SC/C/95

SOIL CONSERVATION AUTHORITY

Report on
LAND USE DETERMINATION
In the
TARAGO RIVER CATCHMENT

Prepared for consideration by the
Land Conservation Council

March 1973

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Report on the
Tarago River Catchment

I. INTRODUCTION

The Catchment to the proposed State Rivers and Water Supply Commission reservoir on the Tarago River was proclaimed in the Victorian Government Gazette No. 49 on July 7th 1967, under the provisions of section 22 of the *Soil Conservation and Land Utilization Act*.

Since then this Land Use Determination has been in preparation, and the report is now submitted to Council for its consideration. After being amended where necessary the report will go to the Soil Conservation Authority for its approval under the provisions of section 23 of its Act, and the Determination will come into effect when it is published in the Government Gazette.

Water Supply Systems

Water from the catchment is distributed in three different systems, the major one being the Water Commissions supply to augment the Mornington Peninsula system. Most of this water is lifted from the reservoir into a race and tunnel system which gravitates to storages on the Peninsula. Water is also diverted into the race from a weir on the West Branch of the Tarago, and the contribution of both these sources to the Peninsula supply is about 6,000 million gallons (27×10^6 M^3) per annum. The water is for the most part untreated but at certain points of the supply system chlorinators can be used if necessary.

The Reservoir itself was originally constructed with a capacity of 20,000 acre feet, and increased to 30,000 acre feet (37×10^6 M^3) in 1972 by raising feet and no further enlargement of the storage is envisaged. In 1975-76 a pipeline being constructed between the reservoir and Tyabb is expected to be completed, so the Peninsula system may be gravity fed from that time.

Warragul Waterworks Trust has a diversion weir four miles upstream of the SR&WSC weir, and water is taken from this point to supply Darnum, Nilma, Rokeby and Warragul itself. Domestic water for Warragul is chlorinated as it leaves the storage basin. Total consumption of these areas is 485 million gallons ($2.2 \times 10^6 M^3$) per annum.

Water for the nearby township of Neerim South is pumped directly from the reservoir, and is chlorinated when necessary. Consumption is about 20 million gallons per annum.

Releases are also made from the reservoir to augment low flows downstream in the Tarago and Bunyip Rivers for the benefit of private diverters.

Quality of the water in the storage suffers from high colour and turbidity counts from time to time. The Water Commission's investigations suggest that two sources of colour are decaying vegetation in forested areas, and red algal blooms which appear in the reservoir under certain conditions. Copper sulphate is used to kill the algal blooms, and alum is used occasionally to clear water going to Neerim South, but no solution has yet been found to the problem of decaying vegetation.

Turbidity counts in the streams and the reservoir rise after periods of rain, and the East Branch of the Tarago contributes most of this sediment. The stream drains cleared farming land which has reddish soils developed on volcanic parent materials, and pugging of the stream banks by cattle at watering and crossing points is the principal cause of this sedimentation.

II. CATCHMENT DESCRIPTION

(a) Locality, Access

Tarago Reservoir is situated immediately west of the township of Neerim South, some 12 miles (20 km) north of Warragul. The catchment extends 8 miles north of the dam to the township of Nayook and the same distance westwards to the ridge which forms the common boundary between this catchment and the Bunyip River catchment. Total catchment area is 44 square miles (114 km^2).

The catchment can also be approached from the north west via Yarra Junction and Powelltown to Nayook. The Warragul-Neerim Road continues on via Noojee to Mt Baw Baw. Fortunately none of these major roads pass through the catchment but there are several minor roads which require careful maintenance to reduce sediment movement. Firstly, construction of the dam necessitated realignment of Sherrard's Road along the eastern side of the Reservoir, and the new cut and fill sections on this road have taken several years of careful maintenance to stabilise. Secondly the main forest access road along the West Branch of the Tarago represents a possible source of sediment because of its proximity to the main stream. The Forests Commission arranges to have most forest products taken out of the catchment over the north or south ridges, so that traffic of heavy vehicles on this road is kept to a minimum. Elton Road itself falls steeply to the Tarago before crossing it, and is a source of discolouration during wet weather.

(b) Climate

Average annual rainfall for Neerim South is 40.9" (1039 mm) with an average variability of 4.8" (122 mm), indicating that rainfall there is more reliable than for most of West Gippsland.

Average annual rainfall for Jindivick is 44.5" (1130 mm) with an average variability of 6.0" (152 mm).

No rainfall records are available for Nayook, on the northern catchment boundary, but local opinion is that annual rainfall there is slightly higher than at Neerim, where it is 46.6" (1084 mm).

Table I summarises rainfall data for Neerim South Jindivick. Note that the incidence of "storms" (defined in this context as daily rainfalls exceeding 100 points or 254 mm) is lowest in winter and summer months, highest in autumn and spring. The area of cultivated land in the catchment is not large but it is of some significance that cultivation associated with pasture renovation, fodder crops or potatoes is carried out during the months when the risk of high intensity rains is greatest.

Table I also has mean monthly evaporation (Australian Deep Tank) data, and since E/3 is less than precipitation in all months, the length of growing season is seldom limited by moisture stress.

Table I - Summary of Rainfall and Evaporation Data

Neerim South

Month	**J**	**F**	**M**	**A**	**M**	**J**	**J**	**A**	**S**	**O**	**N**	**D**	**Total**
Rainfall "	2.4	2.0	2.1	3.2	4.5	2.7	3.9	4.3	4.6	4.2	3.9	3.0	40.9"
Evaporation 3	2.2	1.3	1.3	1.5	0.5	0.3	0.3	0.5	0.8	1.0	1.3	1.7	12.2
% Distribution of "Storms"	**Summer**		**Autumn**			**Winter**			**Spring**				
	17.7%		25.0%			25.0%			32.3%				100%

Jindivick

Month	**J**	**F**	**M**	**A**	**M**	**J**	**J**	**A**	**S**	**O**	**N**	**D**	**Total**
Rainfall "	2.6	2.4	2.5	3.8	4.8	2.9	4.0	4.5	5.2	4.3	4.1	3.4	44.5"
% Distribution of "Storms"	**Summer**		**Autumn**			**Winter**			**Spring**				
	17.1%		32.2%			23.7%			27.0%				100%

Appendix Tables 1, 2 and 3 summarise storm rainfall data at Neerim South and Jindivick for the period 1956 - 1969 inclusive.

Table II summarises temperature data for Neerim South. Mean daily temperatures fall below 55°F (12.8°C) in the months of June, July and August, and pasture growth is retarded then. In addition, growth of the cool season species such as rye and cocksfoot which are used in improved pastures, is restricted in the summer months when mean temperatures are high. A growing season of 9 months from September to May inclusive, is possible.

Table II - Summary of Temperature Data (°C)

Month	J	F	M	A	M	J	J	A	S	O	N	D
Mean Max	32.1	33.8	30.9	25.9	20.6	17.2	16.1	17.4	19.9	24.1	26.5	30.1
Mean Min.	15.4	17.0	15.0	11.8	9.1	6.1	6.0	6.9	7.7	9.2	10.7	13.4
Daily Mean	23.7	25.4	22.9	18.8	14.8	11.6	11.1	12.1	13.8	16.6	18.6	21.7

In summary, climate throughout the catchment presents no great problems in catchment management, in that it is conductive to rapid plant growth. The intensive rains which occur in normal cultivation periods have been taken account of when buffer zones between agricultural land and streams were determined.

(c) Geology, Topography

The base rocks in this area, as in most of the Gippsland region, were originally sandstone, mudstones, and slates of Silurian and lower Devonian age. During the Upper Devonian period an intrusion of granitic material occurred (the Tynong granite body) and after subsequent uplifts and weathering the granites and granodiorites have been exposed. Finally basic lava flows, (the Thorpdale volcanics) occurred in the Oligocene period, along drainage lines and depressions existing at the time.

Present geology is that granitic rocks underlie most of the catchment (forest areas), the eastern ridge is basaltic (agricultural land) and between the two are found remnant areas of sedimentary rocks.

Topography of the freehold land along the eastern and southern boundaries of the catchment is undulating to hilly, with slopes increasing to 25% and 30% near streams and depressions. Consequently houses, buildings, yards and areas used for intensive agriculture are generally situated on the flatter plateau areas some distance from the depressions, and the risk of pollution from such areas is slight.

The remainder of the catchment is hilly to steep with drainage lines deeply entrenched. Highest points are Spion Kopje (2,950'), Gentle Annie (2,250') and North Hell's Gate (2,150') and from these points the land falls away to the Tarago River itself at about 1000' elevation.

(d) Soils, Erosion

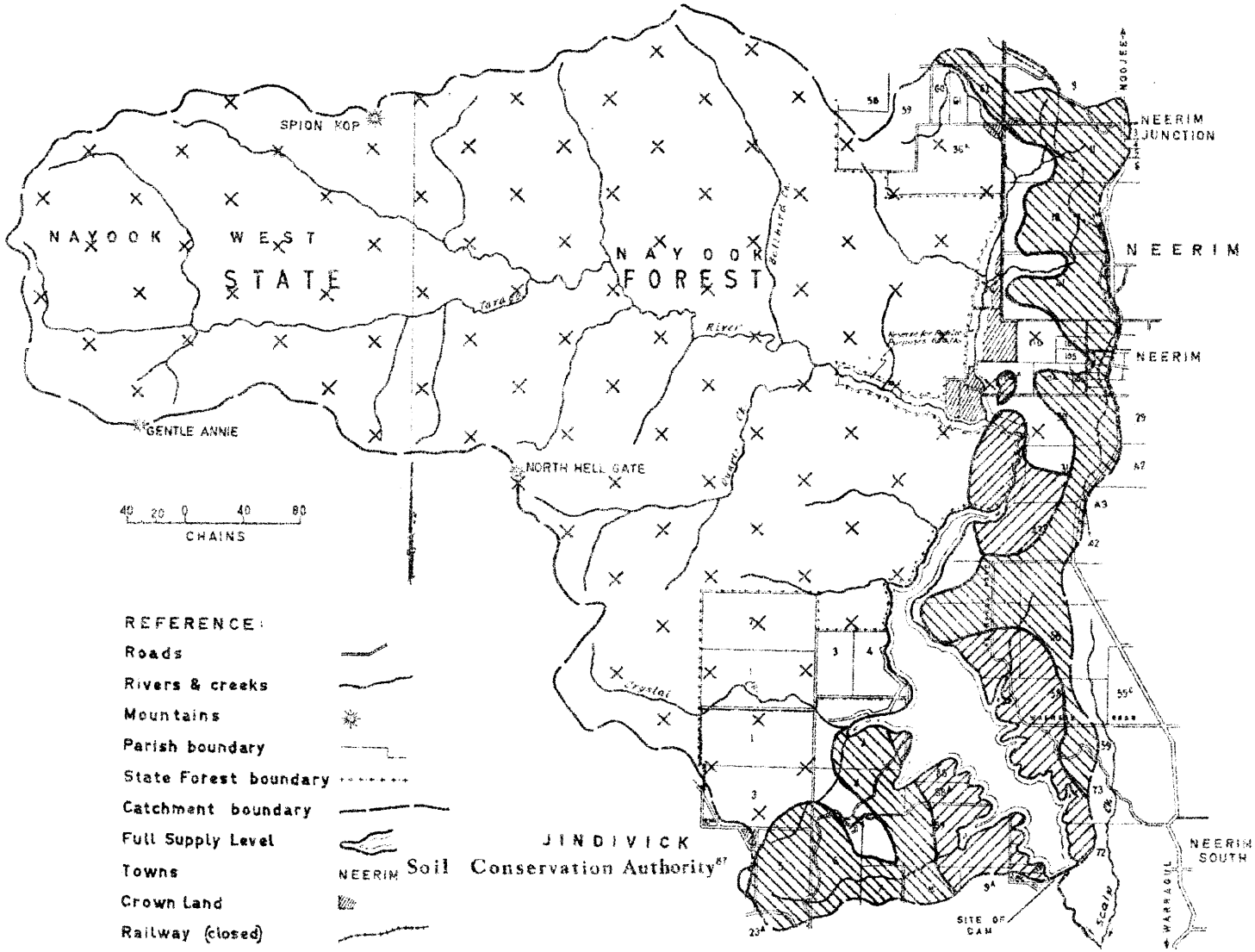
Soils formed on the granitic parent materials are grey brown podsols, with sandy loam up to 30 cm deep over sandy clay subsoils. Erosion hazard is not high in the natural forested state, but in forestry operations careful disposal of runoff from any bared area is warranted. Aggregate structure in the topsoil is weak and very much dependant on organic matter content, so excessive cultivation and cropping increases its erodibility. Nevertheless there are areas of flat land with this soil type which have been included in the cropping category of the proposed Determination.

In the past two years small forested areas on this soil type have been cleared and sown to pasture. It was noted that slopes over 15% rilled badly during the development phase, especially on north and east facing slopes. The effect of the aspect is not so noticeable on the basaltic areas.

Krasnozems are found on the basaltic parent rocks, and being well structured clay loams, are productive as both cropping and pasture soils. Erosion hazard on normal cropping slopes is minimal, but excessively steep land with this soil type has been cultivated in the past, and if economic conditions dictated it (for example, if the price of potatoes rose considerably), would no doubt be cultivated again. Such a possibility must be considered in determining suitable land use, and hazardous areas have therefore been placed in a "grazing only" category or in buffer zones alongside the streams.

TARAGO RESERVOIR CATCHMENT

GEOLOGICAL MAP



Soils developed on the Silurian sedimentary rocks are commonly shallow grey-brown loams overlying yellowish clay subsoils. They are often influenced by weathered material from the overlying volcanics, and in such cases appear to have good topsoil structure. However they are generally less productive and more prone to rilling and sheeting than the basaltic soils.

The form of erosion which represents most hazard to the quality of the water is mass slumping of steep faces on the freehold land above the reservoir. It is difficult to ascertain whether any such slumps occurred prior to clearing (Glen Nayook, near the headwaters of the East Branch, may have been formed by a large slump) but there is no doubt that man's activities in clearing, roadbuilding and changing drainage patterns have accentuated the tendency of the basaltic and sedimentary lands to slump.

The most recent slump noticed occurred after heavy summer rains on January 1972, in a steep drainage line were transitional soils overly granitic rocks. Apart from the damage caused to a pumphouse and fences the slump contributed a considerable load of sediment to the reservoir at the time, and will continue to do so as the stream cuts down through the loose material to reach its grade again.

Most landholders have made no attempt to stabilise old slump areas. Typically the steep face of the slump is poorly vegetated or bared by stock activities, while the foot of the slump is wet and pugged. However the amount of sediment coming from these relatively stable slump areas is minor, except perhaps in heavy rain periods.

(e) Vegetation

Forested areas of the catchment may generally be termed "Stringybark forests" with Messmate (*E. obliqua*) the most common species, but also including Mountain Ash (*E. regnans*), Silvertop (*E. sieberiana*), Peppermint (*E. radiata*) and gums, sometimes in quite distinct associations. Understorey species are Blackwood and Wattles with Blanket-leaf and tree ferns on the moist (southern) faces and in depressions. Melaleuca species are replacing wattles to some extent in the major depressions. Hop bush and wire grass invade areas where logging and roading operations have taken place. Shrub species are particularly dense alongside watercourses in the forested areas, but on the farming land most of the more gently sloping drainage lines have been cleared and grassed.

Poa aquatica is established along these small streams and is useful to some extent in trapping silt.

The most characteristic vegetation on the cleared freehold land, apart from pastures and crops, are the Cypress shelter belts planted along fence lines and road reserves. Neglected pastures on the basalt country are characterised by thistles, Daisy and Plantago, and on the coarser soils by blackberry and bracken fern. Bracken is generally controlled by slashing, and blackberry by spraying and slashing, but these weed species appear in pastures very quickly if pasture maintenance is lax.

Common species in the improved pastures are perennial ryegrass, cocksfoot, white clover (red clover where pastures are summer irrigated), and fog-grass appears in most pastures after several years.

(f) Land Tenure

	Square Mile	**Acres**	**Hectares**	**% of total**
Reserved Forest	31.5	20,100	8,100	72
Crown Land (excluding water frontages)	0.8	500	200	2
Freehold land	11.5	7,400	3,000	26
	43.8	28,000	11,300	100

(g) Present Land Use

Forestry

With the exception of a 1500 acre freehold block in the Crystal Creek sub-catchment and a smaller block near Nayook, all forested land in the catchment is Reserved Forest, managed under prescriptions drawn up by the Forests Commission. After a Land Use Determination is made these prescriptions are normally amended to include a cross-reference to SCA interests, and this matter will be discussed with the Commission for the Tarago prescriptions. Under the provisions of its own Standing Instruction No. 101 the Commission forwards proposals for roading and earthworks to the Authority for its approval, before any such works are carried out in proclaimed catchments.

Messmate and Silvertop logging operations may continue in the Bellbird Creek and Crystal Creek sub-catchments for the next few years, but most of the useful Mountain Ash stands have been logged, and pulpwood removal is expected to be the most common forest operation in years to come. No pine conversion programme is anticipated in the catchment and although regeneration of Mountain Ash by hand seeding has been successful on Silvertop ridge, other areas in the catchment suitable for this are apparently limited.

The State Rivers and Water Supply Commission expects to complete in the next two years a tree planting programme on its land above FSL around the reservoir. Trial plots were planted in the autumn of 1970 together with some marginal lands on the western side of the reservoir, and planting of the other areas has continued since then. Of the tree species Mountain Ash (*E. regans*) Southern Blue Gum (*E. globulus*) and Manna Gum (*E. viminalis*) appear to be the most successful, and other species tried were Spotted Gum (*E. maculata*), River Red Gum (*E. camaldulensis*), Douglas fir and several shrub species. Most of the resumed land on the eastern side of the Reservoir has been planted up to date, and planting on the west side will continue for two more seasons.

Owners of the large forested freehold block (CA's 1&3, Parish of Jindivick and CA's 1&2, Parish of Nayook) operate a sawmill at Rokeby, and it is reasonable to expect that Messmate and Mountain Ash logs will be cut from this land for some years yet. Such operations will be kept under observation to ensure that buffer zones along Crystal Creek and other main drainage lines are observed.

The problem of highly coloured water (often in excess of 100 units on the platinum cobalt scale) in the West Branch of the Tarago has been mentioned previously. This sub-catchment is completely forested and Water Commission investigations indicate that the reddish-yellow colour arises from some interaction between products of vegetation decay and the soils. However, the reactions are not completely understood, and at this stage no catchment management procedure is known which will reduce the problem, apart from minimising disturbance of vegetation in the buffer zones alongside streams.

Grazing

Grazing of beef and dairy cattle is the most common use of freehold land in the catchment. Of the 50 agricultural properties 37 carry beef cattle and there are 33 dairies. Three properties in the vicinity of Nayook carry sheep.

Sixteen of the properties adjoin the Reservoir marginal lands and the rest are strung out along the southern and eastern catchment boundaries. During the three years that the catchment has been under observation stocking rates have not been so high as to result in sheet or gully erosion. There is no doubt however, that where cattle have access to stream watering points and crossings, they physically damage the bed and banks to the extent that excessive turbidity is a problem during and after rain periods. Commission staff at the Reservoir sample water on both the West and East Branches of the Tarago above their junction, and the records show conclusively that the turbidity problem is worst in the East Branch, where cattle have access to streams and where red krasnozome soil type predominate.

Stock no longer have access to the Reservoir itself, and two landholders adjoining the Tarago immediately upstream have agreed to fence their cattle out as soon as possible. The main streams will then be protected for most of their length, but the problems associated with minor watercourses and drainage lines running through freehold land will remain. Fencing stock out of these areas is no solution, because apart from the

high cost of the fencing itself and of supplying alternative water points and crossing facilities, control of blackberry and other weed species inside the fences would be almost impossible.

Preliminary discussions between SCA and Water Commission Officers have been held to consider the possibility of constructing stone crossings and watering points with the aim of establishing heavily used points, and reducing the number of points at which damage occurs. After the determination is made it is intended to discuss these suggestions with a number of landholders, and possibly select trial sites.

A characteristic of some of the drainage lines flowing into the eastern side of the Reservoir and also near Jindivick is that they develop a broad bed in which rushes, phragmites, Poa annua and tussock grass develop and spread over adjoining flat areas. In spring of 1972 a contractor visited several properties with those poorly drained areas and cut large surface drains through them down to and into the main drainage lines. Apparently the practise is repeated every 4-5 years, so it is specifically mentioned in the proposed wording of category 1 as requiring SCA approval. The intention is to permit such works as long as the drains are on a non-scouring grade and as long as they do not extend right into flowing watercourses.

Cropping

Cultivation for cereal or fodder crops or potatoes and other vegetables has been noted on 22 of the 50 properties in the catchment. However there are only 6 where cropping is regular, they are all on the red basaltic soils, and erosion hazard is considered minimal.

When making the Land Use Determination consideration was given to the possibility that for a number of reasons, mainly economic, attempts could be made in the future to use more of the red soil areas of the catchment for high value cropping. The boundaries between cropping and grazing categories have therefore been selected carefully, the two main considerations being distance to the nearest drainage line, and slope.

Although this possibility is recognised, the table below indicates that acreages sown to potatoes have decreased since the peak of 1944-45, and are still tending to decline.

Table III - Potato Growing Acreages

(Hectares in brackets)

	1944-45	**1965-66**	**1967-68**	**1969-70**
Victoria	82,238 (33,500)	34,333 (13,800)	40,302 (16,300)	39,760 (16,000)
Buln Buln Statistical Div.		4,315 (1,740)	5,400 (2,180)	5,392 (2,180)
Shire of Buln Buln		554 (224)	561 (226)	458 (185)

Fodder crops grown include oats, sudax, millet and maize, and occasionally turnips.

Urban Developments

The Tarago Reservoir is less than 70 miles from Melbourne and will eventually be very close to the high population areas which are expected to develop along the Princes Highway. If the sequence of events which is observed in other such catchments is any indication, the freehold land in this catchment will come under pressures for subdivision and rural-urban development in the next few years.

The Authority has been asked to comment on one proposal for subdivision of land near the Reservoir, but apart from that the only signs of increased activity so far are new shops and houses in the existing townships of Neerim South, Neerim and Neerim Junction. The fact that the agricultural land in the catchment is highly productive, and valued at between $300 and $700 per acre may at least restrain the more speculative land dealings which are so common in other catchments. Nevertheless areas suitable for residential development are generally limited to the narrow ridge tops and basalt plateaus, because roadworks on the steep land elsewhere would represent a serious source of sediment for drainage lines feeding the Reservoir.

An Interim Development Order was introduced by the Shire of Buln Buln in 1964. It provides for residential areas at Neerim Junction and Neerim South, an additional area around Neerim South where 5 acre lots may be permitted, and for the remainder of the catchment the minimum lot size permitted in a sub-division is 20 acres.

In recent years the Authority has developed communications with Shires handling subdivisions in Water Supply Catchments to ensure that the interests of the water supply are considered in any subdivision is 20 acres.

In recent years the Authority has developed communications with Shires handling subdivisions in Water Supply Catchments to ensure that the interests of the water supply are considered in any subdivision proposals, and Buln Buln has co-operated in this regard.

III. PROPOSED LAND-USE CATEGORIES FOR THE TARAGO WATER SUPPLY CATCHMENT.

Category 1.

Land which shall be used primarily for the protection of streams and watercourses where:

a) cultivation may be approved only for specific pasture improvement or weed and vermin control purposes;

b) no tree shall be removed, no drainage works undertaken, or any soil disturbed without the approval of the Soil Conservation Authority; and

c) if so required by the Authority, crossing shall be permitted only be means of crossings specifically approved for the particular site by the Soil Conservation Authority.

This category covers the marginal land around the lake and areas within one chain or such greater distance as the Authority may require from the edge of the banks of streams and watercourses shown on Plan No. 2712 or specified where necessary by the Authority.

Category 2.

Land which shall be used for permanent forest or plantation purposes where forestry operations may be carried out only in accordance with management conditions made or approved by the Soil Conservation Authority.

The construction of roads, earthworks of any description or any other changes affecting catchment interests are subject to the approval of the Authority.

(All the Reserved Forest and a small area of freehold land is included in this category. Areas 21,500 acres or 8,700 hectares, 76% of the total catchment area.)

Category 3.

Land suitable for forest purposes, parts of which may be developed for grazing or cropping with the approval of the Soil Conservation Authority. Use of the land for any of these purposes is, where necessary, subject to conditions made or approved by the Authority and such conditions may include:

a) Management prescriptions for forest areas.
b) The specification of areas which may be developed, and those areas which are to remain as forest.
c) The specification of conservation practices.

(All the land in this category is freehold. Area 1,400 acres or 570 hectares, 5% of the total catchment area.)

Category 4.

Land suitable for grazing. Cultivation for pasture maintenance purposes will be permitted subject to conditions imposed by the Authority. Such conditions may include the length of rotation and conservation practices where necessary.

(All freehold land, area 2,500 acres or 1,050 hectares, 9% of the total catchment.)

Category 5.

Land suitable for grazing or cropping pastures, subject to conditions imposed by the Authority for particular circumstances.

(All freehold land, area 2,500 acres or 1,050 hectares, 9% of the total catchment area.)

Category 6.

6A. Land use for roads on which any changes in land use shall be made only after consultation with the Soil Conservation Authority.

6B. Land reserved for roads on which any changes in land use shall be made only with the approval of the Soil Conservation Authority.

A C CHAPPELL
SENIOR CATCHMENT INVESTIGATION OFFICER

Appendix Table 1 - Indicating proportion of rain which falls in storms exceeding 100 points per day - Jindivick North, for the period 1956-1969

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
A. Number of Wet Days	123	115	163	171	231	206	239	240	240	224	206	182
B. Number of Storms	5	5	6	8	12	5	10	6	6	6	6	6
B/A %	4.1	4.3	3.7	4.7	5.2	2.4	4.2	2.5	2.5	2.7	2.9	3.3
C. Total Rainfall (inches)	33.2	31.1	36.0	48.3	67.6	41.2	52.6	60.0	68.1	56.5	56.4	47.8
D. Storm Rainfall (inches)	8.3	6.8	8.0	13.3	17.1	5.8	11.8	6.8	10.3	6.8	8.6	7.5
D/C%	25.0	21.8	22.2	27.5	25.3	14.1	22.4	11.3	15.1	12.0	15.3	15.7

Appendix Table 2 - Rainfalls exceeding 100 points in 24 hours. Recorded each month - Jindivick North, 1956-69 inclusive.

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Annual Number
1956	107				144			127	122	107			6
					126								
1957							118		239		119		3
1958								129		128	109	163	5
										103			
1959	121	130					139		115				6
									261				
1960		158		137	173	127	124			130	242		10
				363	157		102						
1961			188	110	122	116		114					8
			156	109		104							
1962	116				187			107	184				5
								105					
1963	347		113	107	128		105						6
					139								
1964		114		187							107	115	4
1965	141			146			150				185		5
							101						
1966		150	125	172	121		100				103	120	11
							113					109	
							123					100	
1967			109					112				142	3
1968						116				108			3
										101			
1969		115	108		200	121							6
					109								
					106								
Means	166	135	133	166	143	117	118	116	171	113	144	125	
Average Fall >1" = $\frac{1647}{12} = 137$ points													
Monthly total number of storms for the period													
	5	5	6	8	12	5	10	6	6	6	6	6	81

Appendix Table 3 - Rainfalls exceeding 100 points in 24 hours. Recorded each month Neerim South, 1956-68 inclusive.

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Annual Number
1956					124	126	102	156	157	148	148		7
1957					128		130		223	134	102		5
1958						116		100		143	126	145	6
										165			
1959	105	104					108		243			128	5
1960		116		268	124	140		113		126	140		13
				138	149						292		
					189								
					131								
					106								
1961			202	116			117	144					4
1962	145				195			104	233			134	6
								104					
1963	342		120	110	121								4
1964		101		178			165	105		157		112	8
								104				107	
1965	123			175			215				200		4
1966		160		165			105					110	
												113	5
1967												163	1
1968						114				101			
						101				115			
Mean	179	120	161	164	140	119	135	116	214	132	168	127	5
Average Fall >1" = $\frac{1775}{12} = 148$ points													
Monthly total number of storms for the period													
	4	4	2	7	9	5	7	8	4	9	6	8	73