

Meeting Notes of the Sounds Advisory Group held in the Committee Room at Marlborough District Council on Monday 26 November 2018 at 9.00 am

Present

Clr Hook (Chair), Clr Oddie, Clr Taylor, Ross Withell, Monyeen Wedge, Debbie Stone, Tim Greenhough, Linda Booth, Ken Roush, Judy Hellstrom, Rick Osbourne, Vic Koller, Lynley Perkins, Dave Hayes, Rachel Drake (9.20 am)

MDC Staff

Alan Johnson, Reuben Ferguson (10.45 am), Abi Mark (10.45 am)

In Attendance

Rebecca Waldron (Council Secretary)

Apologies

Poneke Rene, Rob Schuckard, Eric Jorgensen, Jodi Milne

1. Actions from the previous meeting

Action		Person Responsible
1.	Investigate resource consent notification process for Ruakaka Bay removed from Action Points	Gina Ferguson
2.	Report back on progress with the public jetty issue at the next SAG meeting – see below	Councillors
3.	Provide the maintenance schedule for the Sounds Road Crew at the next meeting – update provided by email – see below - completed	Steve Murrin
4.	Request a Council Staff member to look into issue of unformed legal road in Endeavour Inlet – this matter is being looked at by DOC - completed	Councillors
5.	Provide feedback on Manaora Consent – removed from Action Points	Gina Ferguson

Actions from Meeting

Point 2

- The three Sounds Councillors attended a meeting with Port Marlborough and members of the public including Lynley to discuss the Sounds Berthage Concession. Port Marlborough has agreed that the price will be locked in for two years at \$300.00 instead of \$450.00 and that they will consult again at the end of the two years.
 - Kenepuru residents have agreed to accept the charges.
 - Lynley noted that not all Queen Charlotte Sound/Tōtaranui residents have agreed to accept the charges.

Point 3 (Update via email provided by Steve Murrin)

- Work on Queen Charlotte Drive is just about complete.
- Big push before Christmas is planned for Kenepuru, French Pass and Port Underwood (but need good weather).
- Have had some issues with the Cyclic Crew, mainly staff changing but this has now settled down. Will be providing training for them and will get some better results.
- Currently have 1240 issues logged in our system on Sounds roads ranging from a pothole to major slips. Aim to have all completed over the summer.

2. MPI (Fisheries New Zealand) Update – (Jodi Milne via email)

Jodi was not able to attend the meeting but sent a short email update.

- We are finalising ideas for next year's stock assessment research rounds so if any of your members would like to put forward any suggestions for consideration could they please email me Jodi.Milne@mpi.govt.nz by the end of the week.
- Damian, Hannah and I will be at the Blenheim office at Grovetown Park on Wednesday 5 December between 10.30 am – 1.00 pm if anyone would like to call in to talk fisheries matters. It will be an informal open forum. If members would like to arrange a one-on-one session we can organise a subsequent meeting. Again members can email me or call me on 03 5458773 if they have any questions.

Comments

- Discussion on the flounder stocks followed by the Group. It was agreed that a request for information on flounder stocks would be sent to Jodi.
- It was suggested that Jodi be requested to update the group on geoducks and the sea cucumber population at the next meeting.

3. Sustainable Land Transition Fund Proposal (SLTF) – Judy Hellstrom

- Judy tabled the SLTF Status Report to the Sounds Advisory Group (Appendix 1).
- The Sounds Advisory Group passed a recommendation at the last meeting to endorse a proposal to the Environment Committee to apply for \$100,000.00 from the Provincial Growth Fund to enable a feasibility study to be undertaken to create a Sustainable Land Transition Fund.
 - It has been clarified that the Provincial Growth Fund grant would only provide 50% of the \$100,000.00 required for the feasibility study, leaving the remaining 50% to be raised by the applicant.
- An agenda item and report were prepared for the Environment Committee on 11 October. However the item was deferred to enable Councillors to hold a workshop on the item. At the workshop it was requested that Terms of Reference be completed for consideration and agreement before the matter is put to the Environment Committee.
- The Councillors Workshop voiced concerns that unrealistic expectations might be generated within communities, but in principle were supportive of the proposal.
- The updated Terms of Reference have yet to be completed. Judy requested that the Terms of Reference be sent out to SAG members prior to the next meeting.

Sustainable Seas Tipping Points

- Judy tabled a Tipping Points document which outlined a research project that was recently carried out in Queen Charlotte Sound/Tōtaranui by scientists. (Appendix 2).
 - Judy highlighted the information in the last paragraph for the group's attention regarding *Macrocystis* (giant kelp) and noted there is a relationship between fisheries, *Macrocystis* browsing and the benthic health of the Sounds.

Coastal Research Strategy

- Council has worked with Marlborough Marine Futures to develop a draft Coastal Research Strategy. The proposal for a plan to develop a strategy went to the Environment Committee in June 2017 and it was later approved by Council. Judy passed a draft of the strategy around the table, stressing that it was an illustrative copy only, prepared and presented to facilitate discussion.
- Alan clarified that the Council will continue to assist the working group to complete the Terms of Reference.
 - He noted that Steve Ulrich has resigned from Council and the position of Coastal Scientist is being advertised. However Steve is going to do some contract work for Council. He also noted that funding the feasibility study is a big hurdle.
 - There is also a new central Government programme which has recently been announced called At Risk Catchments. There is going to be a solution based approach to deal with contaminants in water ways in the top 25 catchments in New Zealand.
- Council is hoping to develop a quarterly forum with Central Government agencies at a high level to help develop themes from top down.
- Investigation work is being carried out by the National Science Challenge around rocky reefs and habitats in the Sounds.

4. DOC Update – Dave Hayes

- Dave provided an update to the group (Appendix 3).

Questions/Answers

- Dave clarified that DOC will make the final decision on the new Great Walk. He will send an update to the group via Rebecca if he finds out the timeframe for consultation.

5. King Salmon Monitoring Report Update – Abi Marks

- Abi presented the King Salmon Monitoring Report that was recently presented to the Environment Committee to the group. (Link to Environment Committee agenda below).
- https://www.marlborough.govt.nz/repository/libraries/id:1w1mps0ir17q9sgxanf9/hierarchy/Documents/Your%20Council/Meetings/2018/Environment%202018%20List/22_November_2018_Agenda.pdf

Questions/Answers

- Abi clarified that the Cawthron Institute monitors all the sites and provided the report to Council.
- Abi is going to check if there was a seabed survey at Ruakaka Bay done before the license to farm finfish was granted. **Following the meeting Abi provided this information:**

Ruakaka operates under resource consent U021247. This consent replaced 2 previous coastal permits U980543 and U950656. In the application for U021247 Cawthron Institute assessed the state of the salmon farm consented under U980543 and U950656 (this can be viewed in the application document saved under U021247). Ruakaka's original Marine Farm Licence dates back to 1975. In the 1995 application it appears Cawthron undertook an ecological site characterisation of the seabed where the farm existed, prior to this I can find an Environmental Impact Assessment from 1988 which is from page 90 of the application for U950656. I cannot find any seabed surveys prior to 1988.

- Abi clarified that zinc is monitored because it is in the food and copper because it is present in anti-fouling materials.

- Abi noted that there is a decision process set out in the MEMAMPS (Marine and Environmental Monitoring and Adaptive Management Plan) that the company follows if they are non-compliant or issues are highlighted.
- It was clarified that MPI will monitor for mortality rates.

6. Forestry Compliance Monitoring Update – Reuben Ferguson

- Reuben gave a presentation on the Forestry Compliance Monitoring Report that was recently presented to the Environment Committee. (The link to the item in the Environment Committee Agenda is above in Item 5).
- Council has a pro-active Forestry Compliance Monitoring Programme. Monitoring for forestry has been formalised since 2012 and is now more strategic than it was previously.
- Drones are being utilised in monitoring resulting in more parts of the forestry blocks being observed, this may be one reason that non-compliance rates have risen.
- A contractor is providing aerial maps and 3D maps which allow monitoring from a desk top.

Questions/Answers

- Reuben was asked whether trees left standing on Foreshore Reserve could be monitored. He clarified that it depends on the conditions of the consent.
- Monitoring is generally carried out during harvest and post-harvest remedial works. However 7 of the 20 forestry blocks were monitored because of complaints.
- Reuben confirmed that resource consents have archaeological conditions included and archaeological sites are marked on harvest plans.
- It was confirmed that the compliance reports are part of the publicly available information on Council's property files.

7. MDC Update – Alan Johnson

National Policy Statement for Indigenous Biodiversity

- A collaborative working group was formed some time ago to provide some framework and policy for a draft National Policy Statement for Indigenous Biodiversity. The group has been operating for the last 18 months and finished about 6 weeks ago. The group is made up of the Federated Farmers, forestry, Forest and Bird, Defence Society and other key infrastructure stake holders. There was also a group of active observers of the process from MfE, MPI, DOC and two council reps (including Alan).
- The resulting report was presented to the Ministers for Local Government (Minister Mahuta) and Conservation (Minister Sage). The report is available here: <https://www.biodiversitynz.org/>
- Minister Mahuta has not yet announced how the Policy Initiatives will be implemented. At the same time DOC is also reviewing its biodiversity strategy. It has been suggested that both the strategy and statement will be released as a package late in 2019 resulting in a refreshed biodiversity strategy and potentially a new NPS for Indigenous Biodiversity.
- A hui is being held by DOC on the NZ Biodiversity Strategy and the NPS for Indigenous Biodiversity in Blenheim on 7 or 8 February 2019.

Staffing Update

- The Regulatory Department has been split into two groups with Hans Versteegh being in charge of Policy, Science and Monitoring and Harbours. Gina Ferguson is now the head of the Resource Consents, Planning, Building Control and Compliance groups. Jamie Clark has been appointed as the new Compliance Manager.

Environment Committee Reports

The reports listed below have all been presented to the Environment Committee in October or November. They are available on the MDC website (Link below):

<https://www.marlborough.govt.nz/your-council/meetings?item=id:20lccgy261cxbyukyy9s>

- **Marlborough Sounds Water Quality Monitoring.**

Alan noted that the trend in the report is showing that water quality is reasonably stable.

- **Expert panel review of selected significant marine sites surveyed in 2017-2018.**

- **Estuary Monitoring Programme for the past 12 months.** (Tennyson Inlet, the Grove Arm/Ngakuta, Greville Harbour/Wharariki, Whatamango Bay and Kenepuru Head.

The results in the different estuaries are good to very good except for Kenepuru Head which is graded poor. Every estuary in the Sounds has now been monitored, re-monitoring will begin again from next year.

- **Summary Report on the Results of the Significant Natural Areas Project 2017-2018.**

The majority of managed sites are showing stability with sites that have no management showing general decline.

It was noted that in South Marlborough there is only 2% of indigenous habitat left. The proposed new NPS for Indigenous Biodiversity will help signal high priorities for resourcing and may also impact the community's SNA programme.

Judy asked if the wetland at the estuary at Endeavour Inlet was included in the MEP. Alan agreed to look into this.

East Coast Protection Working Group (ECPWG)

- The Council is assisting the ECPWG to find solutions to deal with the degradation of the coastal strip from the Awatere to the Waima.

Biosecurity

- The Operational Plan for the Regional Pest Management Plan 2018 was presented to the Environment Committee as well last week.

https://www.marlborough.govt.nz/repository/libraries/id:1w1mps0ir17q9sgxanf9/hierarchy/Documents/Your%20Council/Meetings/2018/Environment%202018%20List/22_November_2018_Item_7_RPMP_2018_Operational_Plan.pdf

- As well as continuing the programme with DOC working on strategic pest plants such as boneseed and spartina, a new programme on D'Urville to control Hakea and Woolley nightshade will begin next year. Council monitors for Mediterranean fan worm in Picton and Havelock harbours. An underwater drone is being utilized to help with monitoring. Alan confirmed testing for copper has been carried out in some slipways but is not carried out in the harbours.
- It was suggested that information on the Pest Management Plan and the phone number (0800 80 99 66) for notifying of Mediterranean fan worm infestations be included in the newsletter.

MEP Update

- Hearings on the forestry provisions are being held next week. Water Allocation provisions will be held in February next year.

8. SAG Newsletter

- Additional items to be added to the SAG newsletter were suggested: King shags, Antenno, septic tanks, recycling bins at Port Underwood. DOC information on biosecurity and marine animals, Harbours update.

9. Offsite Meeting

- The next meeting is being held on 18 March 2019 at Port Underwood.

10. MFA Update – Debbie Stone

- 11 chicks and 1 adult were banded in the King Shag project. 9 chicks and the adult have been since been sited. Next year trackers may be put on the birds. MFA would like to receive information on any sightings of the banded birds.
- Debbie extended an invitation to anyone in the group who would like to join the Smart and Connected Harmony group. The next major project for the group is Aquaculture Week.
- The 50th anniversary of the Marine Farming Act was last week.
- An emergency equipment database has been developed for the Sounds. MFA is talking to Council about how to distribute the information and keep it updated.

11. Other Business

- There was an incident where an Australian cellphone was used to dial 111 in an emergency event in the Sounds and the call was diverted by the central call centre to 000 which is the Australian emergency number.
- Linda suggested that FENZ and Civil Defence be invited to speak at a SAG meeting to outline what work small communities need to do to protect themselves.
- Clr Hook suggested looking at setting up an initiative to tackle the problem of Banana passionfruit and Old man's beard in the Kenepuru. He suggested a small group look at applying for funding to do mapping of the pests.
 - Vic noted that his community gets together several times a year to tackle the pests on Mt Cawte Reserve and the problem is getting less each year. There is some difficulty with accessing private properties to carry out work.
 - Dave noted that there is a good precedent for the project called De-vine based in Takaka. (weblink below)
<http://projectde-vinetrust.org.nz/>
- Linda brought up the issues still being faced by the residents of Duncan Bay on the condition of their road. There are problems with the culverts still not being cleared. There are also issues with dairy effluent on the road.
 - Clr Hook read out a response from Steve Murrin on the effluent on the road; stating that the farmers are being sent a letter advising them that the road will be inspected. Linda noted that the situation is resulting in aggression between some locals and farmers. Alan is going to follow up on whether this issue is being dealt with by the Compliance Department.
- A Marlborough Roads worker is going to work with the Sounds Roding Crew for a week. There has been disappointment with how the crew has been performing.
- Linda noted that there is an issue with dog signage which has recently been put up in Duncan Bay. Alan will discuss this with the Compliance Department.

12. Positive Feedback

- Efforts to control freedom campers at Ohingarua Bay were pleasing.
- A positive meeting was held at Tirimoana/Anakiwa on the freedom camping issue.
- General approval of the improvement of the monitoring and compliance programmes carried out by Council.

13. Actions from the meeting

Action	Person Responsible
1. Contact Jodi Milne regarding flounder stocks, geoducks and sea cucumber update	Alan
2. SLTF Terms of Reference for the next meeting	Judy/Alan
3. Look into whether the wetland at Endeavour Inlet is included in the MEP	Alan
4. Organise for Civil Defence and FENZ to do a presentation on small community preparedness.	Alan
5. Check whether a complaint about the effluent on Opouri Road has been lodged with Compliance.	Alan
6. Check with the Compliance Department on how dog signs were distributed in Duncan Bay	Alan

The meeting finished at 2.20 pm.

The next meeting is scheduled for Monday March 2019 at 9.30 am at Port Underwood. Details will follow closer to the time.

Appendix 1

26 November 2018

Status Report to Sounds Advisory Group Sustainable Land Transition Fund (SLTF)

Background:

1. At the June 25th 2018 SAG meeting, in response to concerns regarding the volume and resulting adverse effects of increasing rates of sedimentation entering the Marlborough Sounds coastal environment, the Sounds Advisory Group (SAG) initiated a project to assess the feasibility of transitioning existing land use activities to alternatives; the aim being to mitigate adverse effects. The initial project is directed at activities and methods associated with exotic forestry growing in Marlborough Sounds catchments. The first stage was to assess the feasibility of that type of management approach being successfully implemented and it was determined to prepare a Rapid Application (available for projects less than \$100 000) to the Provincial Growth Fund to financially resource that first stage. It was envisioned that the Marlborough District Council would submit that application and, if successful, manage the project. A small group of SAG members convened to initiate development of the application.

Status Last Update September 24th 2018:

2. Refer to the SAG meeting notes of September 24 for full meeting discussion notes and actions.
3. A SLTF would provide exotic forest owners in the Marlborough Sounds and its catchments with financial incentives and technical expertise to implement setbacks, retire erosion prone slopes and mitigate the effects of ground disturbing forestry. The fund would tie in with the Billion Trees Project. There is recognition that there are multiple sources of sediment into the Sounds but the fund will be starting with the issue of forestry.
4. The working group have a proposal to put forward to the Council at the next Environment Committee to request Council support to apply for \$100,000 from the Provincial Growth Fund (PGF) to enable a feasibility study to be undertaken to create a Sustainable Land Transition Fund. *They would like SAG to endorse this proposal through a recommendation (see below).*
5. **Recommendation:** That the Sounds Advisory Group endorse the proposal to the Environment Committee on 11 October to apply for \$100,000 from the Provincial Growth Fund for the Sustainable Land Transition Fund Feasibility Study.
6. **The recommendation noted above was unanimously passed by the group.**

Status November 26th 2018:

7. As direct by the SAG on September 24th an agenda item and associated report were prepared for the next Environment Committee meeting. The agenda item was deferred to enable Councillors to hold a workshop on the concept.
8. From that workshop Councillors requested a Terms of Reference be completed for consideration and agreement before the matter went to the Environment Committee. While expressing support for the concept Councillors had concerns that unrealistic expectations may be built within the community if the matter was not carefully contextualised.
9. A draft version of a Terms of Reference was completed.
10. A meeting was also held with staff from MBIE, MPI, Council along with Eric Jorgensen and Judy Hellstrom to discuss the application to the PGF. The objective of the meeting was to sound out the concept itself along with the draft application to broadly determine the relative merits, strengths and weaknesses of the application with staff from those Ministries. This would help inform the shape, relevance and content of the developing Terms of Reference and Application to the PGF.
11. That meeting was beneficial. Ministry staff were able to indicate that the ideas driving the SLTF did indeed have merit and would broadly align with the purpose of the fund. They also provided valuable feedback into areas where the application needed expansion, more focus and detail.

12. Critically, the Ministry staff also highlighted that the rules and application of the funds had, as expected, over time become more targeted and concise.
13. What this meant in real terms is that along with the merits of each application in its own right needing to meet criteria set by the PGF, the funders now anticipated that funds provided would be provided in the form of either a grant (whereby the expectation was that the applicant would provide equal value that that received from the grant wither in the form of cash or value of in-kind resources) and/or a loan.
14. This would essentially mean that a local share of funding would be required to support a feasibility study.
15. From that meeting SAG were to revise the Terms of Reference to reflect the input and new information received from the Ministry staff.

Outstanding Tasks:

The updated Terms of Reference are yet to be completed. The completion and agreement of these are a critical first milestone.

Key Points to Highlight:

16. There has been some slippage against initial/anticipated, timelines – although these timelines were never firmly established. This has been in part due to resourcing issues generally and in part due to the additional step needing to develop a Terms of Reference.
17. It is considered that whilst the development of a Terms of Reference adds another step and therefore further resource and time this additional step brings an element of increased robustness to the process.
18. This is because the Terms of Reference establishes a firm context and baseline for the project; framing the issue, objectives and outcomes in a way that is not only tied to a single solution (the PGF). In that context the Terms of Reference provides a foundation document that can be used in multiple ways to support assessment and use of both national and local regulatory and non-regulatory planning and policy solutions.
19. If the decision of Council is to proceed with the application to the PGF then discussion with broader stakeholders would be required earlier than anticipated to develop a view as to if, and if so how, a matched funding/resourcing type approach can be practically developed.

Next Steps/Critical Path:

20. Complete Terms of Reference. Councillors discuss and agree/disagree to progress.

If agreed to proceed:

- 20.1. Assess and make final determination regards proceeding application to PGF.
- 20.2. Assess and recommend alternative methods if and as appropriate.
21. Prepare report for the SAG to consider at the next meeting, 2019.

Appendix 2

November 26th 2018 Update to Sounds Advisory Group Sustainable Seas National Science Challenge Tipping Points Research Team

The Marlborough Sound Integrated Management Trust and Council have been discussing ways that the Science Challenge can provide relevant, meaningful and timely research to support management of the Marlborough Sounds coastal marine area. This follows an approach from the Tipping Points research team leader Prof. Simon Thrush following a presentation by the Trust at the 2017 conference of the Environmental Defence Society.

Whilst discussions remain ongoing as to how the Challenge can bring the most value to the Marlborough Sounds area a short-term opportunity was identified, and that work was recently completed. A brief overview of the purpose and initial findings follows from Prof. Thrush.

Initial thoughts on Marlborough Sounds trip – November 2018

Tipping Points research team

Introduction:

The purpose of our trip was to conduct a rapid assessment of the health of the seafloor and rocky reefs in the outer half of Queen Charlotte Sound. Our field trip was preceded by two project-co-development workshops with MDC, iwi (Ngāti Kuia and Te Ātiawa), DOC, Fisheries New Zealand, Marlborough Marine Futures, Marlborough Restoration Trust, commercial and rec fishers, tourist operators and conservationists.

The key feature of this aspect of the Tipping Points project (Sustainable Seas National Science Challenge) is to improve the linkage between ecosystem response to cumulative change and management actions.

Field work was conducted 8-16 November 2018. It involved Prof Thrush and Drs Shears and Hillman (UoA), Prof Pilditch, Dr Gladstone –Gallagher, Mr Dudley Bell (UoW), Drs Lohrer and Tait and Ms Parkes and Mr Olsen (NIWA), Prof Schiel, Ms Babuder and Mr Gerrity (UoC) and Mr Rob Davidson (Davidson Environmental). To support broader engagement and knowledge of our research we also hosted 2 researchers from The University of Auckland School of Computer Science and a colleague from Mexico, who tested drone-based and under-water techniques to image reefs and the seafloor to improve future assessments. To support broader engagement and knowledge of our research, we hosted 3 university students from Nga Te Ātiawa. Five year 12-13 students and their teacher, Melynda Bentley, from Marlborough Girls College also visited us for a day. We conducted video surveys of the seafloor of QCS sampling about 120 sites, on the rocky reefs we sampled about 100 sites and collected data on water clarity, underwater light and oxygen levels. We also collected kelp and sea urchins (kina) from a selection of sites to measure how health and condition of these key species varied across QCS.

Our preliminary discussions highlighted the long history of use and ecological changes to the Sounds. This has culminated in its current state that represents the contradiction of increased disconnection from the natural environment and increased use of the Sounds. The critical issues we were asked to focus on were the effects of fishing, the impact of sediment runoff, biodiversity of the seafloor and the loss of giant kelp (*Macrocystis*). We were asked to identify any areas of special scientific significance and opportunities to advance the restoration of the Sounds.

A rapid assessment procedure (RAP) was chosen for this study as we see this as the first step in a long term process of contributing to improved and focused management of the Sounds. RAP allow us to cover multiple sites quickly and gain an overview of the ecological health and status of the Sounds. Our approach exploited gradients in environmental pressures within the Sound, historical information and most importantly used our extensive knowledge of ecosystem function to allow us to draw conclusions about the state and potential for change in the Sounds. The latter is critical in allowing us to define pathways of future actions and management that are likely to lead to improved management solutions and improved environmental futures for the Sounds.

Critical initial observations:

(NB these are preliminary and will be confirmed through further data analysis over the next 3-4 Months)

Seafloor ecology:

The deeper basins of the inner Sound (c 30-50m) are dominated by muddy sediments. This is as we would expect. Our current analysis has not allowed us to assess changes in sediment accumulation rates. Note a recent report documents sedimentation rates of the order of 0.2 -1.2mm/yr throughout the Kenepuru Sound prior to European arrival, with rates increasing to 1.8 to 4.6mm/yr post-European arrival (https://www.marlborough.govt.nz/repository/libraries/id:1w1mps0ir17q9sgxanf9/hierarchy/Documents/Environment/Coastal/Scientific%20Investigations%20List/A_1000_year_history_of_seabed_change_in_Pelorus_Sound_Te_Hoiere.pdf). A smaller catchment and lower freshwater inputs indicate that sedimentation rates in QCS are likely lower. These deeper habitats are where we would expect sediment derived from the surrounding hills to accumulate.

Observations of benthic communities revealed some areas with high biogenic structure, in the deeper and muddier habitats this consists of mounds, burrows, but some structures protruding above the sediment-water interface including sponges and horse mussels (*Atrina*) were also seen. These modifications to the seafloor by plants and animals are a positive sign of both high seafloor biodiversity and ecosystem function. Although our analysis of changes in land use are incomplete we do see signals that these deeper systems with higher levels of biogenic structure are in basins with catchments that are regenerating native bush.

In the outer part of the Sound, the sediments are sand dominated and shallower (c 15-25m). Sediments were often covered by a layer of finer sediments and microphytobenthos. Scallop fishing in this area has homogenised the seafloor with low levels of biogenic structure apparent in regions that historically supported high fishing activity. The strongest contrasts to these highly fished areas were apparent in the soft-sediment habitats associated with Long Island Marine Reserve and the fisheries closure in East Bay.

We looked to sample areas of high seafloor diversity identified in the reports from Davidson/DOC and MDC. We found many of these patches, however some seem to have disappeared. This is saddening and highlights a disconnect between scientific discovery, policy and implementing management actions. This is a critical issue that we hope to help find solutions to resolve.

We noted sites with a high diversity of bivalves, these are functionally important species affecting many seafloor ecosystem processes. One species, *Atrina*, is a good indicator of disturbance; being highly sensitive to both physical disturbance and elevated suspended sediment concentrations. Our work in the Hauraki Gulf has shown the loss of large beds of these shellfish. In the Sounds we observed a lot of old shellfish, but importantly a number of juveniles. This is critically important as it implies reducing stress to these populations will result in recovery of these *Atrina*-dominated habitats.

Rocky reefs

The extent of rocky reefs dominated by sea urchins in Queen Charlotte Sound was greater than anticipated. Rocky reefs throughout much of the Sound were found to be dominated by herbivorous sea urchins (kina), with macroalgal forests (including giant kelp) largely being restricted to a shallow band. In inner parts of the Sound, macroalgal forests were rare and urchins graze up to the low tide mark. In some parts of the outer Sound (e.g. northern end of Long Island and Motuara Island) macroalgal forests extended into deeper water (down to ~10 m), before giving way to sea urchins. The lower limit of the macroalgal forests throughout the Sound appears to be governed by herbivorous sea urchins rather than light availability, which occurs in sediment impacted regions.

Sea urchins are widely known to be an important structuring force controlling the distribution of macroalgal forests in parts of New Zealand, with the prevalence of sea urchins exacerbated through overfishing of predators such as crayfish and large predatory fish. The absence of large predators in Queen Charlotte Sound is likely to facilitate the high urchin numbers observed. Good numbers of large blue cod and crayfish were observed on the northern side of the Long Island-Kokomohua marine reserve where macroalgal forests are extensive. Further analysis of drop camera data is needed to determine whether the extent of macroalgal forests is greater within the marine reserve compared to environmentally similar reefs in the outer Sound.

Giant kelp *Macrocystis pyrifera* was only observed in relatively small patch forests in Queen Charlotte Sound and was absent from some locations where it commonly occurs such as Motungarara Island (Rob Davidson per. obs.). It is likely that the extent of *Macrocystis* was considerably reduced during the 2017/2018 heat wave and it appears it has not recovered in some locations. Further analysis is needed to quantify this

change and monitor the potential recovery. However, high sea urchin abundance may prevent recovery and will likely exacerbate the effects of future warming on giant kelp in this region.

The invasive kelp *Undaria pinnatifida* was one of the most common macroalgal species recorded. *Undaria* was found throughout the Sounds in varying densities, but was not observed at some of the outer Islands where it has not yet colonised.

What next?

Working-up our data to maximise the information gain is a slow process and we will work on this over the coming months. Our intention is to return to Blenheim for meetings around March to discuss our finding and implications. As we do this we will be seeking opportunities to engage with EBM initiatives.

We could say that the restoration of the Marlborough Sounds started with the retirement of farm land and the regeneration of native forest on the hillsides. Currently there is a moratorium on scallop fishing, a seasonal closure of the Blue Cod fishery, and decisions pending on the ability of the MDC to manage seafloor biodiversity. Building on these activities will enhance the value of the Sounds and build stronger resilience to the impacts of climate change.

Appendix 3

Department of Conservation Activities and issues of interest.

Prepared for Sounds Advisory Group meeting 26 November 2018.

Community

- Planning for a summer nature programme is underway. This involves working closely with community groups (tramping clubs, historic society etc) to provide a range of programmes offering opportunities for people get out and visit our beautiful locations.
- DOC and MDC are working with community groups to establish a biodiversity forum – primarily around enabling networking and information sharing opportunities between community conservation groups.
- DOC is hosting a familiarity trip for visitor centre staff to ensure they have updated and accurate information around local facilities, campgrounds and tracks.

Biodiversity

Marine Mammal Moratorium

- An extension to the current moratorium has been established and will be in place for next 10 years. During that time, the Department will lead research into developing better knowledge on the impacts on our marine mammals in order to be in a better position to effectively manage activities around them.

Takapourewa I Stephens Island

- A final draft of a joint Operations Plan for Takapourewa has been developed with Ngati Koata. The plan provides a clear understanding of shared aspirations for a healthy, flourishing island. Objectives include flourishing ecosystems; strong, thriving taonga; koatatanga and kawanatanga; and a guide to decision-making.

Orange Fronted Parakeets

- Blumine Island has been identified as the best site in the country for Orange Fronted Parakeets. Planning into how best to manage this nationally significant site is underway and features high up on our biodiversity priorities.

Kaipupu Point Kiwi

- This spring (Aug/Sept) five out of nine young rowi kiwi at Kaipupu Point Wildlife Sanctuary in the Marlborough Sounds were found with bill injuries during regular health checks that may have resulted from interaction with Goodnature A24 traps.
- All injured birds have recovered and have been released onto Motuara Island-a pest-free kiwi creche in the Marlborough Sounds.
- DOC technical and science experts are working with operational teams to better understand the risk of A24 traps to kiwi and whether any practices need to be changed. We are keeping Goodnature informed of this work.
- DOC is also working with the Kaipupu Point Mainland Island Society, which manage the sanctuary, to see when/if kiwi chicks can be returned to that site.

Island Monitoring

- Trained predator dogs will be visiting islands in the Sounds as part of regular monitoring. This is one of several monitoring techniques undertaken to ensure islands remain predator free. Half a rat was recently found on Motuara island. Surveillance was immediately stepped up, genetic investigation is being undertaken to gain further insights into how predators are getting to the islands.

Chetwode Islands

- Staff completed a general survey of Chetwode Islands. The dawn chorus each morning was nearly deafening indicating the islands are recovery and vitality.

Recreation

Queen Charlotte Track

- Contractors, West Reef, have begun work on the upgrade between Schoolhouse Bay and Meretoto/Ship Cove. To date the work is progressing well.
- The Great Walk selection process is still running. A team of DOC staff are analysing the 3 options and visiting each site. A decision is proposed for late March/Early April.
- There is a national drive for increased concession monitoring over this summer. This will mean greater track and trail end monitoring to try and pick up businesses operating on conservation land without permission.

Summer Preparations

- Significant effort is going into ensuring campgrounds and facilities are ready for the approaching summer season. A combination of seasonal employees and volunteer camp hosts will manage busier the campgrounds.