



The Inlet

Newsletter for Guardians of Pāuatahanui Inlet

DECEMBER

2019

The Inlet is a newsletter that brings together local and regional news affecting the Pāuatahanui Inlet and its environs.

The Inlet comes out three times a year and current or back issues can be downloaded from our website.

The newsletter includes items of concern that affect the area as well as general interest topics for everyone.

Please contact us if you would like to contribute to The Inlet.

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FROM THE CHAIR

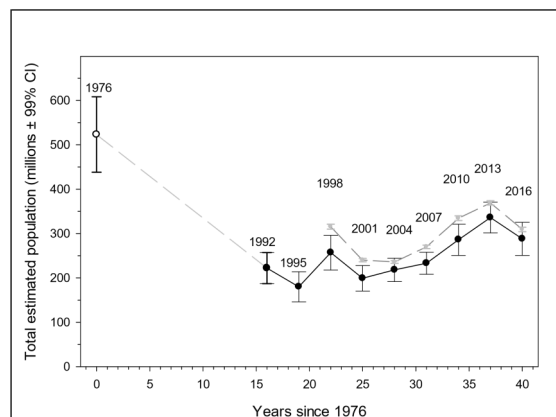
We have just completed the 10th of the three-yearly cockle surveys. It has been a major exercise which, this year, was ably managed by Andre von Halderen, a recent addition to the GOPI Management Committee. We were fortunate that technical and scientific advice, and management of the information for the transects, was provided by Warrick Lyon of NIWA. Both these tasks were previously undertaken by the late Professor John Wells, assisted by his wife Margery. It quickly became apparent, to those of us involved with this cockle count, what an enormous and valuable contribution John Wells had made to this work over previous years.



The assessment of the numbers, sizes and distribution, of cockles is a vital indicator of the health of the Inlet. In fact it is probably the largest and longest running example of citizen science in the country.

Cockles account for 80% of the total living things in the Inlet, excluding fish and birds. Being filter feeders, they remove detritus and pollutants and, in doing so, process up to half of all the water entering the Inlet in each tidal cycle. So, changes in their numbers and distribution preface changes to the whole ecosystem.

An initial survey in 1976 showed abundant numbers of cockles. Since then their population reduced to a low in 1995, as the following graph shows.



The trend since 1995 has been progressively upwards, with a dip in 2001 and another in 2016 - probably caused by the earthquake and storm in November of that year.

We now await the results of the 2019 count. Hopefully we will get results that show an improvement in the numbers of these indicator species. The following article, by the Editor, suggests preliminary returns from the transect teams show there

might well be an increase in cockle numbers, especially juveniles.

The health of the Inlet is still very much on a knife edge. As the article in this

From the Chair - cont....

newsletter about Transmission Gully shows, even well managed big developments still have net negative effects. More urban development is scheduled in the near to medium future, including possible developments in the Judgeford area enabled by the new motorway. Management of sediment and pollution from both urban and rural sources will need to be rigorously undertaken and enforced. 🌀

On behalf of the Management Committee, I wish you all an enjoyable festive season. The New Year will bring further challenges for us all in making sure the health and condition of the Inlet is maintained and, hopefully, enhanced.

Lindsay Gow (Chair)

LAMB AND CALF DAY - 2 November

It always seems to be a gamble as to whether the weather will be kind to Pāuatahanui School on the day of this annual event. Last year, while not a total washout, was damp and windy and many displays were relegated to indoor or sheltered locations within the school grounds.

This year a lovely fine day greeted everyone and encouraged big crowds. Our display boards were on the normal veranda location but were less affected by the breeze of the previous year. Thanks to Lindsay, Denise and Andre for managing them during the morning.

Each year, in analysing the importance of our displays at these events, we question whether we

should, or should not, continue to have a presence at the school. This year was no exception as the numbers of people who stopped to talk to our representatives were small. Most of the time the team members looking after our stall were unable to make conversation with visitors on the grounds.

However, we continue to be supported by the school and, with its location at the head of the Inlet, it seems appropriate that we keep our vision and activities on display for Lamb and Calf Day. 🌀

INLET CLEAN-UP - 3 November

Our regular annual event to remove rubbish from the shores of Pāuatahanui Inlet was held this year on Sunday 3 November with around 55 volunteers of the general public turning up to help. This number was considerably boosted by 25 or so Plimmerton Sea Scouts from Ngātitoa Domain.

The shores of the Inlet were well scoured by this large team and many people also managed to fill

their bags. This could indicate that there was a greater amount of discarded material this year than last, when many returned only partially filled bags. One prize item gathered from muddy shores was an old car wheel that the sea scouts retrieved during their explorations. All areas of the Inlet were well covered which should make for a noticeably tidier outlook at least for a few weeks.

Many thanks to our new Mayor, Anita Baker, who

Inlet Clean-up - cont....

spent some time with everyone at the beginning of the exercise, and to Councilor Ross Leggett, who was a participant for the clean-up.

Our thanks also goes out to Conservation Volunteers NZ who liaised with Porirua City Council and provided the rubbish bags, gloves and hi-viz vests etc. for all volunteers to use.

We also give many thanks to Rotary who not only managed the sausage sizzle as usual, but also helped with the clean-up. ☺

REPORT ON THE 2019 COCKLE SURVEY

Three years ago we had to postpone the scheduled cockle count of 2016 due to the effects of a November storm that caused havoc in the preceding days. The survey was eventually conducted on the rainy-day alternative date and, once the analysis by NIWA had been completed, a significant drop in cockle population was reported. This year no such drama eventuated, with good conditions forecast for the day, and the survey went ahead as planned on Sunday 24 November.

We had a good turnout of individuals and family groups amounting to around 90 people but, even with this number, only 24 out of a total of 30 transects (sampling lines chosen for cockle counting) were surveyed on the day. We normally allocate three or four people per team to carry out the sampling.

Some difficulties were encountered during the exercise. Promising to be a hot sunny day to begin with, the weather turned cloudy as the afternoon wore on, and a stiff wind picked up. Whatever wasn't secured in some way, like hats, buckets and ice-cream containers, went sailing across the sands at different times during the 4 hour long exercise. In some cases, low-tide sites could not be sampled as the tide did not retreat as far as expected. For this reason, the following two weeks saw a small team from GOPI conducting individual surveys of the remaining sites as tide times and weather permitted. One of these was our Tony Shaw, ex-chair of the past few years, and many thanks are extended to Tony for his dedication to the cause. In the end, however, there were a few sites left uncounted.

The analysis will not be complete until results are assessed by NIWA next year but some interesting outcomes have already been reported from the day's events. Several teams noted that a very large number of cockles were found in some samples, particularly from the mid-low tide level. In addition, many of these cockles were juveniles, with sizes of 10mm or less, showing that there has been a heavy breeding period in recent times. Because of this the teams were late back for the BBQ at the end of the day. Also, when walking over some areas of the mudflats, it was impossible to put a foot down on a surface not occupied by cockles. All this could be good news for the Inlet because it appears that the population has increased significantly after the last major storm. This indicates the Inlet health is still good, despite some other indicators to the contrary.

We want to express our gratitude to the various organisations that contributed to the day. GWRC for supply of staff, coffee and first aid kits, for New World Paremata who provided the food for the BBQ, and to PCC, Conservation Volunteers NZ and even the Jane Goodall Foundation who provided two volunteers for the first time. ☺

STOP PRESS: Just prior to publication, on December 8, Porirua was exposed to another extreme storm event that no one will have missed. The Wildlife Reserve was flooded to waist height and a lot of sediment was washed into the Inlet - again. Having referred to the storm of 2016, that delayed the cockle survey of that year, we have just experience another similar event - fortunately, this time after the survey. However,

this will have affected the shoreline around the harbour and influenced the habitats that we have referred to in this issue of *The Inlet*. As we have said, such events will become more common in the future - perhaps, in the very near future!

NEIL BELLINGHAM PASSES AWAY

It is with sadness that we observe the passing of Neil Bellingham who died peacefully on 7 October 2019, aged 87 years. Formerly of Cannons Creek, Porirua, Neil had a remarkable career that included achievements in the field of agricultural and the environment. As a graduate in Agricultural Science he was assigned to the *New Zealand Volunteer Service Abroad* in 1964. He worked in Thailand for three years and during this time rubbed shoulders with Sir Edmond Hillary who was then president of VSA. In the early nineties he was VSA's programme manager in Zimbabwe along with his wife Juliet. Returning to New Zealand he continued his support of the VSA and, as a result of his work, was awarded life membership of the NZ VSA.

Neil joined Porirua College as a science teacher and, from that platform, became a conservation and restoration advocate in the Wellington region. In 2000 he was a founding member of



Sir Edmond Hillary and Neil Bellingham—1966



Neil Bellingham's Life Membership Certificate

consultant he developed our education programme and along with that wrote and compiled the teaching resource kit *Pāuatahanui Inlet – A Living Resource*. This is still regarded as a worthwhile resource although it was written 20 years ago. In 2016 Neil became the first member of the Guardians to be awarded life membership of our organisation.

Neil will be missed by many who have had the privilege to work alongside him with his dedication, warmth, patience and encouragement. Rest in peace Neil. ☹

Friends of Maara Roa, the Cannons Creek community-based restoration group responsible for revegetating the Cannons Creek valley. With this project in mind Neil set up the 'Trees for Survival' nursery at Porirua College and as nursery manager organised working bees for the restoration plan in the valley. He received a Conservation Merit award from DOC for his work in this area. On 17 Nov 2010 Parliament declared Neil joint winner of the inaugural 'Encore Community Leadership Award'.

Neil joined the Guardians of Pāuatahanui Inlet in the early 90's and was closely involved in the earlier cockle surveys of the Inlet to establish a record of the population statistics of this crucial species. As a Wellington Education Support



NAVIGATION AND SAFETY BYLAWS

We have been advised by Grant Nalder, the Wellington Harbourmaster, that a review of the Navigation and Safety bylaws for the region's harbours will occur next year. With that notification we have been given the opportunity to advise GWRC of issues we have with the current bylaws, particularly as they relate to Pāuatahanui Inlet.

This is a different approach to normal where submissions are allowed only after the draft review has been released. This gives us a big advantage.

We have taken the opportunity to review the current laws as they stand with a team of members from GOPI and PCC, and work on a list of concerns related to the protection of the harbour and its environs. We can also address more general issues

with the published rules and regulations such as out of date guidelines, obscure definitions of terminology, go and no-go areas, poor signage around the Inlet and the grammatical clarity of the published document which is distributed in the form a booklet to the general public.

We now have an opportunity to make submissions on what we consider to be weakness in the regulations and, possibly, to improve the overall focus for the benefit of all concerned. ☺



ALGAE IN THE INLET

Many people have queried the existence of the algae that have appeared recently in the Inlet. Although it is unsightly, it is a normal occurrence that happens regularly at this time of year.

Spring is a time of rapid plant growth and gardeners will know the battle with weeds that invade lawns and borders when the weather warms up and the daylight hours lengthen. The same explosion of plant life occurs around the shores of our Inlet and is largely expressed by the abundance of the green alga *Ulva lactuca*, or sea lettuce.



This covers many areas of the shore for a few weeks until, after peak growth, it begins to die off

and, in so doing, produces a stink.

Some areas of the shore also have another species making an appearance, a normally freshwater alga called *Rhizoclonium*, which is a filamentous green alga that forms mats on the rock surfaces.



Both these algae grow well where nitrogen levels are elevated, but neither are normally an indication of anything to worry about. They will be gone in a few months after a period where the decomposition will produce unpleasant odours of a sulphurous nature. ☺

FEATURE ARTICLE

The fact that progressive global warming is now a reality is evidenced by the regular news items on the environmental effects it is having around the globe. It is inevitable that Pāuatahanui Inlet will experience problems as sea level rises, and increasing storm events will cause even more erosion on the surrounding landscapes. Porirua City Council has recently done a coastal hazard study to provide a high level assessment of existing and potential future risks in the region for a planning period of 100 years, and how it should be managed. In this issue we are looking at the current erosion issues and possible future changes that will affect the Inlet and its shoreline.

Coastal Hazards for Pāuatahanui Inlet

Pāuatahanui Inlet is a harbour, open to the sea, and therefore subject to daily tidal fluctuations. Unlike exposed coastal locations where the direct effects of storm conditions can be severe, the Inlet is a relatively sheltered location with maximum wave heights of about 0.6m. Even such small waves, combined with the tidal cycle, affect the surrounding shoreline as the energy of wave action is dissipated at the water-land boundary, moving the harbour floor sediments about and inundating the low lying areas every day. With just a small rise in sea level, shoreline erosion will increase and greater inundation will be seen. Adding to this will be an increased frequency of coastal flooding from rain runoff, with more frequent and severe storm events as climatic warming causes more atmospheric instability in the coming years. To illustrate this, what is currently classed as a 1 in 100 year event of coastal inundation, will, with a 10cm rise in sea level, become a 1-in-20 year event. A 30cm rise is predicted to result in a once-a-year event while a 70cm rise can produce a similar event once every tide cycle.

Calculations of sea level rise need to be location specific because the estimated change depends not only on the global sea level but also on uplift or subsidence of the land in the area under consideration. There is evidence that the landscape around Porirua is slowly sinking which would exacerbate the effects of sea level rise. In planning for the future, our local council has looked at the various factors in play and have used a scenario of 1.0m relative sea level rise between now and the year 2120.

For planning purposes the council has identified five 'coastal compartments' based on geomorphology, coastal processes, present land use and management considerations. These are: nearshore roads and rail, infrastructure and services, beaches, cliffs and banks and, lastly, low lying coastal land.

The shoreline around Pāuatahanui Inlet is quite extensively armoured by sea walls and so only patches of natural shoreline still exist. Certainly, there are some localised erosion issues, such as at Dolly Varden, the various beach shorelines between Ivey Bay and Browns Bay, and at other isolated beaches that still remain. But the main natural areas are of course the magnificent wetlands and *cheniers* (raised beaches) at the eastern head of the Inlet which will experience their own particular problems in the future.

Here, we are looking at different parts of the surrounding shoreline to illustrate what the expected hazards are. The image on the next page shows the current levels of inundation experienced around the Inlet's edge.

Ivey Bay and Golden Gate Beaches

The low-lying reserve backing Ivey Bay is at risk from both coastal erosion and inundation with the existing sea level. It will become increasingly vulnerable with the projected sea level rise. Various *ad hoc* structures have already been placed along Ivey Bay in an attempt to manage the erosion at present. However, such measures, or other hard structures, are not likely to provide an appropriate long-term solution along this shoreline.



Feature Article cont....

This image shows the current coastal erosion hazard (dark pink) and current coastal inundation hazard (light pink). Photo courtesy of Porirua City Council.

Similarly, the coastal development on the low coastal plain backing the Golden Gate beach shoreline is already extremely vulnerable to erosion and inundation, hazards that will be significantly aggravated by the projected future sea level rise. The various *ad hoc* structures along this shoreline appear to provide a reasonable level of erosion protection at present (with appropriate ongoing maintenance). However, sea wall structures alone are not likely to provide an adequate long-term solution to erosion. Hard protective structures degrade a beach due to wave action, and already significant loss of the once spectacular chenier beaches along this shoreline has been noted in many areas. These adverse effects will worsen with the erosion likely to accompany projected sea level rise.

Browns Bay

The various low-lying coastal properties around this bay are vulnerable to erosion and inundation with the existing sea level and this vulnerability will increase significantly with the projected sea level rise. The existing sea walls generally provide protection from coastal erosion at present, but these are unlikely to provide appropriate long-term solutions. The management of coastal inundation will require the raising of ground levels in many areas over time and movement of some existing dwellings inland will also be required.

Pāuatahanui

Pāuatahanui is at the eastern end of the Inlet and the action of strong winds can result in the creation of significant wave action generated from westerly and north-westerly winds. This is sufficient to generate

Feature Article cont....

wave heights of up to 0.6m at the shoreline of Pāuatahanui village. Fortunately, wave energy is extensively dissipated by the wide saltmarsh and coastal wetlands to seaward, so that erosion rates along the shoreline are negligible. Field inspection indicates that the seaward edge of the wetlands is slowly eroding and retreating in places. The rate, however, is currently very slow.

Much of Pāuatahanui Village is located on very low-lying land, directly adjacent to the upper reaches of the estuary. A number of properties are already vulnerable to inundation and analysis indicates that the village, with its extensive lengths of roading and adjacent low-lying rural areas, will become extremely susceptible to coastal inundation with a projected sea level rise of 1.0m. This is also complicated by river flooding and ground water levels, both of which will also be severely aggravated by a rise in sea level. Even a small amount of future rise will greatly increase the severity and, more significantly, the frequency of flooding. Just recall the event of November 2016 to get an idea of the effects of such an event which could become more common in the future.

It is also possible that the village shoreline will suffer from increased erosion with projected sea level rise, but this depends to a large extent on whether the wide wetlands to seaward can be maintained. This is, in turn, dependent on rates of sedimentation keeping pace with sea level rise. If sedimentation does not keep pace then the breadth of wetland area will diminish and erosion may increase. Overall, coastal erosion is not expected to be a major hazard issue over the next 100 years and the shoreline fronting the village is unlikely, it is thought, to retreat by more than five metres.

The wetlands

There are several wetlands around the perimeter of the Inlet. These are at the Kakaho, Horokiri, Ration Creek, Pāuatahanui and Duck Creek estuaries. These wetlands are vital to the life of the Inlet as they provide much of the nutrients that feed the base of the food chain.

Crucial to this process is the presence of *Juncus maritimus* or sea rush (also called *J. kraussii* var *australiensis*). By its very nature, this plant, growing only between low- and mid-tide levels, creates a great deal of detritus by its own decay. It is this material that filter-feeding invertebrates, including the cockle (*Austrovenus stutchburyi*), rely on for their food source. Daily tidal cycles redistribute this detritus into the Inlet for the filter feeders to use. It is thought this process provides around 60% of the basic food source for those marine animals at the bottom of the food chain.

However, the conditions under which sea rush grows are quite specific and relate to mean sea level and the daily tidal fluctuations. The roots need between two and four hours of daily inundation for plant to be most productive. A change in mean sea level will result in a change to the areas of sea rush. A significant rise in sea level and the 'meadows' of the rush will be forced inland closer to higher ground. Some of the small wetland areas, like the Kakaho, could shrink to nothing while in other places the daily tidal flushing could be compromised.

The salt marsh of Pāuatahanui is the most significant area of sea rush around the shores of the Inlet and at the moment there is a good area of *J. maritimus* with unobstructed tidal flow at less than 60cm above mean sea level. With a sea level rise of 50cm however, the productive area could shrink by up to 70%. Ration Creek has a large area of sea rush in, and adjacent to, the Wildlife Reserve just north of Grays Road. Here the tidal flow is somewhat constricted by the presence of the Grays Road causeway. This may have some impact on the availability of detritus from this area, although, once in suspension in the water, much of it can probably be redistributed into the Inlet by the tide.

Grays Road

Porirua City Council will need to consider the vulnerability of Grays Road to coastal flooding in the future.

Feature Article cont....

*This image shows the future coastal erosion hazard (dark pink) and future coastal inundation hazard (light pink).
Photo courtesy of Porirua City Council*

Its current strategy appears to be to maintain the road long-term and plan for either a landward adjustment of the route, or significant reconstruction to raise the level of the road at its current location. This planning will also need to consider the vulnerability of various lengths of the road to coastal erosion and should take into consideration the influence it has on the wetland areas adjacent to it.

The following image demonstrates the likely hazardous areas for the Inlet with a projected rise in sea level, and shows how the current areas of risk expand and extend landward under this scenario.

Conclusion

The focus of attention, with respect to erosion and inundation around Pāuatahanui Inlet, is one of improved management to protect what remains of the natural shoreline. In addition, the aim is to restore and enhance natural values in other areas whilst also adequately protecting infrastructure like SH58, Grays Road and various private properties. There are also potential erosion issues for the wetlands longer term, though those issues depend on how the harbour responds to sea level rise. But it seems inevitable that progressive sea level rise and related rainfall and groundwater effects will result in a rather different shoreline landscape around the Inlet by the turn of the century. 🌀

Acknowledgements:

Porirua City Council Draft Coastal Hazard Plan ([Link here](#))
Jim Dahm (Coastal scientist [Eco Nomos Ltd]).

INLET WATER-QUALITY PAYS THE PRICE FOR THE TRANSMISSION GULLY MOTORWAY

For our December 2016 issue of The Inlet we included a feature article on the Transmission Gully Motorway, emphasising the environmental controls that were to be enacted during its construction. At the time we said:

'The Guardians of Pāuatahanui Inlet have been supporters of this new road almost from the beginning, mainly because we believe the benefits to the Inlet will be positive. It will take much of the current through-traffic away from Highway 58 and Grays Road, reducing the impact of pollution on the most scientifically important estuarine habitat in the lower North Island.'

Construction of this motorway started in 2015 and it should be complete by mid to late 2020. So, this time next year, we should all be able to travel over the new motorway and enjoy the promised benefits to Wellington's traffic infrastructure.

However, the news today is not as rosy as we once thought.

To begin with, during construction, there have been a number of incidents affecting the Inlet. Information we have obtained from Greater Wellington Regional Council shows that almost all the most serious breaches of environmental performance have occurred in the Inlet's catchment. They have mostly involved breaches of the containment structures and have resulted in discharges of contaminated water and silt. Inevitably these will have found their way into the Inlet.

The actual consequences of these discharges are not known. Greater Wellington staff have told us:

'Despite best efforts, including production of a specialist report by the Joint Venture and review by the independent Sediment Management Peer Review Panel (set up by consent conditions), it has not been possible to determine what volume of sediment the projects have contributed to the freshwater and marine receiving environments, including Pāuatahanui Inlet.'

So, we don't, and can't, know the impacts of these discharge events. This is because TGM isn't the only source of pollutants entering the Inlet. Forestry clearance, discharges from urban and rural land, plus discharges from land development, have all added to the burden of undesirable material washed into the harbour.

BUT, surely with traffic moving from SH 58 and Grays Road to the Transmission Gully Motorway, one could reasonably expect that discharges of contaminants into the Inlet would decrease. Sadly, this is not likely to be the case, even though the TGM stormwater will be treated. On its TGM website, the New Zealand Transport Agency says:

'All stormwater runoff from finished road surfaces will be treated. As a result, contaminants entering the Wainui Stream mouth (which drains north) and the Onepoto Arm of the Porirua harbour will decrease, providing a positive effect. Contaminants entering the Pāuatahanui Inlet will mostly remain unchanged from the present situation, with the exception of total petroleum hydrocarbons, which will increase. This increase will not cause conspicuous oil or grease in the water or any change in odour, and the effects are considered to be minor' (p7 NZTA TGM Assessment of Environmental Effects: Non Technical Summary).

Presumably the reason for this situation is that there will be a massive increase in State Highway traffic affecting the sub-catchments feeding the Inlet. Indeed, most of the length of the Transmission Gully Motorway is in the Inlet catchment. Even though stormwater from TGM will be treated, this won't compensate for the large increase in contaminants from traffic and especially from petrol and diesel vehicles.



Inlet water quality - cont...

So, although TGM will bring water quality benefits to the Onepoto Arm of the Harbour, the current level of traffic sourced contaminants in the Inlet will not decrease. Indeed there will be an increase in petroleum hydrocarbons. Even if this won't cause visual effects, it will still enter the Inlet ecosystem.

The Inlet therefore pays the price of the TGM construction after all – currently in terms of the majority of serious containment breaches and resulting contaminant and silt discharges, and in the future with continuing contaminants and an increase in petroleum hydrocarbons all entering its waters. ☺

A POTTED HISTORY OF PĀUATAHANUI ECOLOGICAL ORGANISATIONS

by Christine Stanley

Christine Stanley was a founder member of GOPI and has been involved with several other environmental organisations promoting the ecological values of the Inlet. Christine is currently a member of the GOPI management committee.

In the 1960's it was envisaged that there would be a major urban development in the Pāuatahanui basin with a population of 80,000 by the mid 1980's. This included a railway around the northern and eastern sides, 400 hectares for industrial development in the Kakaho Basin and Judgeford area, a university and a hospital. While none of this came to pass the initial development of sections in Whitby resulted in extensive changes to the landscape which included deposition of silt in one of the most popular bays - Browns Bay. This led to community concern about the overall effects of development in this area. Poet, Sam Hunt, who was living on Golden Gate right opposite the first cuts into Whitby – watching the deposition of silt into the bay – protested by writing the poem 'A Bottle Creek Blues' and also by changing some of the signs from 'Whitby' to 'Shitby'.

The Porirua City Council responded to this community concern by requesting the Minister of Science to authorise a detailed investigation of Pāuatahanui Inlet. The DSIR presented a report to the Minister of Science, Bill Birch, recommending a 3-year study on the Inlet with the overall objective of wise management of the resource. The resulting comprehensive study was carried out by scientists from the Botany Division, the Soil Bureau, the Oceanographic Institute, the Chemistry Division and the Geological Survey all of the DSIR, the Water & Soil Division and the Central Laboratories of the Ministry of Works & Development, the Zoology Department and the Botany Department of Victoria University, the Wildlife Service of the Department of Internal Affairs, the National Health Institute, the Regional Water Board, the Meteorological service of the Ministry of Transport and the Wallaceville Animal Research Centre. This study was carried out over the years 1975/76/77 and enabled the main features of the Inlet and its catchment to be established.

It gave us an invaluable and accurate slice of the state of the Inlet, as it was then, for many subjects including the early history, climate, geology, pollen, surface deposits, land resources, effects of urban development, soil engineering, vegetation, birds, oceanography, wave action, bathymetric studies, bottom sediments, sediment cores, hydrology, salinity, water chemistry, diatoms, phytoplankton, intertidal biology, cockles, polychaetes, sub-tidal biology, fish, pesticides and town planning. It was all published in 1980 as *Pāuatahanui Inlet – an environmental study* co-ordinated by W. B. Healy. In this book, Healy showed the need for integrated management.



A Potted History cont....

In 1984 the Pāuatahanui Wildlife Reserve was created to preserve the only large estuarine wetland left in the lower North Island. The wetland reserve, run by Forest & Bird, incorporated ongoing efforts to reduce human impact on the environment and to restore damaged areas. The reserve has several hides for viewing birdlife, boardwalks and some barbeque/picnic areas for visitors.

The Guardians of Pāuatahanui Inlet was established as an incorporated society in 1991 – one of their main objectives being integrated management which had still not happened. Christine Jacobson, Christine Stanley and Clare Ashton were initiators and founders of this organization.

GOPI replicated the cockle counts done in the Healy DSIR study and discovered that cockle numbers had halved between 1976 and 1991. This decline continued in 1995. In 1998, along with the rest of the country, there was a significant increase in juvenile cockles, giving an apparent rise in total numbers, but in parallel with this outcome, there was anecdotal evidence of a decline in fish and of seagrass beds disappearing.

That year GOPI unsuccessfully applied to the Sustainable Management Fund for a comprehensive research programme that could be undertaken by a community group. They then went to PCC to discuss the need for more research and monitoring, and for the integrated management of the Inlet.

The Mayor, Jenny Brash, contacted the Chair of the GWRC who agreed to provide a staff member to work with PCC and GOPI and decide how the Inlet could be better managed. This was Tim Porteous.

Ten years after GOPI initially started promoting integrated management of the Inlet and its catchment, PCC and GWRC agreed that it really was time to address this issue.

In May 2000 PCC hosted a meeting of all statutory management agencies, including the modern equivalents of the original 'Healy' scientific organisations, plus Ngāti Toa as tangata whenua and GWRC. This meeting charged an advisory group to prepare a shared community vision and action plan for Pāuatahanui Inlet. Statutory agencies included PCC, GWRC, DOC, Ministry of Fisheries, Transit, Natural Gas Corporation, Transpower and Transrail.

This Pāuatahanui Inlet Advisory Group, or PIAG, was led by GWC with PCC and community representatives GOPI, Residents Associations, Federated Farmers, tangata whenua, the developers Whitby Coastal Estates and Silverwood Forest Corporation and, later, recreational users.

A draft vision and issue identification was done by wide consultation – constituent meetings including Pāuatahanui/Paremata/Plimmerton/Titahi Bay/Whitby Residents Associations, Paremata Boating Club and water Ski Clubs, Probus Club and Rotary Clubs, plus a series of information seminars – which culminated in a public meeting. The public meeting separated into working groups to work in detail on the content of the draft Action Plan.

This draft Action Plan was then open for a public submission and hearing process. 40 submissions were received. The hearing process was run in the same manner as a formal statutory planning process. The final plan identified eight main themes including Research, Ecology, Hydrology, Catchment issues, Harbour issues and Roding. Meanwhile PIAG starting to tick off things on the Action Plan list including a literature review, septic tank survey, education strategy, submissions on the SH58 Haywards upgrade and seawalls, western corridor, signs around the Inlet, walkways, regional and local annual planning processes as well as presentations to other interested organisations such as the Planning Institute.

The amount of work involved was considerable and at this stage PIAG was regarded as a NZ role model.

The Plan was adopted by GWRC and PCC and formally launched with a symbolic tree planting by agency representatives and tangata whenua in November 2000.



A Potted History cont....

It had been 18 months from the first statutory managers workshop to the launch. PIAG then spent a considerable time deciding on a structure to ensure that the Action Plan would be implemented, including a technical inter-agency management group and a community trust to keep the agencies focussed.

It was decided to opt for a formal charitable trust called Pāuatahanui Inlet Charitable Trust (PICT). Advertisements were then placed in newspapers inviting members of the public to apply to be trustees. PIAG was surprised to receive some 30 applications. Final trustees were selected to ensure a wide cross-section of the community with nominated representatives from PCC, GWRC and Ngāti Toa as well as community representatives from the Pāuatahanui Wildlife Reserve, GOPI and rural communities including Pāuatahanui Residents Association.

In 2003 PICT hosted a major national two-day workshop entitled 'De-stressing Estuaries'.

The next phase of ecological care in the catchment was the extension of PICT into the Onepoto Arm of the harbour. Part of the Action Plan required PICT to assist in ensuring that the lessons learnt in the Inlet be applied to the harbour as a whole, including the Onepoto Arm and the channel to the sea. To this end it ensured that PCC recognised its responsibilities in this area and recommended that it have a full-time person on full pay whose job would be to ensure better integrated management of the entire harbour. This position was created and the council signed a Memorandum of Understanding with some of the statutory agencies: Te Runanga O Toa RaNgātira, PCC, GWRC, Wellington City Council, DOC, Fish & Game NZ, GOPI, Ministry of Fisheries, NZ Transport Agency, On-Track NZ Railways Corporation, PICT, Queen Elizabeth II Trust, Regional Public Health and Forest & Bird. Wellington City Council was an important signatory since one third of the catchment of the Onepoto Arm lies within the WCC boundaries. Whatever happens in this area directly affects Porirua Harbour as a whole.

With this in mind, another Trust - Porirua Harbour and Catchment Community Trust or PHACCT – was formed to encompass the whole harbour. Like PICT, PHACCT had nominated trustees from Ngāti Toa, GWRC, PCC but it also included WCC.

In the end PICT disbanded after PHACCT had been established with some members joining GOPI to enlarge and enhance its influence.

So, in summary, GOPI gave rise to PICT which in turn gave rise to PHACCT. In 1980, Healy had identified integrated management as being of utmost importance. Almost 40 years later, in 2019, the community groups are endeavouring to ensure that this continues.🌀



PHOTOGRAPHIC COMPETITION 2020



Lesley Thompson: Best Highly Commended - NATURE

The beginning of each year usually sees the start of our work towards the annual Photographic Competition. Sometimes we even begin planning for this in December but, this year, the focus has instead been on the triennial Cockle Survey.

So, this is a reminder to those of you who want to enter the competition in 2020 that, as summer weather finally takes hold, now is the time to think about the Inlet from a photographic view point. Remember the categories for which photographs can be submitted: Nature, Scenic, Human Impact, Recreation and Artistic. Prizes to aim for are Junior (under 13), Youth (13-18) and Open (all ages) in each category, supplied by a large number of local businesses who support the Guardians. 🌀

PLEASE SIGN UP A FRIEND OR NEIGHBOUR

Sign up a neighbour, friend, or another family member. Just explain to them that membership numbers really count in giving us a strong voice to argue for what we all value about the Inlet. Membership forms can be downloaded from our website <http://www.gopi.org.nz/assets/membersForm/Membership-new.doc> or copied from the one at the back of this newsletter. Better still, if you've received this newsletter by email, just forward it to others with a note encouraging them to join.

EMERGENCY NUMBERS FOR THE PĀUATAHANUI INLET

Pollution: Discharges of contaminants to air, land, storm-water drains, streams, rivers or sea and for after hours consent enquiries: Greater Wellington Regional Council – 0800 496 734 (24 hours)

Boating infringements: Greater Wellington Regional Council – 384 5708 (24 hours)

Illegal fishing activity: Ministry for Primary Industries – 0800 476 224 (24 hours)

Pāuatahanui Wildlife Reserve: Department of Conservation – 0800 362 468

Let us know what you have reported so we can keep an accurate record and follow up if necessary.
235 5052 (Chair, GOPI) or pauainlet@gmail.com.



Guardians of Pāuatahanui Inlet

www.gopi.org.nz
pauainlet@gmail.com

Membership Form: new members

To join the Guardians of Pāuatahanui Inlet, you can pay your subscription either online or by post.
IF YOU ARE PAYING ONLINE, PLEASE REMEMBER TO FILL IN THIS FORM WITH ALL DETAILS, AND EMAIL OR POST IT TO US.

Online payment

1. Pay your sub via e-banking into our Westpac account 03-1533-0009387-00. In the 'Particulars' or 'Reference' columns, **YOU MUST** write your surname **AND** initials **AND** the period of your sub (1-yr or 5-yr).
2. Then fill in this form and either email it to us at pauainlet@gmail.com or post it (see next column for our postal address)

Postal payment

1. Write a cheque made payable to 'Guardians of Pāuatahanui Inlet'.
2. Then fill in this form and send it, along with your cheque, to: Membership Secretary, Guardians of Pāuatahanui Inlet, Box 57034, Mana, Porirua 5247.

Please fill in your details for our records. If you are filling in this form electronically, **click** at the beginning of a dotted line and then type.

Name:

Address:

E-mail: Phone:

Please put next to the subscription you are paying (electronic completion – **highlight** the box and type lower case x.) We are also very grateful for donations. (We are a registered charity for tax purposes: registration number CC47523.)

One-year individual (\$12.00)	<input type="checkbox"/>	Five-year individual (\$50.00)	<input type="checkbox"/>
One-year family (\$15.00)	<input type="checkbox"/>	Five-year family (\$60.00)	<input type="checkbox"/>
Donation: \$	Do you require a receipt for your sub? <input type="checkbox"/> or your donation? <input type="checkbox"/>		
Date subs paid:	Reference appears as:		<i>(e-banking only)</i>

We'd like to send you newsletters and notices via email. May we do this?

Please tell us which of our activities you would like to be part of.

Annual Clean-up day	<input type="checkbox"/>	Submissions to local bodies	<input type="checkbox"/>
Three-yearly cockle survey	<input type="checkbox"/>	Our educational programmes for schools	<input type="checkbox"/>
Website and video clips	<input type="checkbox"/>	Other:	

NOW EMAIL OR POST THE FORM. THANK YOU AND WELCOME