

PROPOSED WILDLIFE MANAGEMENT RESERVE AT WAKAPUAKA TIDAL FLATSHistorical Loss of Wildlife Habitat to Nelson Haven

In a historical document dated 1931 titled "Tidal flats and Salt-Marsh Studies in Nelson Haven" (Subtitle - Part 1 - The ecology of Nelson Haven, its mudflats and the Wakapuaka reclamation) by William C. Davies, the then curator of the Cawthron Institute documented the natural and manmade changes to the Nelson Haven as follows:

At the north-eastern end of the Haven, between the Boulder Bank and the hills is an area of flatland, approximately 1,000 acres in extent, and protected from the tidal waters by a stop bank. When Nelson was first settled in 1842 practically the whole of this flat was a swamp, about 2/3 being covered with Raupo and flax. The remainder, liable to flooding by sea water at high tides, was salt marsh, supporting a plant association of Salicornia, rushes and other saltmarsh species identical with that which exists to-day on the Wakapuaka tidal flats above the sewer outfall causeway.

Within the swamp early settlers found well-preserved forest remains indicating the probability that all the area to the north-east of Seabourne farm, from the Boulder Bank to the hills, was once covered with heavy mixed coastal forest.

Reclamation of the saltmarsh portion (Seabourne farm) was commenced in 1878 by the building of the main stop-bank, with a sluiceway on the main channel, the second gate, close to the boulder bank being added many years later to provide an outlet for No.2 Maindrain. Seabourne farm, consisting almost entirely of reclaimed saltmarsh is now utilised for agricultural purposes. Aerial photos of this flat area still show the old tidal channels plainly to-day.

The loss of the original coastal forest cover, and the subsequent reclamation of the large swamp, saltmarsh and upper tidal flats of the Haven inflicted a heavy loss to Wildlife communities of the region (Loss of habitat types and species).

No doubt many other local estuarine systems have suffered similar historical modifications, however these have not been documented so well. The above information is relevant to the Wildlife Proposals put forward on the following pages.

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RECENT WILDLIFE HABITAT LOSS TO TASMAN BAY

1. Waimea Inlet and Nelson Haven

Tasman Bay contains a number of complex estuarine systems of very high value to Wildlife. These estuarine habitats have a very high biological productivity and biotic diversity, are of high value to wading bird species and waterfowl. The significance of the Tasman Bay Estuaries as a wildlife habitat is that they support by producing or providing both food and shelter, a variety of bird species, some sedentary and some which have annual migratory patterns.

In economic terms estuaries are valued as potentially reclaimable land for industry, housing or waste disposal. The New Zealand Wildlife Service is extremely concerned at the reduction of Wildlife habitat, which has already occurred by reclamation of tidal and intertidal lands in the Waimea Inlet and Nelson Haven, for industrial purposes, waste disposal and residential subdivision. 2% of the total area of Waimea Inlet and 14% of the Nelson Haven have already been reclaimed. Authority to reclaim a further 12% of the Waimea Inlet and 32% of Nelson Haven also exists and 33.8 acres of intertidal flats has been proposed to be reclaimed by the Nelson Harbour Board for the future needs of the Fishing Industry. A decision on this matter will be made soon. Reclamation of 2,153 acres of the total area of 8,184 acres of the Nelson (Waimea Inlet/Nelson Haven) Estuaries are authorised. These lands are the intertidal zone feeding areas of a diverse range of species of wading birds and waterfowl, and also contain roosting sites for the wading species.

The nearby Boulder Bank supports nesting colonies of gulls and terns however it is severely affected by human pressures. During last breeding season a vehicle drove through the middle of a nesting colony of White Fronted tern, smashing eggs and destroying nests. It is this type of continuing problem we hope to eliminate completely by providing an artificially secure breeding environment nearby.

Severe pressures are being placed upon all of these highly valuable wildlife habitats to-day and will increase in the future.

2. Enclosed Wakapuaka Tidal Flats

In August 1970 the Nelson City Sewer outfall was commissioned with the result that the sewer outfall causeway impinged upon a vital

area of tidal flat and the last remaining area of mixed salt-marsh vegetation within the Nelson Haven.

By isolating an area of 371 acres from this coastal ecosystem this portion has been degraded and removed as a productive unit from the total estuary system. Productivity within the cutoff saltmarsh area has deteriorated since construction of the sewer outfall causeway and is of little value to-day. Although 4 X 60" culvert pipes and floodgates do service the area they are of limited value as only restricted amounts of tidal flow get into the enclosed area. No more than about 5 acres of tidal flats are inundated at any stage of all tide levels. This causeway has adversely affected the Nelson Haven in a number of ways. The most obvious effect is the direct destruction of habitat. Tidal land along with associated organisms have been directly destroyed by this process, thus a loss of aquatic fauna in its respective zones, ultimately means loss of food in biological food chains, for avifauna found within the area. It has also created changes in water currents, circulation, mixing, flushing and salinity of nearby areas.

Not only was an area of 371 acres of tidal land removed as a productive unit from the estuary, but extremely valuable wildlife habitat of the tidal flats was lost forever. When the sewer outfall causeway was placed across the upper Haven a small brackish pond was unintentionally created in a low lying area, this was where the Nelson City Oxidation ponds are now being constructed. This small wetland provided optimum habitat for a wide variety of wading birds and waterfowl, being utilised heavily throughout the year. Such uncommon and rare migratory species as Sharptailed sandpiper, Curlew sandpiper, long billed curlew, black fronted dotterel, tattler, white winged black tern and dotterel spp, frequented the area. The wetland was visited by many amateur ornithologists from throughout New Zealand and the pond and surroundings were well known as a site for these rare species. Nowhere else in the top half of the South Island except for Farewell Spit, an internationally acclaimed wetland, could one see such interesting birds. Just days before the contractors began levelling the site for the oxidation ponds 40 eggs and 10 young chicks were gathered from the nests of a Pied Stilt colony which had annually nested on the salicornia saltmarsh vegetation surrounding the pond. These were sent to the Wildlife Service Avicultural Centre at Mount Bruce for rearing. The Pied Stilts

left the area soon after. Because this small pond was of outstanding value for wildlife, approaches were made to the Nelson City Council and Nelson Harbour Board to obtain an alternative site nearby where a small interim wetland could be created to attract species displaced by construction. At a cost of \$200 to the Wildlife Service a bulldozer was hired to construct such a pond. Although placed alongside the oxidation ponds, this pond is already being utilised by waders and other birds and will become increasingly valuable once the oxidation ponds are built and fewer disturbances occur. Next breeding season (September-December) should tell whether this interim pond reaches fruition.

The Wakapuaka tidal flats provide an essential high tide roost site for many hundred of waders and other water related birds which on most high tides are driven from the tidal flats of the Nelson Haven and must fly across the sewer outfall causeway to the dry tidal flats to roost over the high tide period. The size of the area these birds now use has been reduced by the oxidation pond construction. These large groups of waders are frequently disturbed by human activity on surrounding areas e.g. motor-cycles Pony-club and even passive recreations. The Wakapuaka tidal flats still hold other high wildlife values for many species of avifauna.

WILDLIFE MANAGEMENT RESERVE PROPOSALS

Background to present Tenure of Wakapuaka Tidal Flats (see fig.2(1))

A Wildlife management reserve is proposed to be located on the Wakapuaka tidal flats, Nelson Haven. The Wakapuaka tidal flats are located at the north-eastern end of Nelson Haven and are surrounded by the sewer outfall causeway, boulder bank, Nelson-Blenheim highway and farmland at Wakapuaka (see figure 1 for locality).

The Nelson City Council is presently building its Wakapuaka oxidation pond at the northern end of this area which is surveyed off as D.P.7530. The remaining land is owned by the Nelson Harbour Board. Recently the harbour board zoned two acres in the corner of the tidal flats for bark disposal. Stage 1 of this project contains an area of 1.78 ha and stage 2 of 2.55 ha making a total of 4.33 ha of tidal flat to be infilled eventually. An area of 10 ha of tidal flat opposite Todds Valley has also been promised to a local farmer for licence to become agricultural land. How this area will be developed is not known. The remaining land, which the Nelson Harbour Board owns is licensed to sporting clubs for their activities.

The two sporting clubs with licences are Nelson Pony Club (Wakapuaka Branch) and Nelson Motor Cycle Club Inc. (Mr. D. Caldwell, General Manager, N.H.B. per comm) A nominal rental of \$5 per annum is paid to the Harbour Board by the sporting clubs.

Several weeks ago the Ministry of Works and Development had strongly advised the Nelson City Council that it was desirable to reserve adjoining land for a second oxidation pond, which will probably be required in the early 2000's. This decision will be made soon. From the above account it can be seen that severe inroads into what was once an important Wildlife habitat have occurred since the sewer outfall causeway was built. The best bird habitats and sewerage treatment ponds evidently require the same environment of quiet land at the coast which has little or no agricultural value and are some distances from large towns.

Promotion and Conservation of Wildlife

The number of bird watchers is growing rapidly throughout the world due to the fact that people are becoming environmentally more aware and realise the great need for conservation of wildlife habitats that are being swallowed up by developments.

Here in Nelson we have a unique opportunity to foster the promotion and conservation of wildlife by setting aside a wildlife management reserve on the Wakapuaka tidal flats. The importance of the Wakapuaka tidal flats as a potential Wildlife management reserve lies in its close position to Tasman Bay, the Boulder Bank, Nelson Haven and in the variety of protected and managed habitats it could offer.

People will become an important part of this reserve. The reserve would be open to the general public to foster public awareness in wildlife conservation and promote educational and scientific values. There could eventually be a reserve centre - displaying photographs of birds and their habitats which interpret the role of the reserve and its management policy. Talks and lectures could be given in this centre to school parties and other groups. It is envisaged that a series of paths and roads encircling the reserve would give access to areas and hides. Good opportunities for closer observation and photography of feeding and roosting birds would be provided by placing perches and islets situated in front of most hides.

No similar reserve exists in New Zealand to compare its potential however the fame of the Royal Society for the Protection of Birds' Reserve at Minsmere in Suffolk, England is renowned internationally. This reserve covers an area of 1560 acres and comprises heathland, woods, reedbeds, open mires and a brackish lake. Here 210 species of birds are recorded annually, a greater variety than can be found elsewhere in any area of similar size in Britain. 10,000 people visit the reserve each year, numbers being limited for management reasons. Potentially the proposed Whakapuaka Wildlife reserve could rival Minsmere and bring international recognition to Nelson. Within 5 years of formation the reserve will be a real asset to the Nelson region and become a major tourist attraction as well as provide essential alternative habitat for bird species severely affected by human pressures on the Nelson Haven, Boulder Bank, Wakapuaka tidal flats and other Tasman Bay locations.

Creation and Management of the Reserve (see fig.2(2) attached)

The creation and management of the reserve would be done in such a way that a whole spectrum of Wildlife habitats would be included in a relatively small area. A brief outline on the important types of habitats that could be developed is listed below:

1. Wetlands - Freshwater

Development of freshwater wetland areas could be done by creating dense reed beds and openwater areas at one end of the reserve. A well managed wetland is the most prolific of all wildlife environments and is one in which a healthy, wide variety of plants and animals can be produced.

Through the loss of such environments (original swamp and salt-marsh of the Upper Haven) upon which many specialist feeding birds would have been utterly dependent, the regions avifauna have become much poorer, some species have disappeared, while others have become dangerously low, e.g. Banded rail, Marsh Crane, bittern, South Island Fern bird and others.

Many of the Wetland dwelling species are specialist feeders and nesters requiring large undisturbed areas of tall reeds in water, with long, uneven feeding edges of shallow water broken with patches of mud and shorter vegetation.

Open water areas scattered throughout the reedbeds would be developed to encourage waterfowl, herons, egret, grebe and many other water related species. Some parts of the shore of these

open areas would be made with gentle open slopes to allow waterfowl and other swimming birds to walk ashore to their nests or to a spot where they can loaf or preen themselves.

Water levels within this area would be controlled to allow an optimum level for all species.

2. Shallow Brackish Lake with Nesting Islands

A shallow brackish lake with nesting islands is proposed to be sited alongside the sewer outfall causeway. This important area would serve as a trial method of conservation which might soon become necessary in many other parts of New Zealand on a larger or smaller scale, as human pressure on the fewer and fewer wetlands, beaches and estuaries becomes critical. Birds of specialised habitat requirements like coastal breeding waders and terns might thus be conserved and caused to breed in this protected habitat. The lake would be no smaller than 800 metres long and 450 metres wide, the height of the water precisely controlled (0.0 - 0.5 m). To produce the required brackish conditions, saltwater would be slowly added to freshwater.

Important Aims of the Lake

A. To construct an artificially secure breeding environment for bird species severely affected by human pressures upon the Nelson Haven, Boulder Bank, Wakapuaka tidal flats and other nearby habitats.

The lake and its variety of islands of different surfaces will also offer suitable breeding sites for many other species.

B. It will provide undisturbed feeding habitats for a wide range of bird species both endemic and migratory. Many relied, and in some cases still rely heavily on the Wakapuaka tidal flats. Many have been displaced from this area completely.

C. Several of the larger islands will provide high tide roosts for wader species. Often at high tides many hundreds of waders and other water related species are driven from the tidal flats of the Nelson Haven and must fly across Sewerside drive to the Wakapuaka tidal flats beyond to roost over the high tide period. They then return to the Haven as the tide recedes to continue feeding. It is vital that an alternative site is available to continue to provide for this need.

At Minsmere in Great Britain where similar unproductive dry salt-marsh existed, less than 5 years after development had begun 1500

pairs of birds of 20 species were breeding in an area which had only supported no more than 40 pairs of 6-7 species.

This Brackish lake proposal is the most important concept of the Reserve.

3. Liberation of Endangered Species

It is proposed to liberate certain species of endangered wildlife into areas of suitable habitat for conservation and management reasons. e.g. waterfowl and rail spp.

4. Wood Lots - Native and Exotic Species

The planting of suitable indigenous and exotic species would be encouraged to allow native bush birds and introduced species to utilise small wood lots, located in suitable areas throughout the reserve.

5. Reserve Centre

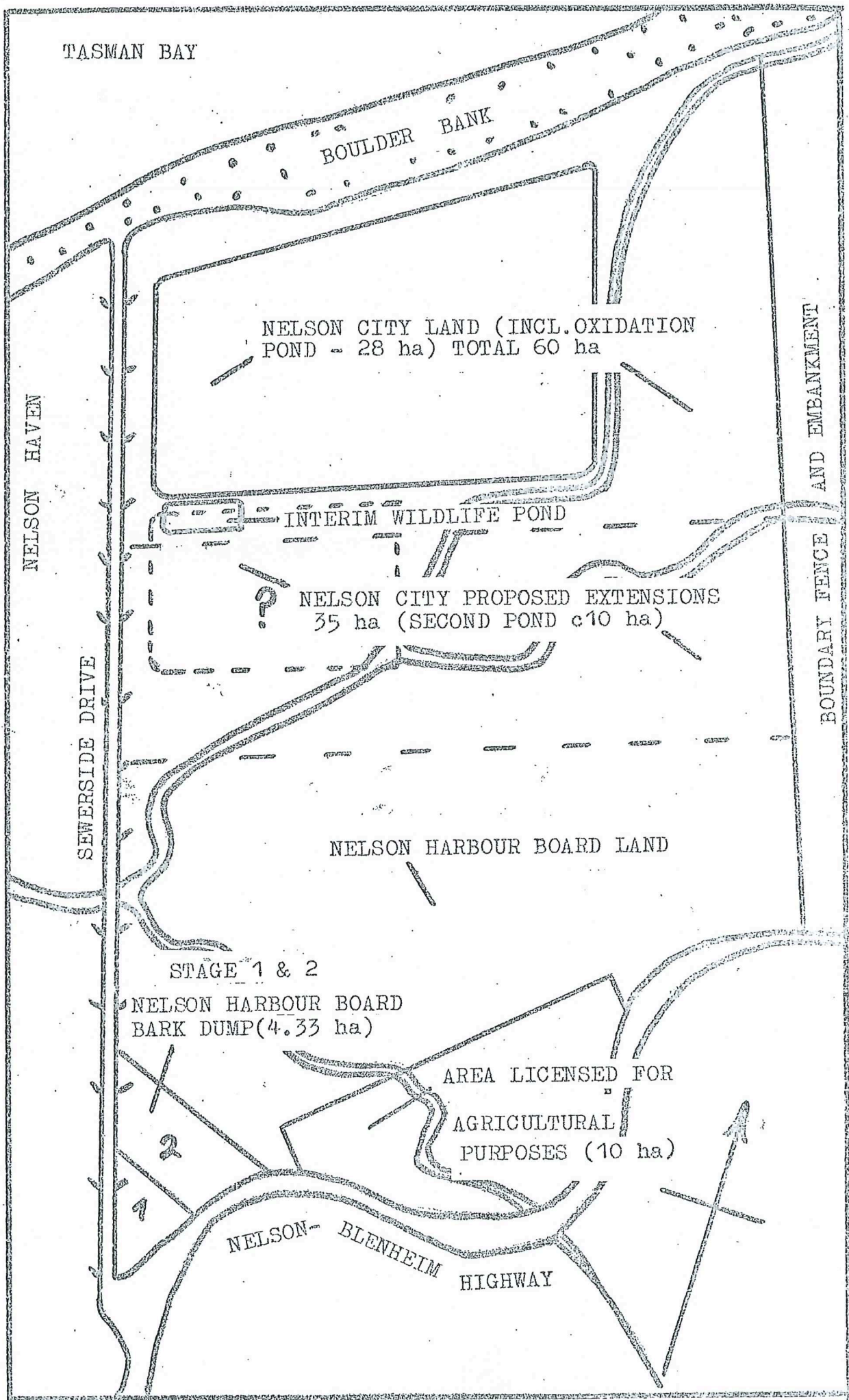
Eventually a reserve centre would be developed housing a lecture hall, display area and administration area. A carpark, picnic area, and toilets would also be built.

This wildlife Management reserve proposal warrants all the support and consideration it so richly deserves. It will cater for the recreational and enjoyment needs of many thousands of Nelsonians and tourists alike. It is for the whole community's enjoyment and involvement, and not just a handful of individual people or one or two sporting clubs which could be accommodated elsewhere. The proposals has incredible potential and it is hoped to involve the Community, from the planning stage through development to the finished reserve. The end product being the ability of the public to watch birds making use of the habitats provided by them and help foster the promotion and conservation of Wildlife which to date has had very little consideration in the Nelson region.

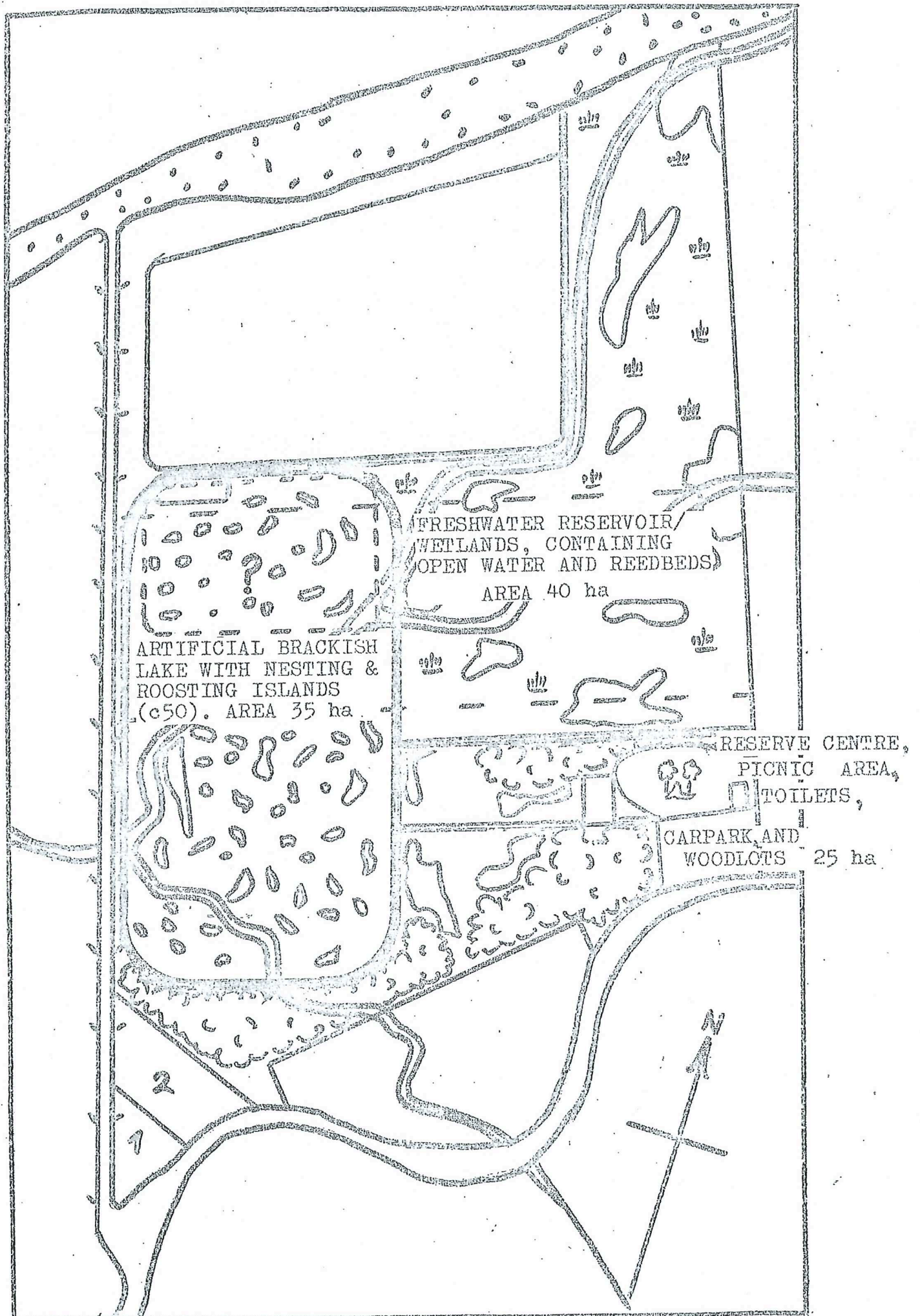
PROPOSED WILDLIFE MANAGEMENT RESERVE AREA BREAKDOWN

A breakdown on the area needed for the proposal is below:

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|---|-----------|----|
| Brackish lake with many nesting and roosting islands | 35 | ha |
| Freshwater reservoir supporting a mosaic of wetland types containing open water areas and reed beds | 40 | ha |
| Woodlot areas, Reserve Centre, car park, picnic area, etc | <u>25</u> | ha |
| Total: | 100 | ha |



WAKAPUAKA TIDAL FLATS
 FIGURE 2(1):PRESENT LAND TENURE



WAKAPUAKA TIDAL FLATS

FIGURE 2(2): WILDLIFE MANAGEMENT RESERVE