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Pureora recreational hunting area



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Wild animal control plan

N. Z. Forest Service, Auckland

PUREORA RECREATIONAL HUNTING AREA

WILD ANIMAL CONTROL PLAN

1982 - 1987

Preface

This Wild Animal Control Plan has been prepared pursuant to Section 28 of the Wild Animal Control Act 1977.

The draft edition of this plan was made available to the public for a 3 month period in 1981 to allow interested persons and organizations time to make submissions on recommendations and prescriptions contained therein. Submissions have been received by the Conservator of Forests, Auckland and have been considered by the Conservator's delegated staff, the Pureora Forest Park Advisory Committee and the National Recreation Hunting Advisory Committee. Various changes have been effected to the text as it appeared in the draft plan as a direct consequence of public submissions.

THE MANAGEMENT OF THE PUREORA RECREATIONAL HUNTING AREA WILL BE IN ACCORDANCE WITH THE PRESCRIPTIONS CONTAINED IN THIS PLAN.

(All prescriptions are printed in capitals)

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Conservator of Forests
AUCKLAND

This plan was prepared jointly by Forester R. Guest, N.Z Forest Service, Te Kuiti, and Senior Forest Ranger, A.H. Leigh, N.Z. Forest Service, Auckland 1981.

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INTRODUCTION

1.1 RATIONALE FOR PUREORA RECREATIONAL HUNTING AREA

The Pureora National Recreational Hunting Area (RHA) lies within a portion of the Rangitoto Range gazetted as part of Pureora State Forest Park. It contains populations of red deer and wild pigs that have potential for control and management, predominantly by recreational hunting effort. The area meets most of the criteria prescribed for RHA's by the National Recreational Hunting Advisory Committee (NRHAC) (Appendix 3), including nearness to the nation's most densely populated regions and offering the public good hunting opportunity in a large and attractive forested area.

This wild animal control plan reviews the history of wild animals and outlines their current status in the area and prescribes management objectives for their control. Recreational hunting is recognised as the main means of controlling red deer and pigs. The plan also describes the land resource, its forests, vegetation and condition and prescribes the methods for monitoring animal densities and deer herd condition in relation to the quality of habitat as applied to forest and watershed management and conservation values.

1.2 INSTIGATION

The Waikato branch of the New Zealand Deerstalkers Association first proposed a National Recreational Hunting Area in the northern sector of Pureora Forest Park in their submission to the National Recreational Hunting Advisory Committee of February 1980.

The submission was forwarded to the Conservator of Forests, Auckland, and was discussed at the fourth meeting of the Pureora Forest Park Advisory Committee in May 1980. The proposal was supported subject to possible constraints on recreational hunting that might be imposed following possible changes in indigenous forest management in Pureora Forest Park when the moratorium on logging is reviewed.

The N.R.H.A.C. moved a resolution at its tenth meeting on May 7th 1980 to seek Ministerial approval in principle for the establishment of an R.H.A. in the area recommended by the Waikato Deerstalkers Association and the Conservator of Forests, Auckland. This approval was received from the Minister of Forests on September 15th 1980.

The R.H.A. was proposed under Part III, Section 27 of the Wild Animal Control Act 1977 (Appendix 1) and was formalized by notice in the Gazette of 2 July 1981, No. 77, Page 1826, as a National Recreational Hunting Area.

The area lies entirely within Pureora Forest Park which is administered by the Conservator of Forests, Auckland with the advice of the Pureora Forest Park Advisory Committee.

1.3 DESCRIPTION OF RESOURCE

The R.H.A. lies north of S.H. 30 between Benneydale and Mangakino and mainly within Otorohanga County. Catchments feeding the Waipa and Waikato rivers rise within the area which is largely forested. The topography is mainly gentle although steep slopes fall away from the high points of Ranginui (983 metres) and Pukeokahu (844 metres). The climate has been described as cool and humid.

The total area of the R.H.A. when gazetted was 18,750 hectares (approx) comprised of two blocks: the main north block of Pureora (17380 hectares) and the north west outlier (1370 hectares) which is separated from the main block by a narrow corridor of freehold land. The geographical location and the boundaries to the R.H.A. are shown on the map plan (Appendix 6).

The R.H.A. includes two Ecological areas: the Mangatutu Ecological Area (gazetted December 1980) and the Waipapa Ecological Area (gazetted 1979) (Appendix 9). The forests are mainly indigenous although 1327 hectares have been converted to exotic species for production purposes (Appendix 8) (April 1980).

Wildlife in the area is diverse and includes some of the rarer indigenous fauna as well as many introduced species. Wild animals (as described in the Wild Animal Control Act 1977) comprise red deer, goats, pigs, possums, and possibly sika deer.

OBJECTIVES OF MANAGEMENT

Because the R.H.A. is entirely within the Pureora State Forest Park, the Wild Animal Control Plan will be bound by the objectives and prescriptions contained in the Pureora State Forest Park Management Plan.

A preliminary draft of the Pureora Forest Park Management Plan was prepared in 1979 but has yet to be revised completely and released for public submissions. It has been held in abeyance until the management prescriptions contained in the draft King Country Regional Management Plan have been reviewed, settled and finally accepted by the Minister of Forests.

The primary objectives set down in the preliminary draft of the Forest Park Management Plan are as follows; A to I (inclusive):

- A SOIL AND WATER CONSERVATION SHALL BE THE PRIMARY OBJECTIVE OF LAND USE.
- B TO PRESERVE AREAS OF SCIENTIFIC INTEREST, PARTICULARLY EXAMPLES OF INDIGENOUS FLORA AND FAUNA.
- C TO PRESERVE AND ENHANCE SCENIC AND HISTORICAL VALUES.
- D TO PROVIDE FOR EDUCATIONAL AND RECREATIONAL USE OF THE PARK IN A MANNER COMPATIBLE WITH OTHER PARK VALUES.
- E TO ACQUIRE SUITABLE AREAS OF FOREST FOR ADDITION TO THE PARK.
- F TO MANAGE THE INDIGENOUS FOREST ZONED FOR PRODUCTION IN ACCORDANCE WITH THE PRINCIPLES LAID DOWN IN THE INDIGENOUS FOREST POLICY. MANAGEMENT WILL INCLUDE ARTIFICIAL ESTABLISHMENT AND TENDING WHERE APPROPRIATE.
- G TO CONTINUE EXOTIC AFFORESTATION BY THE ACQUISITION OF SUITABLE LAND TO PROVIDE EMPLOYMENT OPPORTUNITIES IN FORESTS, AND LATER IN INDUSTRY, FOR THE PURPOSE OF FOSTERING SOCIAL AND ECONOMIC DEVELOPMENT OF THE REGION.
- H TO PRODUCE HIGH QUALITY EXOTIC CLEARWOOD WHERE POSSIBLE.
- I TO ENCOURAGE RESEARCH INTO ALL ASPECTS OF THE PARK'S RESOURCES, PLANNING AND MANAGEMENT BY QUALIFIED PERSONS AND/OR ORGANISATIONS.

The R.H.A. must therefore be subject to these and/or to any changes that may eventuate in the process of revision, public submission and preparation of the final management plan for acceptance by the Minister.

THE WILD ANIMAL CONTROL PLAN AND THE MANAGEMENT OF THE R.H.A. WILL BE BOUND BY THE OBJECTIVES AND PRESCRIPTIONS CONTAINED IN THE PUREORA STATE FOREST PARK MANAGEMENT PLAN.

This Wild Animal Control Plan whilst conforming to the above will have as its specific management objectives:

TO MANAGE FOR RECREATIONAL HUNTING THE RED DEER AND WILD PIGS PRESENT WITHIN THE R.H.A.

MANAGEMENT SHALL CONFORM TO THE GUIDELINES SET OUT FOR RECREATIONAL HUNTING AREAS (APPENDIX 2), AND TO PART III OF THE WILD ANIMAL CONTROL ACT 1977.

W.E. Humberstone, a local runholder on the western flank of the range reported the suspected presence of sika deer near Ranginui in the late 1960's and G. Bashford, a possum trapper long associated with the area, shot a sika stag (6 pointer) on the north eastern slopes of the Mangapehi ridge in 1976. The head was inspected by K.M. Purdon (N.Z.F.S.) and confirmed as Sika. Subsequent Forest Service field inspections have failed to confirm the presence of sika deer although observations of spoor (hoof marks and antler rubbing) occasionally bear strong resemblance to that of sika (K.M. Purdon pers. comm.) The typical high pitched screaming call has not yet been heard by Forest Service staff nor reported by others.

It is most likely that should sika deer still be present they will be in very low numbers and probably grouped in small colonies. Their introduction would most probably have been effected by private individuals transporting them from their natural range east of Taupo and releasing them within the Rangitoto range.

Investigations to positively identify their presence or absence will continue. Until there is further positive proof of their presence they will not be considered as being a game animal for the purposes of this plan.

3.3 GOATS

Feral goats (Capra hircus) have probably been present in the coastal districts and to the west of the Rangitoto Range since the middle of the 19th century but in the 1930's they were brought in after land clearing on the flanks of the range and have been used in land development adjacent to the forest areas in large numbers for controlling weeds, principally blackberry and gorse. Goats have seldom been contained by adequate fencing and have spread into adjacent forest areas. Land development for agriculture and the logging of the forests have aided the dispersal of goats and they have infiltrated much of the western watershed of the range.

In the northwestern sector of the R.H.A. (Ranginui) and in the Okahukura basin goat densities have been high and they are further expanding their range to the Mangapehi ridge aided by logging access roads. They are in low numbers in the Ngaroma workings and have been observed in the Waipapa sector of the forest.

Control operations by the Forest Service since 1975 have concentrated on populations along the farmlands and forested flanks of the western side of the range and considerable local reductions have been achieved. Control efforts need to be sustained and expanded to prevent population densities increasing and thus further modifying the forests and preventing the regeneration and recolonization of forest species. Because goats rank as low priority with recreational hunters seeking trophies or meat, and because they cause such dramatic modification to the forests when they are in high numbers, they will not be considered as a game animal within the R.H.A. Recreational hunters will be encouraged to kill feral goats at every opportunity.

3.4 PIGS

Feral pigs (Sus scrofa) have probably been established in the area since the 1860's. (Wodzicki, 1947). Little factual evidence is available on liberations or dispersal into the area but pigs were probably brought into Maori settlements and spread until they had colonized the entire area.

Dale reported in 1975 that pigs were present throughout all areas of the Rangitoto Range but because of their mobility it is difficult to assess local populations. Evidence of their occupation was most noticeable along ridge and spur systems where rooting and wallows had caused localized disturbance to the forest floor. The 1980 resurvey of transect lines in the R.H.A. indicates that pigs are now well established in the exotic production areas although not in high numbers.

Pig hunting in the area has long been popular with local hunters and traditionally has been most successful when dogs are used. Although pig hunting with dogs may not be suitable for all of the R.H.A, and constraints may sometimes be necessary to restrict it from some zones, the sport is recognized both for its role in controlling pig numbers and for its recreational potential.

Therefore pigs will feature as game animals for the purposes of the R.H.A. and pig hunting with dogs will be permitted providing dog owners comply with conditions set out under Section 8.5 (General Permit Conditions) in this plan.

The incidence and apparent density of pigs will be recorded during routine monitoring of animal populations; particular vigilance will be accorded to the ecological reserves and the status of pig populations therein, to ensure that ecological values are not jeopardized.

3.5 BRUSH TAILED POSSUMS

Brush tailed possum (Trichosurus vulpecula) were first liberated at Rangitoto in 1931 by H. Evans (Pracy 1974) when 17 mixed colour animals were released. Whilst in 1931 unrecorded numbers of grey possums were released at Tokaanu, further liberations were made by Wilson in 1951 at Ongarue and Mokai of greys (numbers unrecorded). It is most likely that the Rangitoto liberation of 1931 had the most influence on the initial colonization by possums of the Rangitoto range. The extreme north western sector of the area was colonized first but peak densities did not occur in the central portions until the mid 1970's, whilst the southern portion has only been recently colonized. It is probable that the populations originating from the Rangitoto liberations have merged with those from Ongarue and Mokai and possibly with the population front which has dispersed northwards up the Hauhangaroa range from Tokaanu.

Possums in the southern portion of the R.H.A. have not reached peak population densities and it is most likely that densities will increase throughout the southern and central portions of the area including the exotic plantations.

Bovine T.B. in possums and cattle has been a problem in the North Western portion of the Rangitoto Range and the Forest Service undertook widescale aerial poisoning operations using 1080 to reduce possum densities in 1975. The operation appears to have been successful in significantly reducing possum numbers and T.B. reactor levels in cattle have fallen to an acceptable level at present.

Possum trapping and poisoning by commercial operators helps to contain populations in the more accessible areas and the Forest Service administers commercial operators under a block and permit system. Should possums cause significant economic damage to exotic plantations, or threaten other forest values, or should animal health problems arise, the Forest Service may be obliged to undertake additional control measures in the area.

Possums are not considered a game animal for the purpose of Recreational Hunting. They will be monitored by the Forest Service and controlled as necessary; commercial operators will be encouraged to work in all areas where their activities do not conflict with forest management operations or with other forest park users.

OTHER WILDLIFE

4.1 INDIGENOUS WILDLIFE

The north block of Pureora Forest Park contains an extremely diverse and abundant indigenous fauna. Few detailed studies have been made, however Hochstetter's frogs are known to be present around Ranginui mountain, and both the long and short-tailed bats have been identified within the Park.

These forests have been described by the Wildlife Service as being the most important habitat for indigenous forest bird communities in the North Island. The forests contain all forest bird species found on the N.I. mainland, and endemic birds such as kokako, kaka, and both red and yellow-crowned parakeets are found in densities uncommon elsewhere.

4.2 INTRODUCED WILDLIFE

Apart from the wild animals already described, a number of other species of introduced animals have well established populations within the area. Hares and rabbits are present throughout, however, only in the areas where logging or roading have created more open conditions with grass and herb regrowth do concentrations occur.

Mice, too, occur throughout the forests but tend to be present in greater densities where the forest cover has been disturbed. Black rats occur in lower numbers than mice, but the cyclic fluctuations in their populations are possibly more closely related to the fruiting periodicity of the trees and shrubs.

All of the introduced mustelids (ie ferrets, stoats and weasels) are known to be present in low numbers within the area, as are hedgehogs.

Feral cattle became well established and built up to sizeable herds in the 1940's and 50's. They significantly modified the forest in the central and north eastern sectors of the area and evidence of their

tracking systems still remains. By the mid 1960's their numbers had been drastically reduced by hunters and today none are known to remain. Domestic stock still utilize the fringes of the forest during the winter months for shelter and forage although this situation will improve as boundaries are progressively fenced.

TOPOGRAPHY AND VEGETATION

5.1 CATCHMENT DESCRIPTION AND CONDITION

The R.H.A. encompasses much of the Rangitoto range, a largely forested range culminating in Ranginui Mountain (983 metres). The Waipa and Waipapa rivers, major tributaries of the Waikato River, have their sources in the Rangitoto range.

The soils of the area derive from rhyolite and sedimentary formations, with the influence of a number of volcanic ash showers giving rise to sandy silt soils. Pumice deposits have been largely deposited in the valley bottoms and are stable under normal conditions but are prone to saturation and flow if exposed to high intensity rain storms through the removal of vegetation and humus.

In general, the topography is gentle except for areas in the Mangatutu and Puniu catchments and to the west of the R.H.A. in the Waipa catchment. As a result, the catchments are in a relatively stable condition throughout the R.H.A.

5.2 THE VEGETATION AND ITS CONDITION

The vegetation of the R.H.A. was first described by McKelvey (1963) as part of the National Forest Survey. It has since been described by Dale (1975) as part of the Rangitoto Range animal and vegetation survey and again as part of the King Country Land Use Study (1978). A map showing Dale's vegetation types and their distribution is provided in Appendix 8.

The indigenous forests of the area vary from virgin pure podocarp stands or podocarp/tawa types through to tawa or hardwood types depending on the degree of modification that has occurred, principally through extensive partial logging. At higher altitudes the forest consists of a high altitude podocarp/hardwood type which gives way to high altitude scrubland on the Ranginui ridge. Where modification has been great, particularly where fire has also been involved, a

broadleaf scrub association remains, sometimes associated with areas of extensive tree fern. On land with impeded drainage, a low heathlike scrub is present which becomes a swamp association where conditions are very wet.

In the south-west of the area, and also in a small area in the Ngaroma block, exotic trees have been established on sites where the native forest has been removed. The plantings date from 1970 and are principally of P. radiata.

The condition of the forests was assessed by Dale (1975) based on vegetation plots located throughout the area. He concluded that little unmodified forest remained, with logging, fires, roading and animal browsing contributing significantly to this situation.

Within the R.H.A., concern was expressed about the condition of vegetation on the upper slopes of Ranginui where vegetation depletion, loss of ground litter, surface flow and slipping were all occurring with the situation being exacerbated by browsing animals. In addition, susceptibility to slipping and erosion above major waterways was noted in the Mangatutu Valley where goats and deer were having a marked effect on the vegetation.

In view of more recent changes to the forest from logging operations, notably in the Okahukura basin and in changes to the animal populations - principally through the official goat control operations - an up to date definitive statement on the catchment and vegetation condition will have to await the results of the 1981-82 catchment condition survey.

ACCESS AND INTERNAL DEVELOPMENT

6.1 ACCESS TO THE R.H.A.

There are four routes giving legal access to the North Block of Pureora Forest Park:

- 1 Vehicle access is available at the south-west of the block from a point 2 km west of Barryville on S.H. 30. This gives access to an extensive internal road system described later.
- 2 Vehicle access is also available to the south-east of the block where Ranginui Road passes briefly through the Forest Park in the Waipapa Ecological area.
- 3 Foot access only is available from the end of Tolley's Road giving access to the central section of the North of the block.
- 4 Foot access only is also available from the end of Hoddles Road into the N.W. outlier.

The main public access points to the proposed R.H.A. are depicted on the map (Appendix 7).

NEGOTIATIONS FOR ADDITIONAL PUBLIC ACCESS TO THE R.H.A. WILL BE UNDERTAKEN AS MANAGEMENT POLICY FOR PUREORA STATE FOREST PARK.

6.2 ACCESS WITHIN THE R.H.A.

There exists within the north block of the Forest Park an extensive Network of forest roads, initially established for the purposes of indigenous logging. These roads penetrate the headwaters of the Waipa catchment, Okahukura catchment, and the Ngaroma block of the Forest Park. The location and extent of the main forest roads is shown on the map (Appendix 7). Some are in good condition, whilst others have been allowed to deteriorate. Those that no longer provide vehicle access are still useful as walking and hunting trails.

THE FOREST SERVICE WILL MAINTAIN ROADS FOR FOREST MANAGEMENT TO A REQUIRED STANDARD. ROADS AVAILABLE FOR PUBLIC VEHICULAR USE WILL BE SPECIFIED BY THE OFFICER IN CHARGE.

The only area not well served by tracks is the Mangatutu catchment, where the extent and nature of development is controlled by the Scientific Co-ordinating Committee's guidelines for acceptable uses of ecological areas (Appendix 4).

IT IS PROPOSED THAT THE POSSIBILITY OF DEFINING WALKING ROUTES INTO THE MANGATUTU CATCHMENT, PARTICULARLY FROM THE ROAD NETWORK IN THE OKAHUKURA BASIN BE INVESTIGATED, SUBJECT TO ADEQUATE RECOGNITION OF THE ECOLOGICAL VALUES OF THE AREA AND POSSIBLE LONG TERM EFFECTS OF SUCH IMPROVED ACCESS ON THOSE VALUES.

6.3 HUTS AND ACCOMMODATION

A youth education lodge is built in the S.W. corner of the North Pureora block but this is not available for casual use by the public.

The only other structures known to be present within the area are the camps of hunters and possum trappers. These are of a temporary nature. No other buildings are planned within the area at present.

NO PRIVATE BUILDINGS OF A PERMANENT OR SEMI-PERMANENT NATURE SHALL BE ALLOWED IN THE R.H.A. EXCEPT AS RECOMMENDED BY THE FOREST PARK ADVISORY COMMITTEE.

CAMPING IS PERMITTED WITHIN THE INDIGENOUS FORESTS BUT IS PROHIBITED IN THE EXOTIC PLANTATIONS.

Generally camping shall be of short duration and all camps shall be removed completely by users before they depart the Forest Park or as specified by the Officer in Charge.

Live vegetation, saplings and timber shall not be cut for the purposes of firewood or camp building.

MANAGEMENT CONSIDERATIONS

7.1 POSSIBLE R.H.A. BOUNDARY CHANGES

The preliminary draft of the Pureora Forest Park Management plan states that a primary objective will be:

"TO ACQUIRE SUITABLE AREAS OF FOREST FOR ADDITION TO THE PARK."

therefore:

LAND THAT MAY BE ACQUIRED ADJACENT TO OR ADJOINING THE R.H.A. WILL BE CONSIDERED FOR INCLUSION THEREIN.

The portion of Pureora Forest Park lying south of S.H. 30 including those areas previously known as the State Forests: Tihoi, Hurakia, Taringamutu and Waituhu, which constitute the forests of the Hauhangaroa range will be investigated to establish whether the red deer populations can be controlled primarily by recreational hunting effort.

At present recommendations by G. Jane (1979) in the N.Z.F.S. report on "The Wild Animal Populations and Forest Conditions in the Hauhangaroa Ranges" specify an urgent need to reduce deer numbers in the centre and south of the tract to allow regeneration and recovery of forest plant communities. This is most effectively undertaken by commercial (helicopter) wild animal recovery in the Hauhangaroa Range. Recreational hunting pressure may not yet be adequate to regulate animal numbers over the more remote areas but improved access, facilities and publicity may in future promote more intensive recreational hunting use.

Re-survey and assessment of the Hauhangaroa range to monitor deer densities and distribution will be undertaken at regular intervals to gain a fund of knowledge relating primarily to red deer and range management so that options for deer control may be prescribed with R.H.A. status in mind.

THE DESIRABILITY OF ADJUSTING THE R.H.A. BOUNDARY SHALL BE ASSESSED DURING THE PERIOD OF THIS PLAN. INVESTIGATIONS WILL BE MADE TO DETERMINE THE FEASIBILITY OF INCLUDING OTHER AREAS OF PUREORA FOREST PARK INTO THE R.H.A.

7.2 IMPLICATIONS OF PRODUCTION MANAGEMENT

Approximately half of the R.H.A. is zoned for the production of exotic or indigenous timber (draft King Country Regional Management Plan, 1980). This management may conflict with recreational hunting within those areas at such times where there may be a danger to workers or risk of damage to machinery or other capital assets. The exotic plantations are currently in a period of relatively intensive management, involving thinning and pruning of the stands, and this phase will extend for at least a further five years. Grazing management by domestic cattle for pampas grass and other weed control may be undertaken in the exotic forest in the future and could also impose restrictions on hunting activities in and adjacent to the compartments where cattle are enclosed. These areas in the exotic plantations are relatively easily defined by roads and it will be necessary to close them for periods when hunting could conflict with forest management activities. Closed areas will be adequately defined as a permit condition.

PARTS OF THE EXOTIC PLANTATIONS SHALL BE CLOSED TO HUNTING AT TIMES WHEN WORKERS ARE PRESENT OR WHEN FOREST MANAGEMENT ACTIVITIES MAY BE IN CONFLICT.

WHEN FIRE HAZARD CONDITIONS EXIST HUNTERS MAY BE EXCLUDED FROM THE EXOTIC FOREST AREAS AND THEIR BUFFER ZONES (Section 32 Forests & Rural Fires Act 1977).

Extensive areas are zoned for the production of indigenous timbers, principally tawa from previously cut-over forests and podocarps from virgin forests. All of the area is, however, under a moratorium which has suspended all logging until the recommendations resulting from a study of the effects of such practices on indigenous birdlife,

especially the kokako, are considered. Should the moratorium not be uplifted there will be no conflict between recreational hunting and indigenous management.

If, however, the moratorium is uplifted and a decision is made to resume indigenous production in the North Block of Pureora Forest Park, then conflicts could occur which may require the exclusion of areas from all recreational hunting, during periods when indigenous management is being carried out.

THE NECESSITY FOR CLOSING PARTS OF THE R.H.A. DURING INDIGENOUS LOGGING OPERATIONS SHALL BE REVIEWED AFTER DECISIONS ON THE MORATORIUM ON LOGGING HAVE BEEN MADE.

TEMPORARY CLOSURES OF ALL OR PART OF THE R.H.A. MAY BE IMPOSED BY THE OFFICER IN CHARGE WHEREVER A DANGER TO THE PARK, ITS ECOLOGICAL VALUES, OR THE PUBLIC ARISES.

PUBLIC NOTICE OF ANY CLOSURE WILL BE MADE BY INSERTION IN NEWSPAPERS CIRCULATING IN THE AREA, BY RADIO BROADCAST AND BY NOTICE ON PUBLIC ENTRY POINTS TO THE PARK.

7.3 IMPLICATIONS OF PROTECTION MANAGEMENT

There are four areas within the R.H.A. which are managed principally for protective purposes. The Pukeokahu ridge and the headwaters of the Maunukiora Stream, a major tributary of the Waipapa River, are managed principally for soil and water conservation, and the monitoring techniques to ensure that recreational hunting does not jeopardise these values are outlined in Section 9.

SOIL AND WATER CONSERVATION IS THE PRINCIPAL OBJECTIVE OF MANAGEMENT THROUGHOUT THE R.H.A., AND WHILST SOME AREAS ARE CONSIDERED TO BE MORE SUSCEPTIBLE TO DEGRADATION THAN OTHERS, MANAGEMENT OF THE WHOLE RECREATIONAL HUNTING AREA SHALL BE CONDUCTED IN ACCORDANCE WITH THE PRINCIPLES OF WISE LAND USE.

Two areas within the R.H.A. are zoned and gazetted as ecological reserves: the Mangatutu E.R. and the Waipapa E.R. These areas contain representative samples of the vegetation types within the region, the Mangatutu being dominated by hardwood-broadleaf forest and the Waipapa by podocarp associations. Both contain abundant palatable species which might be at risk from extensive browsing. In addition to their vegetative features, the areas support abundant wildlife. The Mangatutu area is known to contain native frogs Leiopelma hochstetteri whilst the Waipapa reserve was originally gazetted because it contained one of the most outstanding indigenous bird communities in the North Island, including kokako, kaka and parakeets.

THE FOREST SERVICE SHALL INSTIGATE A MONITORING SYSTEM TO ENSURE THAT THE INTRINSIC FAUNAL AND FLORAL VALUES OF THE MANGATUTU AND WAIPAPA ECOLOGICAL AREAS ARE NOT ADVERSELY AFFECTED BY THEIR INCLUSION INTO THE RECREATIONAL HUNTING AREA AND WHERE NECESSARY INTENSIVE CONTROL OF WILD ANIMALS WILL BE UNDERTAKEN BY THE FOREST SERVICE TO MAINTAIN ECOLOGICAL VALUES.

MANAGEMENT PRESCRIPTIONS

To successfully manage this R.H.A., hunting must be manipulated to ensure a coverage of the available area, impact must be monitored and permit conditions must be reviewed as necessary. To achieve this the Forest Service must administer and supervise recreational hunting not only by regulating hunter use and imposing permit conditions but also by ensuring that contact between Forest Service staff and recreational hunters is maintained at field level when possible, to engender a spirit of co-operation between manager and user.

Wild animal populations may change and seasonal distribution patterns may be significant, therefore prescriptions must be flexible to enable hunters to be deployed effectively. This section prescribes courses of action considered most appropriate bearing in mind the management considerations and the relationship of the R.H.A. to overall management of the Forest Park.

8.1 BLOCK AND PERMIT SYSTEMS

The Pureora R.H.A. is accessible to a significantly large urban population. Nearly half of the Nation's population lives within half a day's travel of the Pureora Forest Park and the area provides the most accessible and significant population of red deer for the cities of Auckland and Hamilton. It is probable that recreational hunting pressure will increase significantly once the area becomes known as a gazetted R.H.A.

Therefore any system designed to apportion areas to hunters must cater for as many hunters as the land and resources can accommodate paying due regard to safety and aesthetic values. Aesthetic values in this context must relate to those values traditionally upheld by New Zealand sporting hunters, viz: sufficient area in which to hunt without frequent incidental contact with other (unrelated) hunters and relatively unrestricted choice of localities within prescribed areas to engage in the skills of hunting.

User safety is primarily the responsibility of the hunter. Block hunting, because it tends to give exclusive rights to individuals

or hunting parties can engender a false sense of security and thus be a dis-incentive to safe hunting practice.

Intensive block systems may be successful in areas which have distinctive features as boundaries (such as roads in exotic forests) and where day to day supervision can be applied, but in the proposed Pureora R.H.A. the topography and extensive forest cover preclude its subdivision into multiple hunting blocks.

The Pureora R.H.A. is zoned by the draft Pureora Forest Park Management Plan into various land use zones viz, production, ecological etc. The Moratorium imposed on logging in Pureora Forest Park (in 1979) includes all the land in the R.H.A. If the Moratorium is uplifted selective logging may again be undertaken within sectors of the proposed R.H.A. It is important therefore to accept that specified areas may be zoned out of the R.H.A. from time to time. Recognition of this need is set down in the "Criteria for Setting Aside Recreation Hunting Areas", as follows: (An R.H.A. should)

"Not be subject to stringent controls on recreational hunter use, or conflict with production values, ie: water, wood, which cannot be overcome by zoning, though land areas available may be subject to limitations on time (season, daily) they are available to hunters under set conditions of use."

Forest management operations in exotic production areas and in the indigenous forest will pose restrictions on hunting activities particularly during week days, from time to time (Refer Section 7.2).

To allow flexibility in Pureora R.H.A. an open hunting system within a small number of large, easily defined blocks will be implemented.

The North Block is currently subdivided into four large hunting blocks; at present no restrictions are imposed on the numbers of hunters entering each block. When the area is more widely recognised for its hunting potential it may be necessary to

restrict the numbers of permittee hunters or the terms of permits during periods of peak activity.

The existing block boundaries are illustrated on the map plan (Appendix 10). These blocks will be used initially but boundaries may be redesigned when the plan is reviewed.

FOR THE PURPOSES OF THE PUREORA R.H.A. AN OPEN HUNTING SYSTEM WILL BE IMPLEMENTED USING SEVERAL LARGE HUNTING BLOCKS.

TO ENSURE THAT CONFLICTS WITH FOREST MANAGEMENT AND OTHER LEGITIMATE USES ARE MINIMISED AND THAT THE AESTHETIC VALUES OF HUNTING ARE NOT REDUCED, NUMBERS OF PERMITTEE HUNTERS MAY BE CONTROLLED EITHER BY LIMITING PERMIT ISSUES OR BY MANIPULATING THE TERM OF PERMITS TO SUIT DEMAND.

8.2 PERMIT ISSUES

It is considered desirable for the efficient management of the R.H.A., the correlation of hunter use statistics, kill returns, and herd condition data, that one office retain overall control over the issue of permits for the area.

Therefore the Officer-in-Charge, Pureora Forest Park, will be responsible for the daily administration of the R.H.A. Hunting permits will be available from Pureora Forest Park H.Q. Monday to Friday (during normal business hours). They may also be arranged by writing or telephoning the Officer-in-Charge who will post the permits and block information to applicants by return mail.

This system of permit issue will be reviewed during the life of the plan and amended if necessary.

ALL PERMITS FOR HUNTING IN THE R.H.A. SHALL BE ISSUED IN THE MEANTIME FROM THE PUREORA FOREST PARK H.Q.

8.3 CONDITIONS OF USE

The Wild Animal Control Act 1977 defines "recreation" in relation to hunting. It means hunting as a pastime, or with the object of obtaining relaxation without gaining pecuniary reward or gain from the hunting, or from the sale of any wild animal or part thereof.

Whereas, the Act, defines "commercial" in relation to hunting or killing or capturing or holding any wild animal, as so doing for personal gain or pecuniary reward from the sale, barter, exchange, or giving of the animal or any part thereof, whether or not the commercial activity or transaction constitutes the sole or any lesser part of the means of livelihood of the commercial operator.

THE FOREST SERVICE SHALL, UNLESS OTHERWISE SPECIFIED, DISCOURAGE AND ENDEAVOUR TO PREVENT THE REMOVAL FROM THE RECREATION HUNTING AREA OF ANY DEER OR PIG CARCASS THAT IS IN A CONDITION THAT COULD BE SOLD UNDER THE GAME REGULATIONS 1975 OR ANY ANTLER VELVET OF A KILLED DEER OF ANY SPECIES.

NO COMMERCIAL HUNTING OF DEER SHALL BE UNDERTAKEN WITHIN THE R.H.A., UNLESS UNDER THE CONDITIONS SET DOWN BY SECTION 27 (3) (a) OF THE ACT.

COMMERCIAL POSSUM HUNTING SHALL CONTINUE BY PERMIT BUT NO FIRE-ARMS WILL BE ALLOWED EXCEPT UNDER A SEPARATE R.H.A. PERMIT. COMMERCIAL POSSUM HUNTING SHALL BE ADMINISTERED BY THE OFFICER-IN-CHARGE AND SHALL NOT RESTRICT RECREATIONAL HUNTING IN THE R.H.A.

8.4 KILL RETURNS

All hunters using the Pureora R.H.A. will be encouraged to provide kill returns. Nil returns and nil permit use information are required. Returns will include details of species, kills, sexes, condition and time spent hunting. This data plus additional sampling prescribed in 9.2 will assist the management of the R.H.A.

by providing information on hunter effort and success, as well as the sex and approximate age classifications of animals killed.

ALL PERMIT HOLDERS FOR HUNTING IN THE PUREORA R.H.A SHALL BE ENCOURAGED TO COMPLETE A RETURN AT EXPIRY OF THE PERMIT AND SUPPLY TO THE OFFICER-IN-CHARGE, PUREORA FOREST PARK.

8.5 GENERAL PERMIT CONDITIONS

The Forest Service, with advice from the National Recreational Hunting Advisory Committee, has designed permit conditions specifically for Recreational Hunting Areas. These cover aspects of hunting, firearms, dogs, vehicles, fires and block systems.

In the Pureora R.H.A. the following specific conditions shall apply:

Firearms: Rimfire, smooth bore and muzzle loading firearms will only be permitted at the discretion of the Officer-in-Charge. Rimfire and shotguns will not generally be permitted although exceptions may be granted to groups of recognized sport-hunting organizations for goat and small game control within defined areas.

HIGH VELOCITY, CENTRE FIRE RIFLES WILL BE USED IN THE R.H.A. OTHER FIREARMS REQUIRE THE SPECIFIC CONSENT OF THE OFFICER-IN-CHARGE.

BOW HUNTING IS PERMITTED PROVIDING THE CRITERIA LAID DOWN BY THE FOREST SERVICE SPECIFYING BALLISTIC AND OTHER DETAILS ARE OBSERVED.

Dogs: These may accompany permittees at the discretion of the Officer-in-Charge. Dog owners shall ensure that their animals are registered and in possession of current hydatids treatment certificates.

Dog users will be reminded of the wildlife values of the area and must maintain adequate control of their animals whilst in the R.H.A. Dogs must be chained or adequately secured when not being used and at night.

A MAXIMUM OF THREE DOGS PER HUNTER OR FOUR DOGS PER PARTY MAY ACCOMPANY PERMITTEES AT THE DISCRETION OF THE OFFICER-IN-CHARGE. DOGS MUST BE CHAINED, LEASHED OR SECURED WHEN NOT BEING USED OR AT NIGHT.

Vehicles: Vehicles will be permitted to enter the R.H.A. at recognised and defined access points.

THE CROSS-COUNTRY USE OF ALL VEHICLES, INCLUDING TRAIL BIKES, IS PROHIBITED. VEHICLES MUST KEEP TO FORMED ROADWAYS.

Fires: Camp fires may be lit for cooking, comfort and warmth within the indigenous firest.

No fires should be lit in periods of extreme fire hazard or during high winds. All fires shall be lit clear of vegetation and flammable material and shall be attended at all times. They shall be totally extinguished before being left at any time.

FIRES ARE TOTALLY PROHIBITED IN THE EXOTIC FOREST.

All conditions on permits for hunting in the Pureora R.H.A. will be subject to review and amendment from time to time.

ASSESSMENT AND MONITORING

9.1 ASSESSMENT OF VEGETATION CONDITION AND TRENDS

Dale (1975) describes the establishment of permanent vegetation sampling plots throughout the Recreational Hunting Area in 1974-5. The plots involved the permanent marking and measurement of plant species to provide a measure of condition of the vegetation through identifying the status of the forest canopy relative to the regenerative ability of the forest. Reassessment of permanent plots allows identification of trends in the condition of the canopy and understory. The analysis of such trends in relation to animals is also aided by additional information on site stability and animal population and distribution. The permanent plots established in 1975 are adequate to assess the condition and trends for the forest canopy, but are inadequate for assessing the understorey and the regenerative potential.

The permanent sample plots were re-measured in the summer of 1981-82 to assess the condition of the vegetation and trace the trends in the canopy of the forest. Additional plots were established in areas with high ecological values or where previous sampling was inadequate.

Details of the 1981-82 re-survey will be presented in 1982 in a report prepared by Auckland Conservancy.

PERMANENT PLOTS SHALL NORMALLY BE REASSESSED AT FIVE YEARLY INTERVALS, BUT MORE REGULARLY IF RAPID CHANGE IS SUSPECTED AND IN ECOLOGICAL AREAS.

ANIMAL EXCLOSURE PLOTS SHALL BE ESTABLISHED ON SELECTED SITES EXPECTED TO SHOW SHORT TERM CHANGE, IN ORDER TO ASSESS THE EFFECTS OF CURRENT ANIMAL USE ON REGENERATION. THESE SHALL BE ASSESSED USING PAIRED PERMANENT SAMPLE PLOTS INSIDE AND OUTSIDE THE EXCLOSURES.

THE FREQUENCY OF REMEASUREMENT OF PERMANENT SAMPLE PLOTS AND EXCLOSURES SHALL BE PERIODICALLY REVIEWED AND DETERMINED BY THE RATE OF CHANGES IN THE VEGETATION.

9.2 ASSESSMENT OF ANIMAL POPULATIONS

Faecal pellet assessment lines using the presence/absence technique (after Bell 1973) were established throughout the area in 1974-75 to assess the relative densities of animals present. However, owing to the non-random distribution of pellets, this method is inferior to point-distance sampling for deer and possums (Batcheler 1973 and 1975) and neither method is suitable for providing reliable population estimates for other animals such as goats and pigs.

A review of the present distribution density of red deer, possums and goats is provided under Appendix 5 of this plan.

FAECAL PELLET TRANSECTS WERE REASSESSED IN 1980-81 AND THEREAFTER SHALL BE MONITORED EVERY TWO OR THREE YEARS.

DEER AND POSSUM PELLET DENSITY SHALL IN FUTURE BE ASSESSED USING BOTH THE POINT-DISTANCE AND PRESENCE-ABSENCE METHODS WHILST DEFAECATIONS OF OTHER ANIMALS SHALL BE NOTED.

9.3 DEER HERD CONDITION

Condition indicators, reflecting the plane of nutrition of the wild animals in the R.H.A., can provide valuable supplementary information to the prescribed vegetation and animal monitoring system. Such information may be applied to define the carrying capacity of the area subject to the management objectives, and can give indications of trends in the trophy potential of the herd by reflecting animal size and trophy head status.

The recreational hunter will be able to contribute to this knowledge by providing the samples necessary to carry out this basic research. The collection of deer jaws for ageing and assessing condition, and the measurement and scoring of antlered heads are the most suitable methods for doing this.

RECREATIONAL HUNTERS SHALL BE ENCOURAGED TO RETURN JAW BONES OF DEER TOGETHER WITH THEIR PERMIT RETURNS TO AID ASSESSMENT OF THE CONDITION OF THE HERD.

RECREATIONAL HUNTERS SHALL BE ENCOURAGED TO ALLOW THE OFFICER-IN-CHARGE AT PUREORA TO MEASURE AND GRADE ACCORDING TO THE DOUGLAS SCORE, ALL ANTLERED HEADS TAKEN AS TROPHIES.

9.4 ASSESSMENT OF HUNTING PRESSURE

Information from the permit returns should be capable of indicating the degree of success of hunters within the area (ie: the areas where greatest success is assured) and can aid in establishing the effects of hunting pressure on the distribution and abundance of the herd.

INFORMATION FROM THE PERMIT RETURNS SHALL BE USED TO HELP IDENTIFY THE AREAS WHERE HUNTING SUCCESS IS MOST LIKELY. THIS SHOULD BENEFIT HERD MANAGEMENT BY MAINTAINING A BALANCED CONTROL EFFORT OVER THE ENTIRE AREA.

WILD ANIMAL CONTROL PRESCRIPTIONS

10.0 THE PRIMARY OBJECTIVE WILL BE TO MANAGE FOR RECREATIONAL HUNTING THE RED DEER AND PIG POPULATIONS WITHIN THE R.H.A. TO LEVELS WHICH DO NOT JEOPARDIZE THE FOREST RESOURCE.

FERAL GOAT CONTROL ASSUMES HIGH PRIORITY. POPULATIONS BOTH WITHIN AND ADJACENT TO THE PARK WILL BE ELIMINATED WHERE THIS IS LOCALLY POSSIBLE.

The eradication of goats will be pursued by Forest Service hunting operations although recreational hunters will be encouraged to shoot goats where they are encountered.

POSSUMS WILL BE CONTROLLED PRIMARILY BY COMMERCIAL OPERATORS USING TRAPS AND POISON UNDER THE AUTHORITY OF FOREST SERVICE PERMIT.

Assessment of the wild animal population densities and their impact on the regenerative potential of the forests will be carried out at regular intervals as described in Section 9, (Assessment and Monitoring). Should populations of deer, goats, pigs or possums reach levels that are prejudicial to the forest resource, the Conservator of Forests will determine the control priorities and the means for achieving the desired reductions in population densities.

Recreational hunters shall be encouraged as the primary means to effect deer and pig control. Should additional control measures be required for these species at any time, in parts of or over the whole R.H.A., the following options will apply (in order of priority):

- (1) RECREATIONAL HUNTING PRESSURE WILL BE INCREASED. HUNTERS WILL BE DIRECTED TO PROBLEM AREAS AND MAY BE SUPERVISED AND SERVICED BY THE FOREST SERVICE IF SUCH A MEASURE WOULD INCREASE EFFECTIVENESS.
- (2) COMMERCIAL DEER RECOVERY OPERATIONS WILL BE AUTHORIZED, UNDER STRICT FOREST SERVICE SUPERVISION.
- (3) AS A LAST RESORT, FOREST SERVICE CONTROL OPERATIONS SHALL BE CARRIED OUT.

THE ESTABLISHMENT OF DEER CAPTURE PENS, LEG TRAPS, NETS AND SNARES WILL NOT BE PERMITTED. NOR WILL HUNTERS BE AUTHORIZED TO CARRY TRANQUILIZER DART GUNS OR OTHER DEVICES USED FOR INJECTING NARCOTICS FOR LIVE ANIMAL CAPTURE EXCEPT AS MAY BE DETERMINED BY THE DIRECTOR GENERAL (WILD ANIMAL CONTROL ACT 1977, PART III, SECTION 27 (4)).

SHOULD ANY OTHER SPECIES OF WILD OR INTRODUCED ANIMALS REQUIRE STRINGENT MEASURES TO URGENTLY REDUCE THEIR NUMBERS FOR DISEASE CONTROL OR FOR FOREST PROTECTION THE DIRECTOR GENERAL OF FORESTS WILL IMPLEMENT APPROPRIATE ACTION WHICH MAY INCLUDE THE USE OF HAND LAID OR AERIALY APPLIED POISON BAITS.

NIGHT TIME HUNTING AND SPOTLIGHTING WILL NOT BE PERMITTED IN THE R.H.A. EXCEPT BY AUTHORIZED FOREST SERVICE STAFF OR PEST BOARD OPERATORS ENGAGED IN PEST CONTROL FOR FOREST PROTECTION AT THE DIRECTION OF THE OFFICER-IN-CHARGE.

Ecological areas are included within the R.H.A. The Waipapa and Mangatutu Ecological Areas comprise 23% (4287 ha) of the R.H.A. The values of Ecological areas, as representative examples of forest and scrub associations and their importance for indigenous wildlife habitat, must be accorded high status for protection. Their inclusion in the R.H.A. is only compatible with its management if wild animals can be controlled to levels that do not jeopardise their ecological significance.

WILD ANIMALS IN ECOLOGICAL AREAS WILL BE CONTROLLED TO SUCH LOW LEVELS AS ENSURES PROTECTION OF THE RESERVE VALUES.

RESURVEYS OF WILD ANIMAL POPULATIONS AND FOREST CONDITION WILL BE UNDERTAKEN AT REGULAR INTERVALS TO ESTABLISH WILD ANIMAL CONTROL PRIORITIES: WITH SPECIAL REGARD TO PROTECTING ECOLOGICAL VALUES.

CURRENT ANIMAL CONTROL PROGRAMMES WILL BE REVIEWED ANNUALLY. MODIFICATION OF PROGRAMMES WILL DEPEND ON THE TRENDS IN ANIMAL POPULATIONS, THEIR EFFECTS ON THE FORESTS, AS WELL AS THE AVAILABILITY OF FINANCE.

ADMINISTRATION

- 11.0 THE RECREATIONAL HUNTING AREA SHALL BE ADMINISTERED BY THE OFFICER-IN-CHARGE, PUREORA STATE FOREST PARK. HE SHALL BE RESPONSIBLE FOR THE ISSUING OF HUNTING PERMITS AND THE COLLECTION OF KILL RETURNS, HUNTER STATISTICS, AND HERD CONDITION INFORMATION. HE SHALL ALSO BE REQUIRED TO ENFORCE THE CONDITIONS OF THE WILD ANIMAL CONTROL PLAN.

THE MONITORING OF THE VEGETATION CONDITION AND TRENDS AND WILD ANIMAL POPULATION SIZE AND CONDITION SHALL BE THE RESPONSIBILITY OF THE CONSERVATOR OF FORESTS AND SHALL BE IMPLEMENTED THROUGH HIS DELEGATED STAFF IN ACCORDANCE WITH SPECIFIED PLANS.

THE CONSERVATOR OF FORESTS, AUCKLAND, SHALL BE RESPONSIBLE FOR PRODUCING AN ANNUAL REPORT AND REVIEW OF THE WILD ANIMAL CONTROL PLAN. THIS SHALL SUMMARISE USE STATISTICS AND RECOMMEND CHANGES TO THE WILD ANIMAL CONTROL PLAN IN ORDER TO MORE EFFECTIVELY MANAGE THE RECREATIONAL HUNTING AREA. IN ADDITION, THE WILD ANIMAL CONTROL PLAN SHALL BE REVIEWED FULLY EVERY FIVE YEARS.

THE WILD ANIMAL CONTROL PLAN SHALL BE ANNEXED TO THE PUREORA STATE FOREST PARK MANAGEMENT PLAN.

11.1 STAFFING

For the purpose of effectively administering the R.H.A. the Officer-in-Charge will need sufficient staff both to handle the day to day administration of permit issue, correlation of hunter returns, measurement of data supplied and general public relations, and also to maintain an effective level of field supervision especially during weekends, holiday periods and other times of high use.

The present level of staff employed on environmental duties may be insufficient for the purpose of administering the R.H.A. and the extensive Pureora Forest Park in an effective manner.

Additional junior field staff may be seconded to Pureora to assist the Environmental Ranger with field supervision and staff rostering may be necessary to ensure that the public have access to information and hunting permits during weekends and holidays.

Honorary rangers can also provide a useful function by undertaking field inspections and permit checking so long as they are carefully selected, organized and instructed as to their role in the R.H.A.

THE NUMBER OF STAFF FOR THE PURPOSES OF EFFECTIVELY ADMINISTERING THE R.H.A. WILL BE ASSESSED DURING THE FIRST YEAR OF THE WILD ANIMAL CONTROL PLAN AND IF EXISTING STAFFING LEVELS PROVE INADEQUATE THEN CONSIDERATION WILL BE GIVEN TO INCREASING THEM AND A CASE WILL BE SUBMITTED FOR ADJUSTMENT.

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APPENDIX 1

WILD ANIMAL CONTROL ACT 1977

PART III

RECREATIONAL HUNTING

27. Declaration of recreational hunting areas - (1) The Director-General may from time to time, by notice in the Gazette, subject to such conditions as he may indicate, publicly notify that any area of Crown-owned land (other than National Park land or Maritime Park land), and any other land included with the agreement of the owner or occupier or land controlling authority, being land on which wild animals are present, shall form or be part of a recreational hunting area where hunting as a means of recreation is to be used to control (though not exclusively) the numbers of wild animals.

(2) The Director-General shall not declare any land other than State forest land as a recreational hunting area unless he has first sought the views of, and received written approval to such use of the land from, the person or Board or authority or Minister having or charged with the administration or control of the land.

(3) The Director-General may at any time vary or revoke any such notice, or the conditions under which any recreational hunting area may be used; and, where studies and investigations have shown that the presence of wild animals is detrimental to the maintenance of the land and vegetation or the natural waters flowing through the land in a satisfactory state, he may:

- (a) Permit for a specified period the hunting of all or any part of the area by wild animal recovery hunters under Forest Service supervision; or
- (b) Introduce control measures carried out by Forest Service officers and employees; or
- (c) Agree to allow for a specified period a trial of intensive recreational hunting.

(4) The Director-General may at any time carry out control operations against any species of wild animals not sought after by recreational hunters in a recreational hunting area, or such species of wild animals as are not listed in a wild animal control plan for an area as animals to be controlled by recreational hunting.

28. Management of recreational hunting areas - (1) Each recreational hunting area shall be managed under a wild animal control plan issued by the Director-General and revised from time to time at intervals no greater than 5 years.

(2) Not less than one month before any such plan is prepared or revised the Director-General shall advertise, on 2 occasions in at least one local newspaper and on 2 occasions in one major newspaper circulating in the district wherein the area lies, his intention to revise, or to prepare, a wild animal control plan for the management of the recreational hunting area, and inviting submissions or proposals for the hunting of the area.

29. National Recreational Hunting Advisory Committee - The Minister may set up a National Recreational Hunting Advisory Committee composed of such persons as the Minister thinks fit, or of representatives or organisations whose object is to foster hunting or shooting in recreational hunting areas, and any Advisory Committee so established shall hold office during the pleasure of the Minister, and shall have such functions and powers as the Minister may decide.

APPENDIX 2

GUIDELINES FOR THE SELECTION OF NATIONAL RECREATIONAL HUNTING AREAS

In the selection of recreation hunting areas, the foremost consideration must at all times be given to the stability and well-being of the vegetation, soils, and water of the region. Soil and water conservation must be the first object of management of all such areas.

Of secondary, but no lesser importance, any proposed recreational hunting area must be so situated, and of such general topography, vegetation, climate and area, that control of wild animals to non-damaging soil and water conservation levels is possible by recreational hunting. This is not to say that recreational hunting alone need be the means of wild animal management, but it should be a significant part of the overall hunting effort needed to maintain wild animal numbers in the required balance with the protective vegetation.

Ideally, recreational hunting areas should be accessible to a significantly large population, and be distinctive because of the species, trophy quality, or recreational values of the wild animals therein. The area should have pleasant or challenging natural features or attractions, with particularly stable land forms.

The boundaries of recreational hunting areas should, where possible, form natural or otherwise easily distinguishable features, even if to do so means reducing the size of the area. The areas should be composed entirely of State forest land, or where adjoining unoccupied Crown-owned land of similar quality is available, both State forest and Crown land. Freehold or leasehold land could be considered, but because of the problems of controlling unauthorised access to and activities on such land, to which only the Trespass and Wild Animal Control Act can apply, some additional difficulties could be expected.

Traditional recreational uses of proposed recreational hunting areas must be compatible with hunting, or of such a minor scale that there will be little conflict with hunting. The principle of classifying the land according to its greatest actual or potential value, firstly as a natural resource and secondly for human recreation should be followed.

Similarly, proposed recreational hunting areas or parts of them may have conflicting land designations or classifications already imposed on them. Where the object of the land designation is to afford protection from damaging land use practices, recreational hunting is generally compatible. However, areas should have no conflicting productive use, ie: town water supply, logging, or other forest management production practices which could rule out use of an area for recreational hunting.

N.B. Exotic production forests may be proposed and parts of large production forests may be suitable for such management on a seasonal or otherwise restricted basis.

APPENDIX 3

CRITERIA FOR SETTING ASIDE RECREATION HUNTING AREAS

Recreation hunting areas should generally have the following qualities:

- (a) Accessible to a significant large urban population.
- (b) Distinctive because of the species, trophy quality or recreational values of the wild animals therein.
- (c) Pleasant or challenging topography/vegetation/ climate or other natural features or attractions with particularly stable land forms.
- (d) Contain recreational hunting values so great that they should be catered for, following zoning if necessary, to provide a national recreational hunting area .
- (e) Not subject to stringent controls on recreational hunter use, or conflict with production values, ie: water, wood, which cannot be overcome by zoning, though land areas available may be subject to limitations on time (season/daily) they are available to hunters under set conditons of use.

N.B. Exotic production forests may be proposed and parts of large exotic forests may be suitable for such management.

APPENDIX 4

USES ACCEPTABLE FOR ECOLOGICAL RESERVES*

1. Biological reserves have been demarcated within a region according to certain criteria primarily for their scientific, particularly ecological values:
 - (a) to preserve representative portions of natural ecosystems as well as rare or unique natural features including biota;
 - (b) as areas available for study aimed at understanding natural processes;
 - (c) as benchmarks for assessing changes associated with various forms of development within the region;
 - (d) as genetic pools for indigenous biota.
2. These values being paramount, must not be jeopardized by any other types of subsidiary use.
3. A multi-disciplinary scientific panel will advise on, and approve a management plan for each reserve. Such plans will establish acceptable levels of use based on appropriate inventory information and will be available for public inspection. Scientific research and any necessary manipulation would be approved by the panel but other aspects of management would normally be the responsibility of the Conservator of Forests.
4. Public access to ecological reserves should not be excluded except in special circumstances. Sanctuary status could be justified to restrict entry - by permit only - for bona fide research, education or noxious animal control.
5. It will be desirable to channel visitors, with a carefully planned system of walking tracks, to the less valuable areas of the reserves and also to limit the types of activity - overnight camping would not

*Guidelines as prescribed by the Scientific Co-Ordinating Committee for Beech Research.

generally be prohibited in the larger reserves. Note that other types of reserves (amenity, protection) are available for more active recreation and that much of the forest area under management should also be freely accessible to the general public.

6. Management plans for each reserve should indicate where more intensive public use that is in sympathy with the purpose of the reserve, especially educational, can be developed particularly in the form of self guiding nature trails.
7. No road access should be constructed within reserves where none exists at present.
8. Many reserves consist of an entire catchment, all parts of which are equally important biologically. However, in any reserve where a "core and buffer" concept can be applied as recommended by the Man and the Biosphere Task Force (U.N.E.S.C.O., 1974) the core area presumably should be given sanctuary status and remain untracked, though where the core area is large some tracking may prove necessary for special purpose access - scientific study, noxious animal control, etc.
9. With the larger reserves the value of untracked portions should be recognized and these should be maintained where appropriate.
10. Domestic stock should be excluded.
11. Alien species. The inventory information (para 3.) should include the fullest history that can be assembled of the establishment of alien species and their population trends. From this appropriate policies of management control or eradication should be formulated.
12. Mining and other similar destructive land uses, where they are incompatible with the aims of ecological reserves, should not be permitted.

APPENDIX 5

SUMMARY OF WILD ANIMAL SURVEY 1980/81

A combined presence/absence and point-distance pellet survey was carried out in the summer of 1980-1981, to assess relative animal densities in the North Block of Pureora State Forest Park. The pellet line locations used were based on those of the previous animal survey in the area (R.W. Dale 1975).

The general deer distribution pattern has not changed since 1974. The highest density occurs on the Ranginui range, and appears to have increased since then. The high deer density in the Mangatutu area remained the same. Moderate populations occupy the cutover forest. In the Okahakura and Ngaroma areas, a decrease since 1974 is apparent. Low deer numbers are to be found in the northwestern outlier and Waipapa area. An increase was recorded in the latter. The exotic plantations support very few deer.

Possums have concluded their colonisation of the survey area. Generally their density has increased. The highest density was recorded for the north-western slopes of the Ranginui range, coinciding with the highest deer density. Moderate populations occupy the unlogged native forest. The cutover forest and the exotic plantations carry the lowest possum densities.

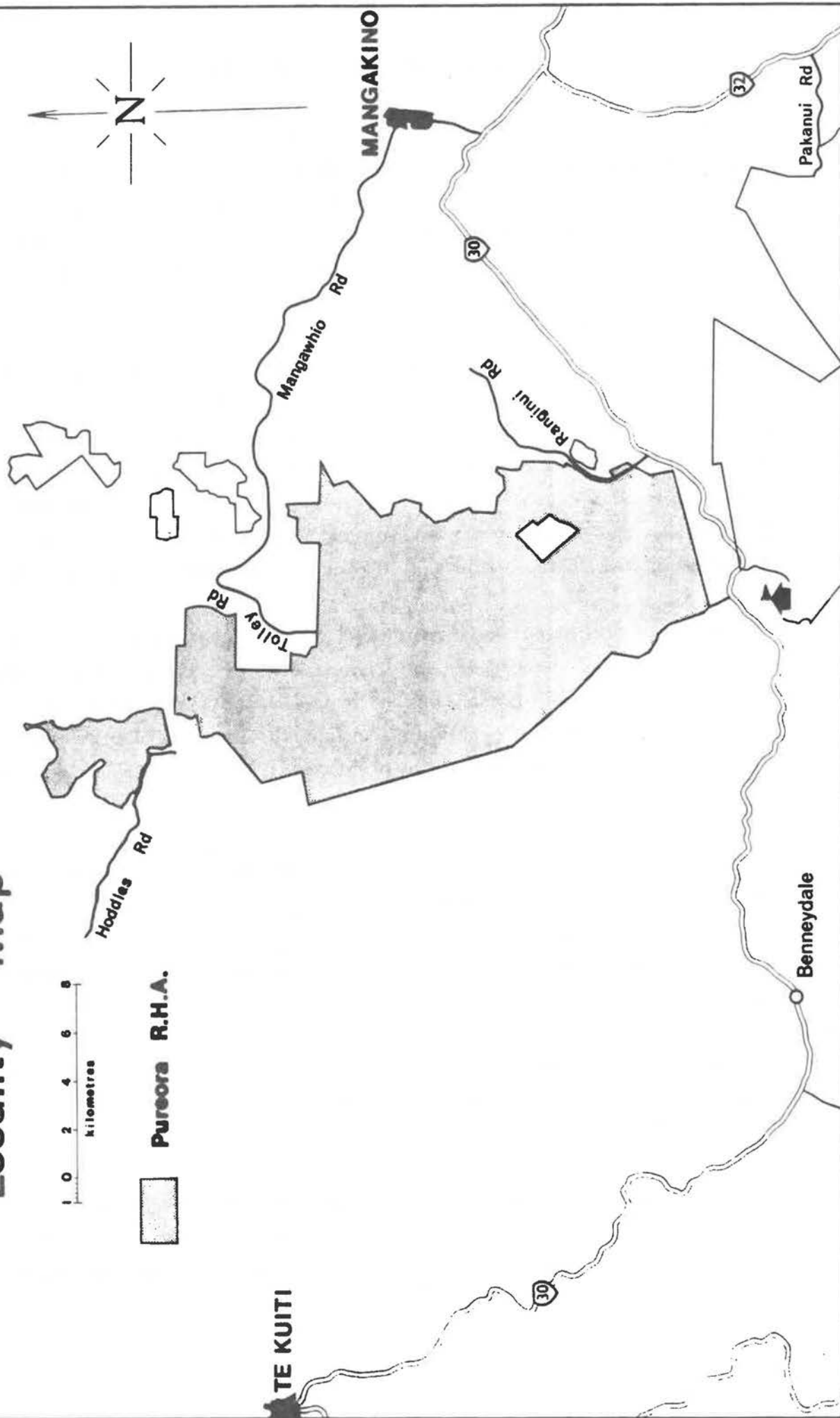
Goats occur in considerable numbers in the Mangatutu area, as was the case in 1974. The northwestern outlier comes second in goat density. No further dispersion to the south and east was reported. Low goat numbers are present in the Okahukura and Ngaroma areas, whereas no goats were discovered in the southwestern pines and the Waipapa area.

Pigs range in low numbers throughout the forest. Rabbits inhabit the exotic plantations and open places. Rats appear to be present in most habitats.

N.B. The full report is available on request from the Conservator of Forests, Auckland, or from the Head Office, N.Z. Forest Service, Wellington and should be referred to as "Animal Survey 1980. Pureora State Forest Park," by F.J. Deuss. (N.Z. Forest Service. Unpublished).

PUREORA R.H.A. Locality Map

Appendix 6



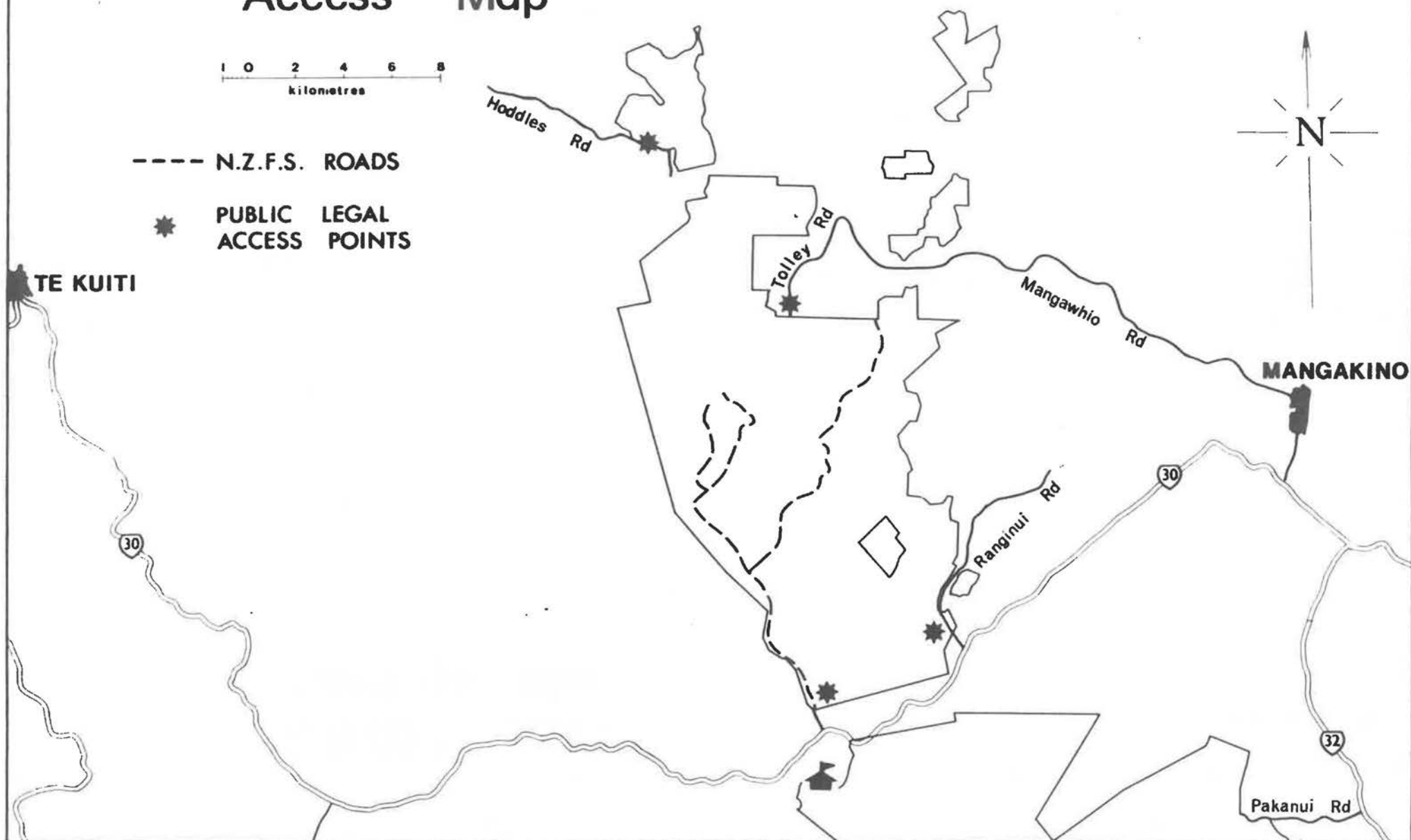
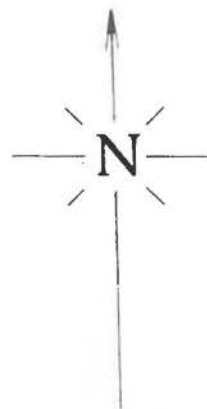
PUREORA R.H.A. Access Map

Appendix 7

1 0 2 4 6 8
kilometres

--- N.Z.F.S. ROADS

★ PUBLIC LEGAL
ACCESS POINTS



PUREORA R.H.A. Vegetation Map

Appendix 8

1 0 2 4 6 8
kilometres



High Alt. Podocarp Hardwood

Podocarp Hardwood

Podocarp Tawa

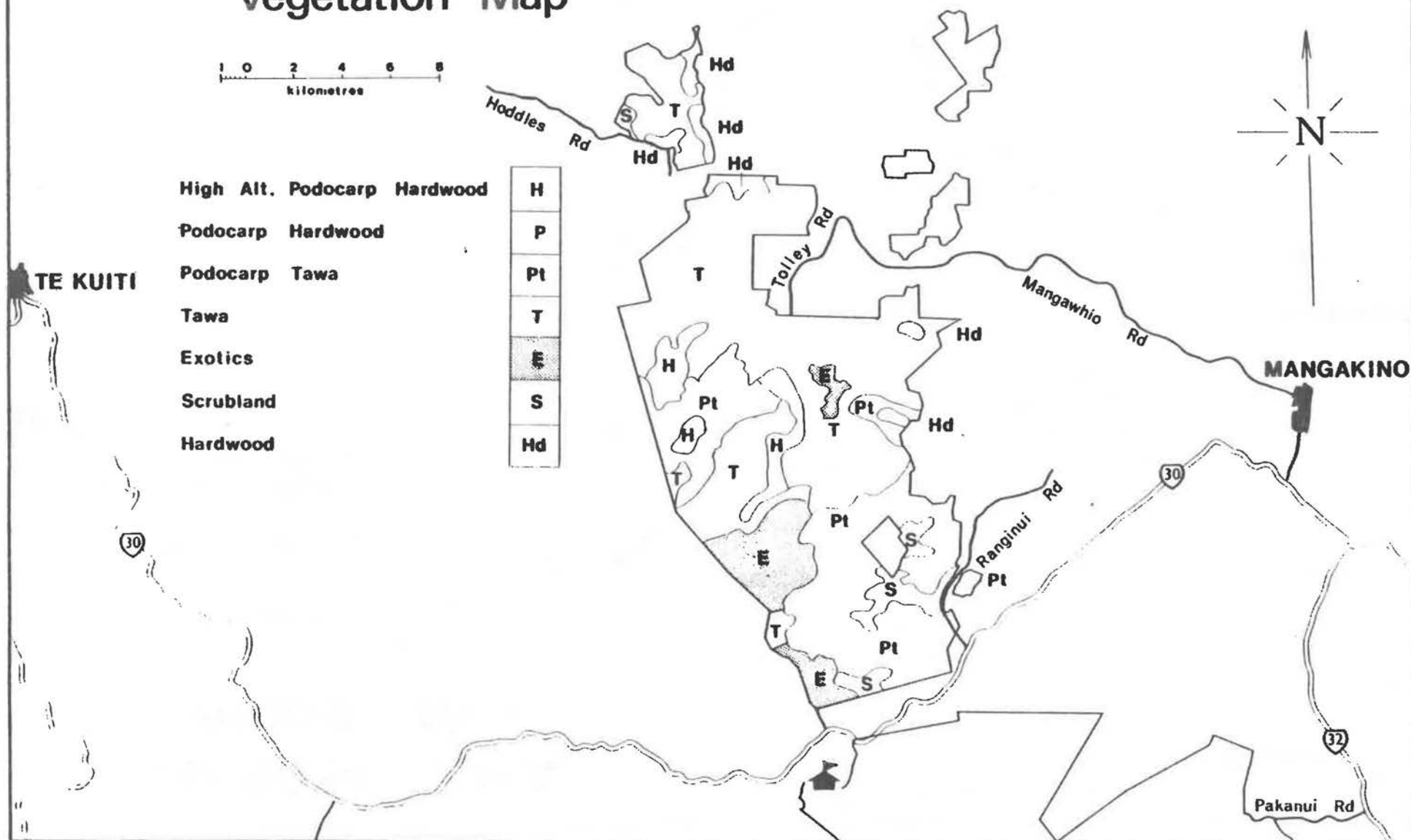
Tawa

Exotics

Scrubland

Hardwood

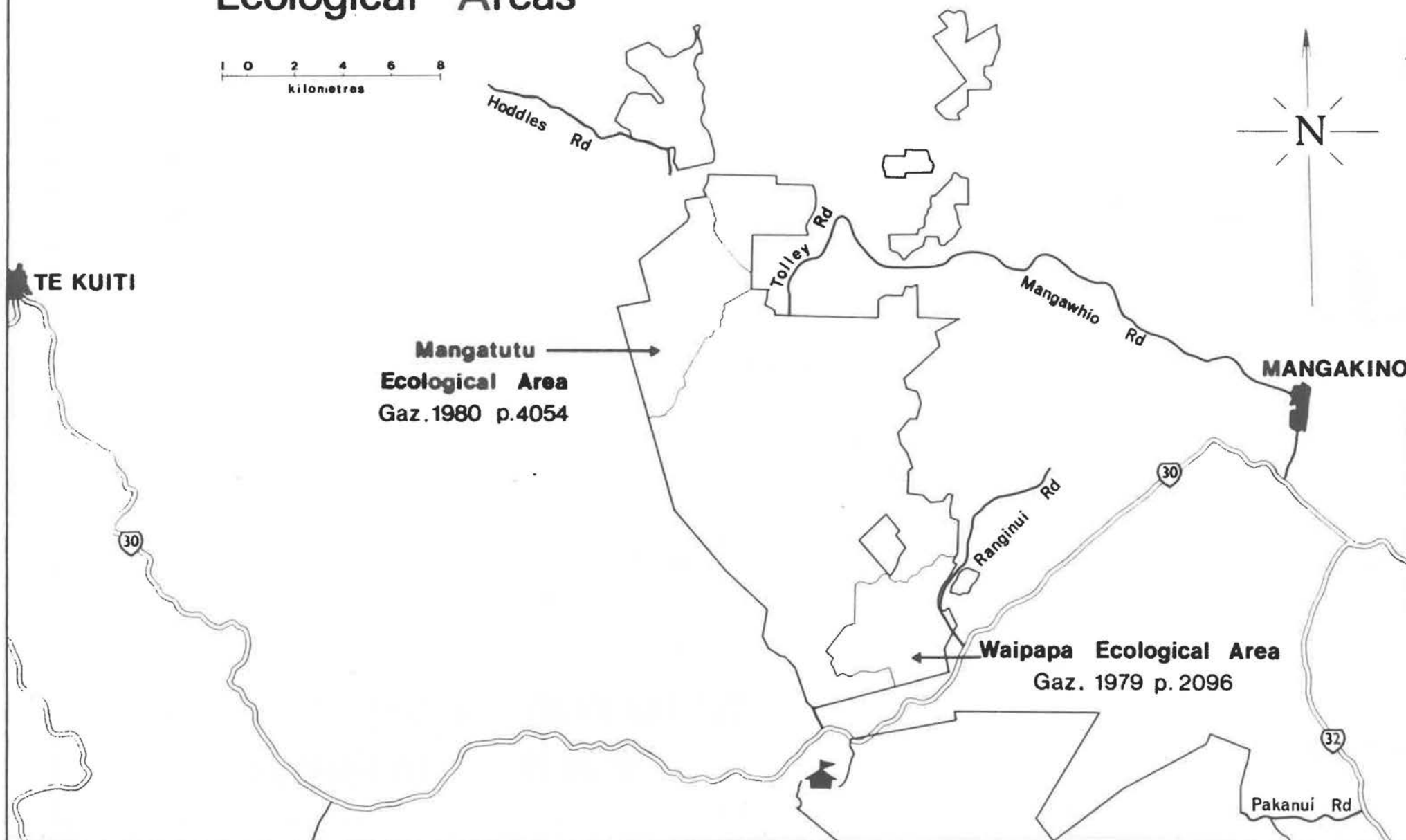
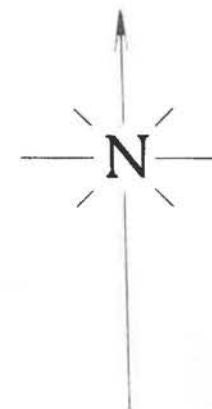
H
P
Pt
T
E
S
Hd



PUREORA R.H.A. Ecological Areas

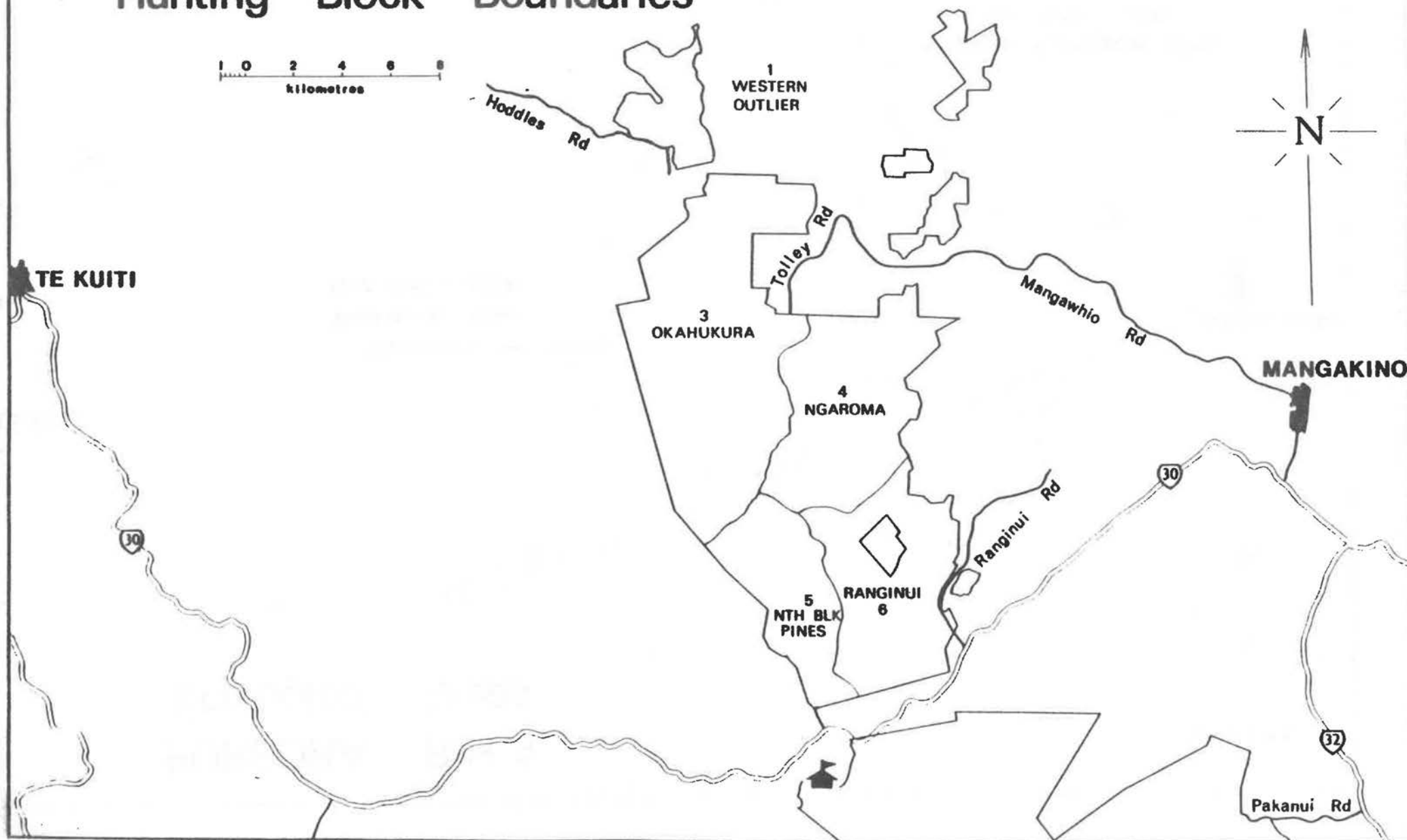
Appendix 9

0 2 4 6 8
kilometres



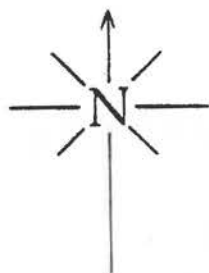
PUREORA R.H.A. Hunting Block Boundaries

Appendix 10

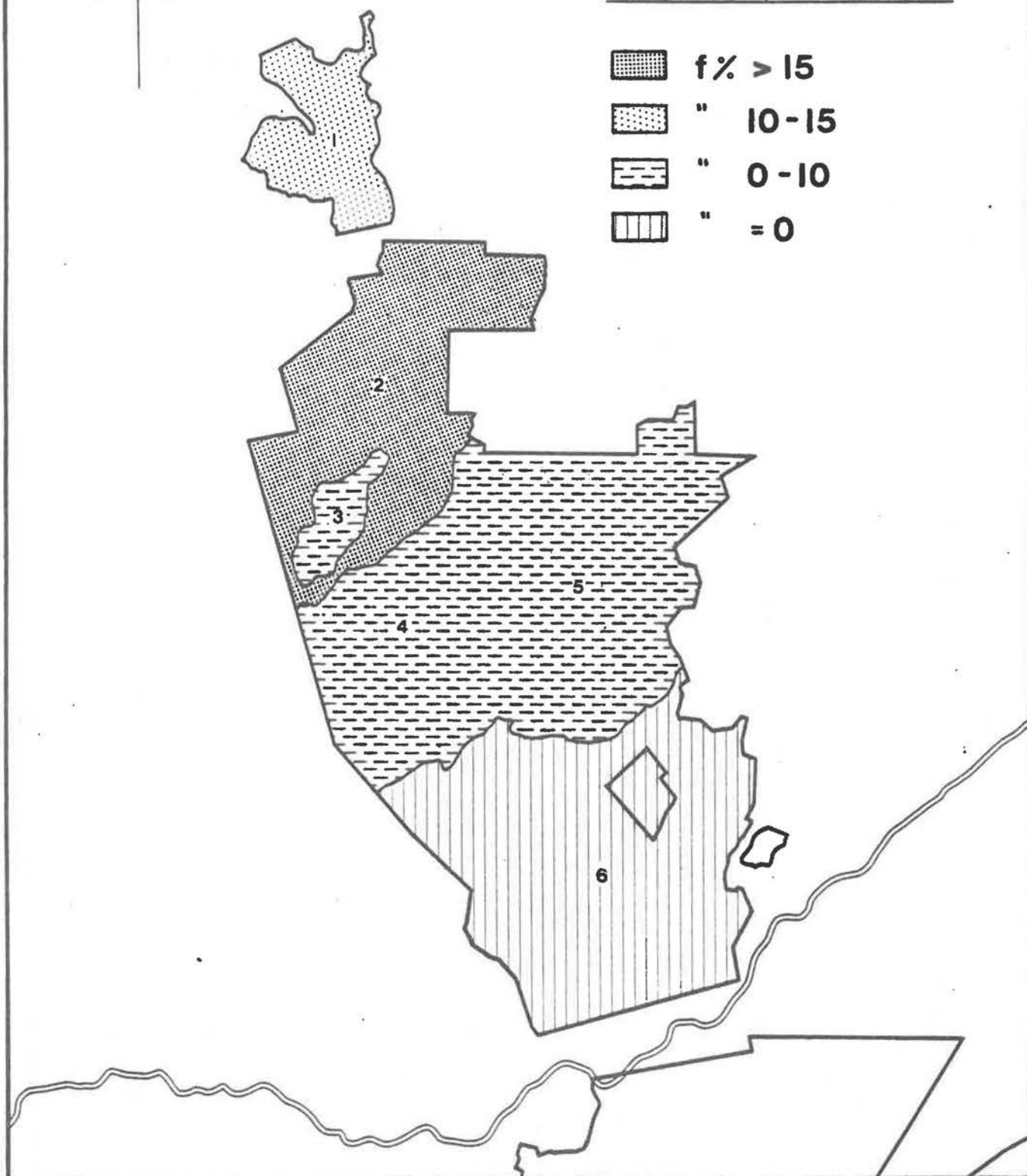
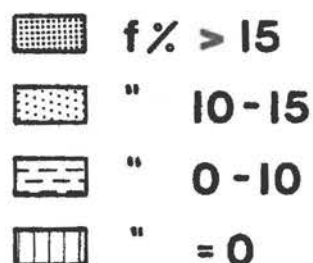


PUREORA NORTH BLOCK

Goat Distribution 1980

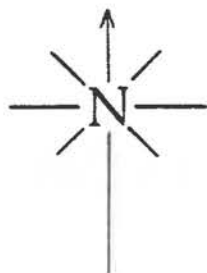


Relative Densities

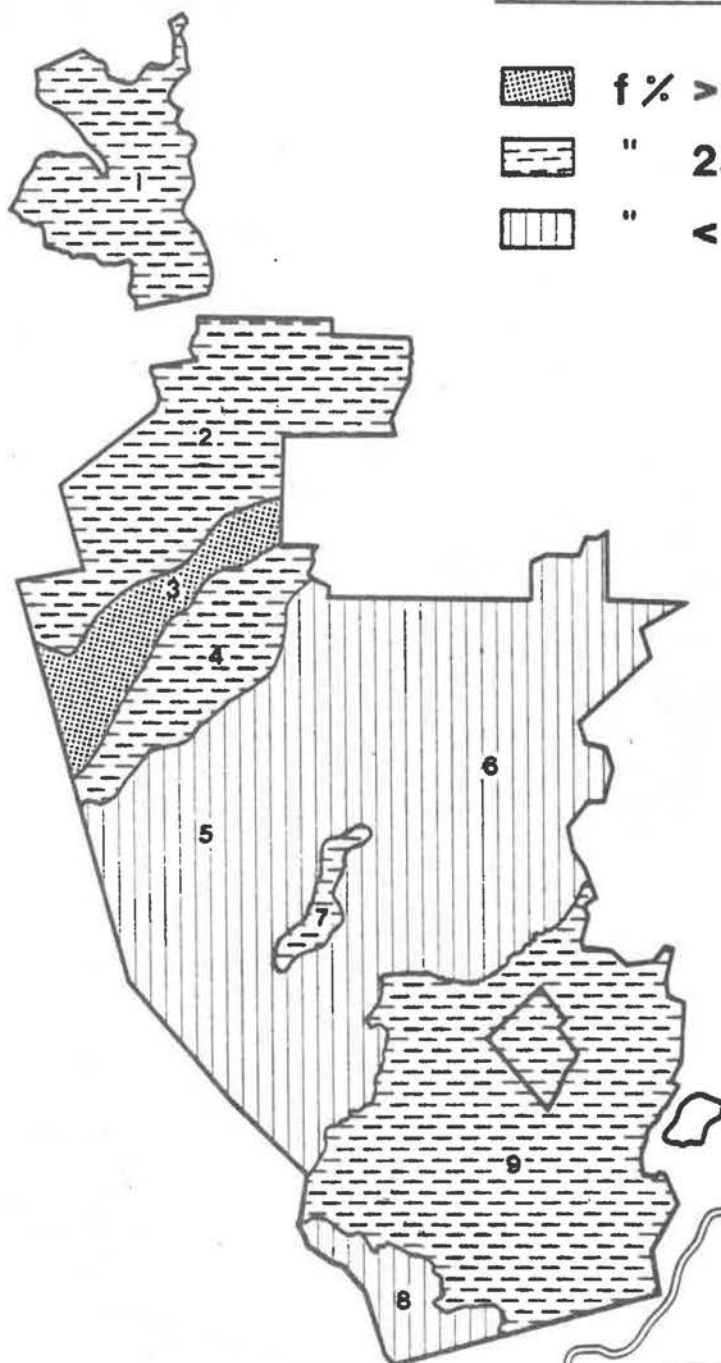
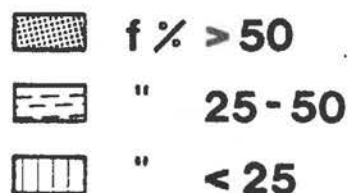


PUREORA NORTH BLOCK

Possum Distribution 1980

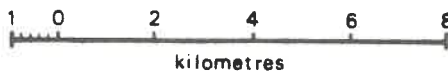
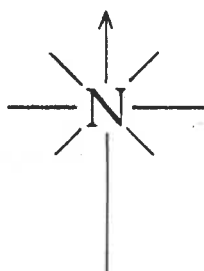


Relative Densities



PUREORA NORTH BLOCK

Deer Distribution 1980



Relative Densities

