



The Inlet

Newsletter for Guardians of Pāuatahanui Inlet

AUGUST

2020

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

Porirua badly needs the revision of its Harbour Strategy and Action Plan. This has been delayed by the local authority elections last year and then the Covid-19 lockdown and its consequences.

The feature article notes that, while we have some good news in the noticeable increase in cockles in our survey last year, the Inlet continues to lose the battle against the effects of human activity. Sediment incursion, poor water quality in our streams, decline in the diversity and extent of the Inlet's ecology, increases in pests and weeds and the deposition of litter continue unabated.

The poor and degrading condition of our worn out infrastructure adds to the problems.

It's good to hear that Nigel Clarke, Senior Advisor in the Partnerships team of PCC, is working on rethinking the previous approach towards addressing these growing problems. Nigel was guest speaker at this year's AGM and, overall, painted a fairly grim picture of the condition of the Inlet and its contributing catchments.

There is little doubt that concerted and coordinated action is needed to change this picture. We citizens can, and should do, our bit but local government and other authorities, especially the roading and railway operators, need to step up as well. From what we've seen, Wellington Water is working on prioritising and addressing the critical storm and wastewater problem areas. They need to be joined by other infrastructure operators and by the commercial sector, especially the land developers. Importantly, everyone needs to focus together on a relatively few but critical action areas - ones that will make a difference. And the results intended need to be achievable, measurable and monitored regularly.

This is where the revised Harbour Strategy and Action Plan comes in. Without such a coordinated and guiding framework, with clear, agreed targets and actions, everyone can head in different directions, or do nothing. We can't afford that outcome.

It's time for the revised Harbour Strategy and Action Plan to start the process of halting the growing degradation of our valued harbour and catchment ecosystems. We look forward to seeing it sooner rather than later.



Lindsay Gow

THE 2020 ANNUAL GENERAL MEETING

Our 2020 Annual General Meeting was held at the Anchor Church, Whitby, on 24 June, attended by about 25 members and non-members. Several regulars gave their apologies, as did a couple of committee members. We were pleased to see our former Chair, Tony Shaw, turn up, making his final appearance at these meetings before moving to Nelson for good.

This was Lindsay Gow's first AGM as Chair and he performed the task admirably in his usual relaxed manner. The formal stage of the meeting covered last year's minutes, the annual report of our activities for the year and the financial report. All were accepted by unanimous vote.

The annual report focused primarily on the submissions we have made this year and referred to the annual clean-up, the 2019 cockle survey and the photographic competition which, for the first time in its 20-year life, had to be cancelled due to Covid-19. The submissions concerned the proposed developments at 39 Paekakariki Hill Road, and Plimmerton Farms, and are covered in detail on page 4. The results of the cockle survey are covered on page 3 and also in the feature article, page 6.

The new committee was then voted in for 2020-21, with all incumbents being accepted for another year. In addition, a new member, Alistair Webb, was elected on to the committee to bring our number up to nine. Working for QE11 Trust, Alistair was seconded onto the committee in March. With his connection to the Trust he intends to add some real value to our team.

The team members for the 2020-2021 year are:

Lindsay Gow (Chair)

Stephen O'Neil (Treasurer)

Helen Reilly (Secretary)

Janet Ryan (Memberships)

Michael Waldron (Newsletter and Website)

John McKoy

Christine Stanley

Andre van Halderen

Alistair Webb

We still await the outcome of two recent submissions but, at the time of the AGM, we had received the results of the 2019 cockle survey, released a day before. The outcome of this triennial exercise proved to have some very positive results and these were further explained in the first of two presentations after the formal proceedings were complete. Given by Andre van Halderen, who so successfully took over the organisation of this exercise from the late Professor John Wells, his PowerPoint presentation summarised the statistical results produced by NIWA, illustrated the improvements in the cockle population since 2016 and from the beginning of GOPI's involvement in this scientific community study. Our web page, devoted to the cockle surveys (Cockle Survey 2019), looks at the results in more detail.

The formal meeting was followed by two presentations this year, instead of the usual one. The second one was from our guest speaker for the evening, Nigel Clark of Porirua City Council whose title is 'Senior Advisor, Partnerships, Porirua Harbour and Catchments'. He gave us an overview of the current state of the harbour, what is happening to it right now and his plans for the future. Our enthusiasm for the results of the cockle survey were dampened by his report when he produced some dire warnings about pollution and sedimentation occurring in the Inlet, factors that have not been well addressed in the past and continue to get worse. Nigel outlined his plan to seriously address these issues in the coming years. This subject is covered in some detail in our Feature Article in this newsletter. <

THE 2019 COCKLE SURVEY - IS IT GOOD NEWS?

The results of the 2019 cockle survey are out—and the news is good. Very good in fact, as it is better than expected. But this result comes with a very strong word of caution as will be explained later.

2019 marked the tenth triennial cockle survey to have been carried out by the Guardians of Pāuatahanui Inlet since 1992. Over the years this community project has built up an important time-series of data that monitors the trend in cockle densities and size structure over time in different locations. Changes in the number and distribution are considered important indicators of environmental factors that reflect the ecological health of the Inlet.

2016 saw the double-whammy of a strong earthquake around Kaikoura followed very soon after by a torrential storm event, both of which affected the Wellington region in several ways. For the Guardians, and in particular the Inlet, the effect was to cause a significant influx of sediment from the streams surrounding Pāuatahanui Inlet just days before the survey that year. As was feared this had an effect on the results of the 2016 survey with the estimated population taking a dive, the first such fall since 1994.

So everyone involved with the 2019 survey were keen to get the results of this most recent analysis, carried out as normal by NIWA. Their report is detailed in many ways. A description of the procedure is followed by methodology descriptions and then the population statistics analysed in many different ways. However, a summary is given at the beginning which is really all we want to know. The most significant finding is that there has been an increase in the total population of cockles of 40.9% between 2019 and 2019 with most transects showing significantly higher cockle numbers. The density of cockles in a 0.1 square meter (the quadrat size) was noticeably higher than 2016 and also slightly higher than in 2013.

In summary, the increase in population size shows a marked recovery from the decline seen between 2013 and 2016 and demonstrates an improving state of affairs for the Inlet. Changes in the environmental conditions in Pāuatahanui Inlet, particularly the increase in terrestrial sediments considered deleterious to cockles, do not appear to have affected the intertidal cockle population.

Such results are indeed satisfying to see and one would hope that despite the ongoing concerns for the Inlet, in the form of continuous sedimentation and pollution, the health of the Inlet shows it is fundamentally in a reasonable state.

The word of warning however is that we must not take this result as a signal to relax and cease to worry. This is because the most recent analysis of environmental negatives shows that things are far from satisfactory. At the annual general meeting we were presented with a whole series of factors that are having a deleterious effect on the ecology and these give a very worrying picture that cannot be ignored if we want to see the positive outcome of the latest cockle survey continue well into the future.

More about this in our Feature Article page 6.

Key findings of the 2019 Pāuatahanui Inlet cockle survey:

- Total cockle numbers recorded by the survey saw a more than 40% increase in 2019 over that of 2016 and the total cockle population of the inlet is estimated to have increased by 32% since 2016. It is now at the highest level since 1976.
- Most of the individual transects were found to have a higher, or markedly higher, number of cockles than in 2016, and the highest number of cockles recorded in a single quadrat was 279, much higher than in any previous survey.



Cockle Survey cont....

- The average number of cockles over the intertidal survey area was 38 per quadrat, slightly higher than in 2013, significantly higher than in 2016 and higher than for any previous GOPI survey since 1992.
- The percentage of juvenile cockles in the population increased markedly between 1992 and 2004 from 1% to 16 % and has since remained between 15.6 % (2019) and 17.4% (2016).

In summary, the increase in the population of cockles in the intertidal zone of Pāuatahanui Inlet in 2019, and the recovery of the population from the decline between 2013 and 2016, show the cockle population is improving. The consistently high percentages of juvenile cockles since 2004 suggests successful settlement of larvae and good survival of spat (larvae that have settled), with possibly some migration of juvenile cockles from subtidal areas. Looking at the individual sizes of cockles, the 2013, 2016, and 2019 populations suggest that all sizes of cockles were affected by the 2016 flood.

Juvenile cockles are expected to be more vulnerable to changing environmental conditions such as increasing mud. However, the percentage of juvenile cockles was highest in 2016 and may have been driven by an extraordinarily large cockle spat settlement event. More than 50% of the cockles in 2019 were above spawning size (larger than 18 mm in length) which should help maintain future larval production in the Pāuatahanui Inlet.

It appears from the results that changes in the environmental conditions in Pāuatahanui Inlet, particularly the increase in terrestrial sediments considered deleterious to cockles, do not appear to have affected the intertidal cockle population in recent years. <

OUR RECENT SUBMISSIONS

G OPI has been involved in two recent submissions to Porirua City under the Resource Management Act.

39 Paekakariki Hill Road at Pāuatahanui Village

The first is a submission on the proposed development by Inlet Sunsets Limited at 39 Paekakariki Hill Road, Pāuatahanui Village. It seeks to establish six subdivided lots, five for residential use and one to provide for a small Gospel Hall building and related parking. Part of the site used to be occupied by the Tuk Tuk restaurant. It is on harbour side of the road.

The site is low lying and already subject to flooding in storm events. This will be increased by the effects of climate change.

The essence of the GOPI submission proposes that any development there needs to be subject to a climate change risk assessment, together with an adaptive management plan, and this should apply to all properties on the Inlet side of the road. Porirua City Council has a report it commissioned recommending this - but it has not yet been adopted by the Council.

So, if PCC ignores the advice in this report, we suggested a series of measures to mitigate the potential flooding problems. We proposed measures such as limiting hard surfaces, requiring on site stormwater surge tanks for each section (to collect the first flush from heavy rainfall), quality control and close monitoring of the import and distribution of fill on to the site and of the subsequent performance and maintenance of the stormwater drainage system, ensuring sewage did not enter the stormwater system, and perhaps requiring removable buildings.



Submissions cont....

The Porirua Harbour and Catchment Community Trust (PHACCT) supported the GOPI submission. The date of the hearing has been scheduled for 15 September.

Plimmerton Farm Development

The second submission was on the Plimmerton Farm Plan Change to develop a large area of currently rural land on the eastern side of SH1 north of Plimmerton roundabout for residential and some commercial development. This submission was made by PHACCT and supported by GOPI

The submission covered issues relating to stormwater, drainage and related attenuation mechanisms such as swales and wetlands, and on identification and management of natural features, such as wetlands, on the area covered by the Plimmerton Farmplan change. The development of Plimmerton Farm and related management of it will have potentially adverse and irreversible effects on the water and drainage systems and the ecology of the area. All these effects will, in turn, affect the quality and ecosystem functioning of Te Awarua-o-Porirua Harbour.

GWRC's Proposed Natural Resources Plan deems the harbour to have high ecological and cultural values. It is therefore imperative that the downstream water and drainage effects from this development are positive and enhance the catchment and harbour ecosystem, especially the Taupo Swamp. Much of the water run off from this area ends up in the QEII Trust registered and nationally valuable Taupo Swamp, and then flows into the Taupo Stream. Cumulative effects caused by construction, development and use need to be carefully managed and monitored in order to avoid and minimise adverse effects on the catchment and harbour ecosystem. Large amounts of earthmoving is planned and this poses a big risk with sediment and other contaminants affecting the lower catchment and the harbour.

The submission proposes managing stormwater through net positive design measures (where water exiting the site was less than water entering the site). Such measures include on site stormwater storage, limits on hard surfaces, use of swales and wetlands, and a requirement for discharges to be sediment and contaminant free.

Further proposals were made to encourage and increase planting of indigenous vegetation and to prohibit or limit roads traversing Significant Natural Areas.

Pre-hearing meetings have been scheduled for 16-18 September and the hearing set for 12-16 October. <


PHOTOGRAPHIC COMPETITION - 2021

As you are all probably aware, the photographic competition for this year, the 20th competition in its history, had to be cancelled due to some well known, somewhat extreme, circumstances. I suppose you could call it *Force Majeure*!

Hopefully we will be holding the competition again, as normal, in 2021. This will, of course, be subject to the circumstances of the time such as restrictions on social spacing or forced lockdown.

Anyone who has already worked towards this year's compo, and has images awaiting the judge's scrutiny, please be assured that you will be able to submit such photographs as normal, without any penalties, in the competition next year. The categories will not change and our sponsors are all waiting to contribute when we get underway once more.

Best of luck to you all. <



FEATURE ARTICLE

We often have bad news to report when it comes to the Inlet. Sometimes the news is good. Very occasionally we have both good and bad..... and so it is with the feature article this month.

THE CURRENT STATE OF THE PĀUATAHANUI INLET

On 23 June this year we at last received the report on our 12th cockle survey carried out in November 2019. Compiled by NIWA, the analysis of this, the latest of these triennial surveys, gave us something to be excited about. The previous survey, which took place in the shadow of the Kaikoura Earthquake and subsequent torrential storm in 2016, gave a very disappointing result due, almost certainly, to the inundation of sediment that occurred at that time. The cockle population, which had been steadily climbing since 1994, showed a decline for the first time. So, in the 2019 survey, we were not expecting a particularly good result, while still hoping for the best. To our great surprise the estimated population had not only recovered during the intervening three years but had reached the highest level since 1976, when surveys first began. That was outstanding news and, together with the highest proportion of juveniles that has ever been measured, indicates that this species is doing very well in Pāuatahanui Inlet.

This is always news we want to hear because *Austrovenus stutchburyi* is considered an **indicator species** – an animal (or plant) that is particularly sensitive to its environment and should, like the canary in a coalmine, alert us to unseen problems by a fall in its viability.

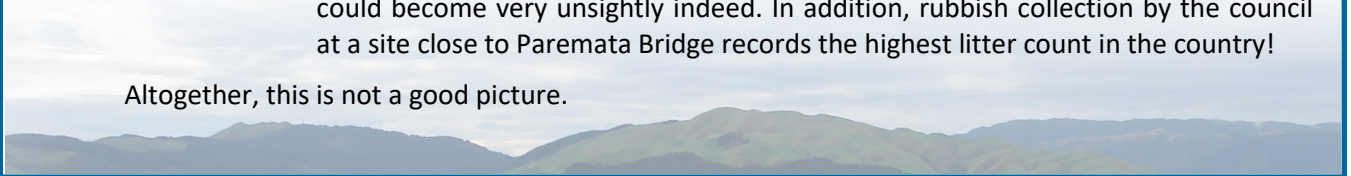
What appears to be the case in the Pāuatahanui Inlet is that, while heavy sedimentation events like that of 2016 may have short term effects on the population of shellfish such as *A. stutchburyi*, growth in its numbers has not been permanently halted. This species is coping well with conditions in the Inlet and cockles could, in theory, return to their former numbers last recorded in 1976.

A good result like the one just reported would normally tell us that all is well with the world. However, this is not the case. True, the cockles are doing well and it would be remiss of us to say this isn't what we want to see. The environment in which they live, the inter-tidal zone, is obviously conducive to their survival - so far. However, there are several environmental indicators that reveal this body of water, important to us as a place of beauty and valued as a recreational oasis, is, on the whole, losing the battle against human intervention.

Let us, therefore, look at the key indicators of harbour and stream health and see what they tell us.

- Sediment.** The rate of sedimentation in the harbour has doubled in the last five years and the clarity of urban streams has degraded.
- Pollution.** Water quality in urban streams is rated D or E (i.e. poor to very poor). There are high *E. coli* counts, metal ions (copper and zinc), nutrients like nitrates and phosphates and very high pathogens and other chemicals like PAHs (an abbreviation for particular forms of hydrocarbons created by the combustion of organic material, e.g. oil and petrol).
- Ecology.** We have seen a large decline in the total area of seagrass meadows in the Inlet in recent times, and the salt marshes are also under threat.
- Litter.** A large amount is collected around the Inlet by volunteers, both individually and collectively on our annual Clean-up Day. Without this effort, the waters of the Inlet could become very unsightly indeed. In addition, rubbish collection by the council at a site close to Paremata Bridge records the highest litter count in the country!

Altogether, this is not a good picture.



Feature Article cont....

It is fair to say, however, that all the major problems associated with these factors reside in the streams that feed the Inlet, but the primary contributors to degradation have been consistently in play for many years.

For sediment it is earthworks. Major projects like roads and large scale subdivision developments are primary contributors. For example, the growth of Whitby and its satellite developments has continued since 1970. The other contributor of sediment is stream bank erosion, largely due to stormwater infrastructure that has been directed into modified stream channels.

Pollutants come from worn-out infrastructure, leaks from industrial and commercial sources, and stormwater contaminants from industry and transportation (mostly cars). These result in high levels of the metals zinc and copper, and PAHs*, which have a high impact on stream life.

Loss of habitat is ongoing, with modified stream channels, the removal of bush remnants and the spread of pests and weeds all contributing to the degradation.

Litter is very much a community problem where individuals and contractors show little thought as to what happens to materials discarded casually by the roadside, buried in scrapings and even thrown directly into the streams.

The importance of addressing the issues was elevated in 2000 by the creation of the Pāuatahanui Inlet Action Group, which included several community representatives including GOPI, and was led by PCC. However, it wasn't until 2012 that the Harbour and Catchment Strategy and Action Plan was released, to which a large number of organisations signed up and set about putting it into action. Progress was made in halting the decline in harbour health up until 2015 but the key contributors had not changed since 2012 and the decline has been steadily re-established.

The Action Plan did begin to address waste water and stormwater problems but identified an eye-watering financial burden that will be difficult to service. Meanwhile, several of the organisations involved established a focus on future requirements in their plans and programmes so that harbour and stream health was at the forefront of decision maker's minds.

In the end however what has been achieved is very disappointing. Of the 13 organisations that signed up to the original strategy, PCC, GWRC, WCC, Ngati Toa, the Porirua Harbour and Catchment Community Trust, GOPI, Forest & Bird, DOC and the QEII National Trust continue to have both involvement and commitment. What is clear is that the support indicated in the Strategy and Action Plan has not always been material and resources have been inadequate to achieve compliance with resource consent conditions. Contractors continue to show very low compliance towards managing sediment; there have been very few riparian plantings in the rural areas; community understanding and involvement is minimal, with little support for those groups trying to make a difference; finally, monitoring programmes to identify and manage problems locally are non-existent.

At the same time, no material action has so far been taken to address the 'elephant in the room' – climate change. Despite a draft document written for PCC in 2019 to advise how planning for this future scenario needs to start now, the recommendations have yet to be signed off. We understand that Porirua City plans to have a climate change strategy out for consultation in October. We look forward to seeing that and, especially, to seeing what material actions are proposed in it.

To address the current concerns, several reviews of the Strategy and Action Plan have been undertaken by PCC to identify its weaknesses. Nigel Clarke, Senior Advisor in the Partnerships team of PCC, has taken a lead on this, rethinking the approach to achieve better results. Of particular importance towards improving how the harbour and its streams are managed is the issue of governance – the way the different



Feature Article cont....

organisations tasked with action on the harbour work together to achieve the aims of the Strategy. In the mean-time Nigel tells us that he is attempting to reduce the scattergun effect of trying to carry out many small scale activities by focusing only on the key areas of sediment, pollution, riparian and harbour-side planting, managing the effects of growth and working differently with the community.

Recently developed work programmes include the Mountains to the Sea streamside riparian management, coastal restoration, Wellington Water Healthy Urban Waterways, Earthworks and Sediment Compliance and a Community Involvement and Awareness Programme.

These are initiatives that have been introduced by the various local authorities for the region. However, possibly the most important of these is the Community Involvement and Awareness Programme. This is because the most effective way to manage and make improvements to inlet health comes, not from large organisations that have their own aims and outcomes to deal with, but from the people who live in, and around, the Inlet and who interact with it on a daily basis.

One way the local citizen can make a contribution is to decide to join a citizen monitoring programme and help to add to the growing knowledge about the Inlet and its different environments. There are several monitoring programmes, activities or tools that can be taken up by interested citizens. They cover freshwater environments, marine environments and litter monitoring. To find out more you can ask either PCC or GOPI for information and contact details. While somewhat limited monitoring is currently focussed on the major streams, Pāuatahanui, Horokiri and, for the Onepoto Arm, the Porirua stream, there are strong reasons for this to be widened, both the number of locations and the extent of monitoring. Also, there is scope for citizens to become involved in some of the more minor streams if they so desired.

Another way citizens can make a difference is to take direct action to reduce their own impact on the environment. A few individuals already take initiatives to remove rubbish from the shoreline but more can be done in this area.

It was noticeable during the Covid-19 lockdown what a difference to the atmosphere the lack of transport made for the four weeks that traffic was missing from our roads. If only this could have continued what a wonderfully positive effect it would have had. Unfortunately, human lifestyles and economic demands meant this couldn't continue but a reduction in the dependence on the car, would go some way to reducing the pollution that occurs. 75% of the inlet is surrounded by roads so this makes a significant impact on the local environment through the wear of brakes and tyres and the emissions from engines.

Do you live near a stream that feeds the inlet? Do you live on a road where the gutters drain into one of the streams? There is so much you can do to reduce your own impact on the waters feeding the Inlet. Keeping the stream banks clean and clear of rubbish, adding riparian planting on the stream banks to provide shelter and deter invasive weeds that are taking over (eg, Tradescantia, bindweed, Australian wattle), not pouring your chemicals down drains and washing cars on lawns or in approved locations, can all make a difference.

If everyone took just one step towards reducing the impacts of pollution on the Inlet it would make a big difference.

The legacy of human activity will never be eliminated altogether but the positive message is that there is hope for the future of Pāuatahanui Inlet if everyone takes an interest in its health and wellbeing. We keep our fingers crossed that this can be achieved in the next few years and preserve the beauty and ecology of this harbour for future generations. <

**PAH - stands for polycyclic aromatic hydrocarbon.*

COMMUNITY ENVIRONMENT FUND

Are you working on an environmental project that could do with a boost?

Every year Greater Wellington supports groups who are working to restore and protect native ecosystems on public land around Te Awarua-o-Porirua Harbour and the surrounding catchment area through the Community Environment Fund.

Community projects from Churton Park up to Pukerua Bay and inland of Pāuatahanui are eligible – see if your project falls into the area outlined in the map below. You can apply for up to \$10,000 each year for up to 3 years to help restore native plants, improve the local ecology, and control pest plants and animals.

Applications are open from Monday 17 August to 5pm Wednesday 30 September, and successful applicants will be announced before Monday 9 November. To submit your application or find out more and apply for the fund, head to:

<http://www.gw.govt.nz/communityfunding/>

Map of the area covered by the fund



A large version can be downloaded here
[Porirua Harbour Catchment](#)

MANAGING OUR ESTUARIES

This article is an extract from a media release by the Parliamentary Commissioner for the Environment entitled 'Managing Our Estuaries – Frequently Asked questions.'

The original release was in the form of questions and answers on the subject of managing our estuaries. The extracts have been selected to summarise the historical reasoning behind current thinking towards a vital change of direction in the management of these coastal environments.

Apart from cherry picking the original media release, and a few punctuation adjustments for clarity, no other changes to the included text have been made by GOPI. The original can be found on our website at: <http://www.gopi.org.nz/home/items-of-current-interest/managing-our-estuaries/>.

Since the first arrival of Polynesians on these shores estuaries have been popular places to live near, and have served as magnets for outdoor recreation. But the health of these ecosystems has long been degraded by human activities. Estuaries receive and accumulate large amounts of whatever is emptied into them. Yet they fall between the cracks of our siloed management. There is no environmental policy dedicated to managing estuaries and they tend to be a low priority in the legislation that does apply to them.

Our estuaries are very special places. They are transitional zones where freshwater meets saltwater and new ecosystems form. They act as a nursery for many freshwater and marine animals – a permanent home for some, and a temporary resting place for others. They are also where we work, live, play and mahinga kai.

Estuaries [also] act as waste traps for pollution carried downstream by rivers and entering their waters from ports and coastal communities. Rather than diluting pollutants, estuaries allow them to accumulate. Yesterday's pollution can come back to bite us today.

Centuries of forest clearance have swollen the sediment loads entering our waterways while, in recent decades, intensive farming practices have resulted in unprecedented nitrogen levels flowing downstream. Population growth and the associated discharge of treated and untreated sewage and stormwater from houses and industry have led to further sedimentation and pollution.

A third of Aotearoa New Zealand's estuaries are at very high risk of damage from cumulative pressures, with some, like New River Estuary and Te Hoiere/Pelorus Sound, already showing signs of serious health issues.

Managing estuaries is about managing the pressures that cumulatively affect them. Yet, the Resource Management Act 1991 and other legislative tools designed to control these pressures, divide the environment up in ways that cut estuaries off from the landscapes of which they are part. The result can mean overlapping rules that are difficult to implement.

Rather than this piecemeal approach, estuaries require a robust management framework that treats estuaries and their catchments as a single identity. Estuary management is not about managing the body of water itself but managing the activities that affect it. That means considering all the activities that cumulatively impact on estuaries – regardless of where they are located – in an integrated way and with climate change in mind.

Estuaries fall under the domain of the New Zealand Coastal Policy Statement and local government can use this to make regional plans that include estuary protection. But it has no mandate to manage many of the activities in a catchment that affect the health of estuaries and does not establish a bespoke management regime for them.



Feature article cont...

The National Policy Statement for Freshwater Management 2020 is attempting integrated management across entire catchments and requires councils to set clear limits to deal with pollutants and undertake rigorous monitoring. However, it mainly focuses on freshwater like lakes and rivers. Estuaries can, but don't have to, be treated the same way. Once again, this leaves estuaries stuck in the complicated and somewhat murky legal territory between land and sea.

The Commissioner recommends that every estuary be included in one or more freshwater management units within the National Policy Statement for Freshwater Management. This would allow estuaries and their pressures to be managed together. Currently, this is voluntary. Two of the report's case study areas (Te Awarua-o-Porirua Harbour and New River Estuary) have already started moves in that direction.

The Commissioner also recommends establishing a robust monitoring system to help local government and communities make informed decisions.

Climate change will force the migration of estuaries and managers will have either to harden estuarine margins or allow them to move. From now on any decisions made around the management of estuaries must consider the impacts of climate change.

Integrated management and robust monitoring will put us in good stead to make decisions with a long timeframe in mind. ↩

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) Five-year individual (\$50.00)

One-year family (\$15.00) Five-year family (\$60.00)

Donation: \$ Do you require a receipt for your sub? or your donation?

Date subs paid: Reference appears as:
(e-banking only)

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 Submissions to local bodies

Three-yearly cockle survey Our educational programmes for schools

Website and video clips Other:

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