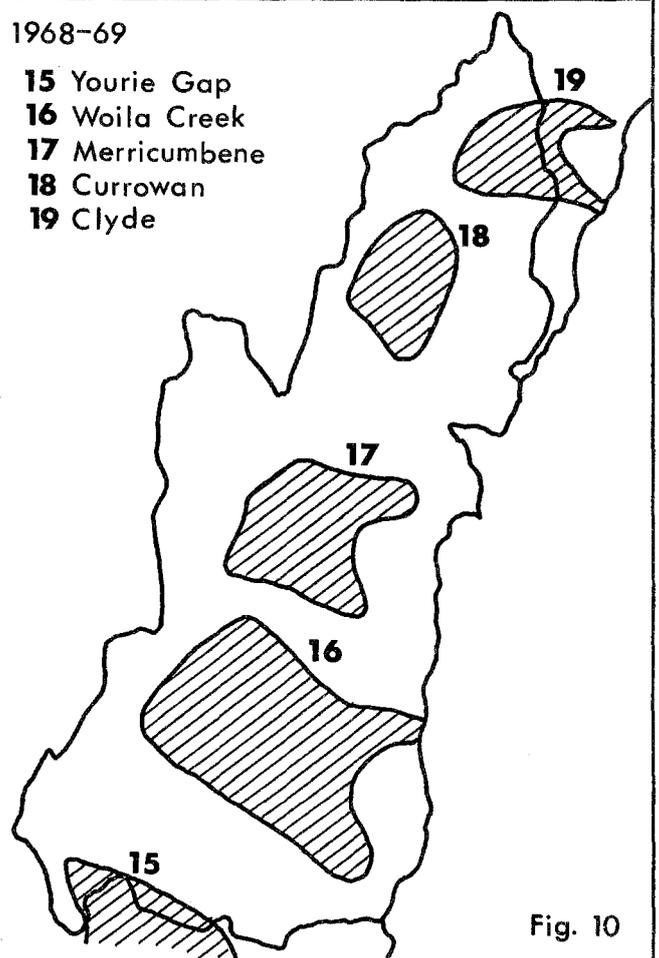


Fig. 10