THE THREAT UNCONTROLLED SPREAD OF MANGROVES POSES TO THE MULTIPLE VALUES OF THE WHANGAMATA HARBOUR

1. Introduction:

i) **The authors:**

John Adams - worked in game bird management and fauna conservation roles for the NZ Wildlife Service commencing in 1963. During this period he was based variously in Wellington, Gisborne, Nelson, Christchurch and Rotorua, with occasional off-shore island work (Stewart Island, Cook Strait, and Hauraki Gulf, Bay of Islands and Chatham Island localities). This resulted in receiving a broad training and practical experience in wetland and forest ecology and conservation. A lot of this work involved the protection and management of rare and threatened native bird species as well as research and management of introduced game birds (waterfowl and upland game species).

In 1987 with the integration of the Wildlife Service into the new Department of Conservation he continued working - initially out of Rotorua on game bird and protected fauna conservation duties. In 1990 he was appointed to the position of Biodiversity Assets Manager for the Hawke's Bay Conservancy based in Napier. Duties there involved the oversight of all the Conservancy's fauna and flora projects and supervising Protected Natural Area (PNA) surveys of all the ecological districts contained in the Conservancy. This included negotiating the covenanting of Recommended Areas for Protection (RAP'S) on private land, establishing and managing the Boundary Stream Mainland Island project and managing the Te Angiangi Marine Reserve.

The conservation of wetlands and waterbirds was a major interest and focus throughout John's working life and remains so today. He retired from the Department of Conservation in 2012 and is now a resident of Whangamata and a committee member of Whangamata Harbourcare Society. He has been a financial member of the Royal Forest and Bird Protection Society for many years, and was a member of the NZ Ornithological Society during all of his working career in Conservation.

Graeme Webb - Banker for 40 years

A recreational tramper, hunter and fisherman (salt and freshwater) and a long term committee member of Whangamata Harbour Care, Graeme has resided in Whangamata all his life, holidaying with his family then retiring there in 1994. His family has connections with Whangamata, his turangiwaiwai, since 1872. He remembers it well from the 1930's and is a student of Whangamata's rich history and the geological history of the Coromandel peninsula.

As a member of the Ornithological Society he collates information for seabird mortality surveys, general surveys, predator control trapping, etc.

Since 1995 until the present time Graeme has observed, protected and collected data on the NZ dotterel populations along the Whangamata coastline. This has resulted in improved breeding success and public awareness with the formation and running of the local volunteer group.

In the mid 1960s Graeme was elected as a councilor of the Auckland Acclimatization Society serving on all committees including the Fish and the Game Committees until 1987. This organisation specialized in wetland management and successfully negotiated the retention of compartments of major swampland drainage schemes for the benefit of wildfowl populations. The Society was also involved in the protection of native birds and Graeme assisted the Wildlife Service, Department of Internal Affairs with bird surveys, including those on banded rail in freshwater swamplands. In 1994 he became involved voluntarily in field work in the Hamilton area and was the first point of contact for the Dept. of Conservation for local bird issues on the Coromandel.

2. The Values of Whangamata Harbour for Birdlife

i). Anecdotal information indicates the numbers of waterbirds utilising the harbour historically far exceed the numbers that can be seen there today. The reasons for this are probably the same as for most wildlife habitats nationally. They include habitat loss and modification (through a variety of human and natural causes), introduced predators, human disturbance factors, increased sedimentation and pollution and the harvesting of food resources (cockles and pipis). We also believe the rapid and increasing encroachment of mangroves into the harbour environs has also contributed to the decline of this as a waterbird habitat. In particular the numbers of waders (oystercatcher, pied stilt, godwit and knot) utilising the harbour have significantly diminished. A reduction in the open estuarine mudflat areas available to them for feeding and more importantly the loss of high-tide roosting sites due to the encroachment of mangroves over former traditional sites are the most logical explanations for these decreases.

ii). Attached is a list of species of water birds currently known to utilise the Whangamata Harbour. This is by no means an exhaustive list as the habitat will no doubt have been visited by other species from time to time, particularly by vagrant migratory waders. It includes 9 species of waterfowl (duck, swan and geese), 3 herons, bittern, 4 species of shag, gannet, 6 species of gull and tern, 3 rails, 10 waders, Royal spoonbill, welcome swallow, fernbird and kingfisher. Sixty-three species in all. In addition, there are also a number of native and introduced passerines that utilise the harbour and its fringing vegetated margins for a variety of feeding and nesting purposes e.g. tui, grey warbler, starling, Indian myna and harrier hawk.

The large majority of waterbirds listed utilise the harbour's open water areas and mudflats for feeding. With the exception of some introduced passerines and possibly pied shag, very few if any other birds listed utilise the mangroves for nesting and even fewer for feeding amongst. The rail species (banded rail, marsh and spotless crakes) and pukeko do utilise the mangroves as a feeding site, but not exclusively.

John Adams has personal experience observing banded rail on offshore islands in habitats totally different to those found in North Island mangroves habitats. In 1964 one such island he worked on (Big South Cape island off-Stewart Island) possessed a dwindling population of banded rail that lived in sub-alpine scrub and tussocks along the top of the island. Unfortunately this population was rapidly being wiped out by the incursion of Norwegian rat, but their presence there demonstrates that in the absence of introduced predators this species is more than capable of supporting viable populations across a very wide variety of habitats.

All rail species listed (including banded rail) still occupy territories in a number of sites in New Zealand where there are no mangroves whatsoever. The importance of mangroves for banded rail has been over-

stated and this is still evidenced today by the species survival in mangrove-free estuarine sites in the South Island. We consider the major threat to their continued survival in all New Zealand habitats is the presence of introduced predators (cats, rats, hedgehogs, ferrets, stoats and weasels). Harbourcare Whangamata continues to devote considerable time and effort to controlling these pests and consider this is where conservation resources and efforts should be concentrated.

The authors also believe in the importance of preventing the further spread of mangroves and in maintaining large areas of open estuarine mudflats for feeding, resting and roosting habitat for the majority of the other bird species listed. Either through misunderstandings, misinformation or oversight we believe insufficient weight has been given to the importance of such areas to these other water birds and too much weight to the misinformed opinion regarding the importance of mangroves to the survival of the resident banded rail population.

3. Other Values

Although the authors are primarily interested in seeing the current wildlife values of the harbour improved, we also acknowledge there are a number of other values that would benefit from some judicious and well-planned control of the mangrove invasion. We do not consider the total removal of mangroves from the harbour practical, possible or desirable. The threat of mangrove incursions will never go away. They are here forever and the resources required to achieve agreed levels of control will be on-going.

Without going into any detail, other values that would benefit from maintaining agreed levels of control are:

i). Recreation and Tourism - Mangrove encroachment reduces the available space for community activities that include waterskiing and jetskiing in the deeper channels, kayaking, wind-surfing, paddle-boarding and swimming. It will also reduce the available space for recreational fishing that includes the gathering of shellfish, whitebaiting, floundering, line fishing for snapper and kahawai and netting grey mullet.

ii). Fisheries - The harbour waters support large populations of shellfish, crabs and wet-fish. Many of the bird species listed feed on these and they're also a recreational food source for local residents and visitors. We can state with conviction the expansion of mangroves will reduce the feeding areas available to all of the wading species who avoid feeding amongst or close to tall overhead vegetation, as it may be hiding predators. We are unsure to what level further encroachment by mangroves would have on the fishery values but believe shellfish populations would be reduced significantly because of the resultant increased sedimentation and loss of areas of seagrass/eelgrass (*Zostera muelleri)* meadows. The small crustaceans and worms that live in seagrass meadows are not only important sources of food for wading birds but also for fish such as mullet, eels and juvenile flatfish. Snapper and leatherjacket juveniles, mullet, trevally, parore, spotties and triplefins are often abundant in subtidal seagrass meadows in particular, but also reside in intertidal meadows when the tide is in.

iii). Cultural - We believe traditional take by iwi does occur, but we have little information to support this or to what level.

iv). Environmental - The harbour does contain significant intrinsic natural values. Wetlands include estuarine sites such as the Whangamata harbour, fresh-water and semi-saline lakes, rivers and streams and a variety of swampland types. These habitats have been severely impacted by human activities

such as drainage and reclamation, especially over the past 200 years. It has been reliably calculated that we have lost over 70% of our freshwater wetlands over this period and much of our remaining wetlands have been modified significantly. Whangamata harbour is no exception.

Much of the catchment has been logged of its former native forest (mainly for its valuable kauri resource) and is now in plantation pine forest. During plantation establishment phases and logging operations, elevated levels of silt is washed into and settles out in the harbour. This occurs more severely when the harvest coincides with heavy rainfall events such as happened in March 2017. The resulting high levels of silt deposition from such events has a disastrous effect on the estuarine ecology by smothering the mudflat flora and fauna.

Other land management practices have also had harmful effects on the harbour. Roading, housing, and farming practices have all introduced increased levels of disturbance, reclamation, pollution and sedimentation. In the absence of a regular monitoring regime it is impossible to determine what level of detrimental change has resulted to the environment, but we can safely state some has occurred.

v). Social - Public access to water edge sites. We believe there is already sufficient access via the public reserves adjoining the towns residential sites. There is still talk about creating a boardwalk and walkway access up the town side and across the Moana Anu Anu estuary to the other side and back down to the causeway. This would be detrimental to the fringe saltmarsh habitats and its fernbird and banded rail populations. The same applies to the suggestion there should be a track/boardwalk system right up the southern side to the head of the harbour which would encourage foot and cycle traffic (plus their dogs) through sensitive wilderness areas. We would support a small observation area at the head of the harbour.

4. Recommendations

1. Prior to making submissions on the Coastal Management Planning process, Harbourcare agrees on the areas they want to continue undertaking mangrove control efforts (or any additional sites they wish to extend the control to) and have these mapped.

2. That Harbourcare meet with other stakeholder representatives and attempt to reach agreement on our plans and seek their support through the process.

3. That Harbourcare continue to lobby for additional resources and assistance with their predator control programme.

4. That Harbourcare investigates the legal requirements and practical means of constructing an artificial high-tide roost within the harbour confines to compensate for the loss of former sites to mangrove incursion and future sea level rise.

John Adams

Graeme Webb