

15 May 18

Colleen Prendergast
Senior Solicitor
Henderson Reeves
PO Box 11
Whangarei 0140

By e-mail: ColleenPrendergast@hendersonreeves.co.nz

Dear Colleen,

Re: Response to evidence briefs of J Booth and J Johnson: Doug's Opua Boatyard.

As requested, this letter is in response to the briefs of evidence of J. Booth and J. Johnston pertaining to Resource Consent Applications APP. 039650.01.01. This letter addresses some of the points made in relation to the 4Sight Consulting report titled 'Ecological Survey: Dougs Opua Boatyard' (AA3213_D Schmuck_Ecol Information_v2.0)(April 2018). I include my CV as Attachment A.

I am concerned that the context for the 4Sight work has been misunderstood by the submitters. To provide clarity for the Commissioners and submitters, I include as Attachment B to this letter, that part of the 4Sight contract with Doug's Boatyard, which details the work the company was commissioned to undertake and the specific limitations of that work.

I also note that I have not been asked to review the s42A planners report and was not aware of the pending hearing or the Booth and Johnson evidence until about 4pm Friday 11 May.

The first point in response to issues raised in both the evidence briefs is that 4Sight did not carry out an assessment of ecological effects (AEE) to support the resource consent application. The 4Sight work was commissioned after the application for resource consent had been lodged and the submission period had closed. The scope of the report was agreed between Mark Poynter (4Sight Consulting) and the applicant (Doug Schmuck of Doug's Opua Boatyard). The purpose of the survey was outlined in the report introduction:

"The purpose of this information is to assist DOB in their endeavours to encourage improved environmental quality around the facility, and to address matters raised in a submission made by the Northland District Health Board, to the notified consent application. Those matters related to potential public consumption of shellfish harvested near the boatyard, and the potential for resuspension and redistribution during the dredging and construction activities of contaminants associated with the sediment.

It is noted that 4Sight was not involved with the preparation of the consent application documents or the supporting assessment of environmental effects. 4Sight's brief with DOB was established following close of the public submission period to the notified application"

If the project brief had been to conduct a full AEE (or an 'impact assessment') as part of the resource consent application then the 4Sight approach and report content would have comprehensively covered all requirements of an AEE, and would necessarily have dealt with a number issues raised in the evidence briefs.

Booth Evidence

Points 7, 8, 18, 19, and 23 of the Booth's evidence comment on issues that would be expected to be included in an AEE but which was outside the scope of the 4Sight work. Other specific points made in Booth's evidence are addressed below (Booth's points are presented as numbered in the evidence and are paraphrased in bold italics):

11. Only “the intertidal on the beach where the boatyard was situated” was sampled – an area of 250m² after being shown where shellfish were known to be present by the applicant. No indication is given as to how widespread the 10 samples were, or how they were chosen (random, systematic etc).

The area to be sampled was defined by GPS corner points prior to sampling and sample stations were haphazardly placed within the defined area (by randomly tossing an object over-shoulder to determine next sample position). That methodology was appropriate for a shellfish survey of this scope and scale which was simply to establish if there was a shellfish bed on the beach and what the size frequency and species composition of the bed was. Essentially the intertidal zone of the entire beach area southeast of the slipway was sampled.

15. Report would have been more informative if:

- ***Had shown extent of pipi bed and variability in sampling results.***
- ***Had pointed out pipi beds are rarer than cockle beds and are under greater threat from sedimentation.***

The purpose of the survey was to find out whether there was a shellfish bed there. The survey determined that in terms of edible shellfish distribution, there was a harvestable population of pipis there, and that cockles were present as a bed, but not at densities that would be considered as a harvestable population. This was not a baseline survey to serve as a basis for future monitoring programme, it was more in the nature of a rapid habitat and shellfish assessment to assist the client with his decision making around his idea that he wanted to remediate the beach in some fashion by screening the substrate to remove unwanted debris but retain the biota. That was the subject of his original enquiry to 4Sight, which, as we have noted, was well after he prepared his AEE which we understand was accepted by Council.

18. Bullet one.

- ***Explained how relevant one surficial sediment sample comprised of three subsamples, taken on just one day, is characterising the heavy metal status of any particular spot.***

Choices have to be made in any sampling. Picking a representative location for a particular sub zone, eg ‘close to the slipway’ or ‘the beach near the slipway’ and then replicating samples within that zone and compositing replicates for chemistry analysis, is entirely appropriate as a first tier screen for the presence of environmental gradients or hot spots or to gain a representative picture. Sediments tend to integrate a wide range of influences and surficial sediment chemistry analysis of samples collected in this manner is useful.

Also, in the context of a small scale dredging requirement which in any event removes a bulk of material, variability in surficial chemistry at small spatial scales is not of great interest. It is the likely typical condition of the majority of the sediment to be dredged which is of more interest.

Johnston Evidence.

I respond to several specific points in this evidence. Points are referenced as numbered in the evidence and are paraphrased in italics.

22. *There has been a reliance on the observations of the Boatyard owner and applicant as to the presence of shellfish, the extent of the beds and the frequency of shellfish harvesting by the public.*

From the 4Sight report:

“The general zone where shellfish were known to be present was identified by the boatyard owner Mr Doug Schmuck and confirmed by 4Sight prior to conducting the sampling.”

This was the brief for the shellfish survey as agreed with the client. In order to define the area of interest, the area believed to support edible shellfish was pointed out by the client, but was confirmed by me by some test digging prior to starting the survey.

23. The shellfish population survey is limited in that it fails to identify the extent of the beds, and thus any likely impact on the beds from the proposed activities.

The surveyed area ostensibly included all of the mid and lower intertidal zone on the beach south of the boatyard slipway, where I would expect pipis and cockles to be found based on my knowledge and experience. The work was not intended to assess the impact of the slipway activity on the shellfish beds.

25. The reducing level of contaminants can be extrapolated into a scale of declining existing contamination.

This observation by Johnston points out that there is some indication of a gradient of decreasing copper and zinc with increasing distance from the boatyard slipway. I agree. As stated in the 4Sight report, levels of Copper and Zinc in sediments were significantly elevated at the slipway site relative to ANZECC ISQG guidelines. The survey was not designed to precisely quantify the gradient of contaminant levels, but rather to measure contaminant levels within 3 general areas to enable a broad comparison. i.e:

- a) the immediate vicinity of the slipway facility being the zone most likely to have accumulated contaminants from boatyard activities;
- b) within the area to be disturbed by the proposed dredging;
- c) providing 'background or 'control' sites at positions adjacent to the area intended to be dredged and at points distant from the boatyard

30. It is not sufficient to attribute [the high levels of zinc and copper at the slipway sample site (SL)] to some historical activity from many years ago.

The 4Sight report states in section 5.2.1 that:

'It is understood that since 2002, DOB has had an approved management system for handling washdown water and stormwater from the boatyard hardstand. In 2012 further improvements were undertaken so that waterborne material is diverted to the trade waste (sewer), and DOB is likely to be a small contributor to the overall potential contaminant load in the wider area.'

Section 5.2.2 of the 4Sight report states that:

"Prior to 1999, boat maintenance activities including hull cleaning were conducted at the slipway site within the intertidal zone. In 1999 improvements to the boatyard infrastructure and vessel haulout facilities enabled those operations to be shifted up above the foreshore and subsequently boat cleaning and associated activities were carried out landward of the intertidal zone. The high concentrations of Copper and Zinc at the slipway sampling site were expected, given its long history of use for boatyard activities."

Those observations of fact and opinion are based on the available evidence and logic. The elevated levels of copper and zinc at the slipway site are expected due to the history of the site as a boat haulout and cleaning facility. More recent improvements to the boatyard infrastructure should have resulted in lower risk of contaminants entering the waterway via the boatyard operation.

33. It is not accurate to purport that that contaminants may have arisen from some other run-off (road surfaces) when the sites closest to the closest roads to this Bay have a lower level of

contamination than sites close to the Boatyards Slipway. Similarly moored boats, and the Opuia marina are not plausible alternative sources of those contaminants.

It is known and documented that contaminants including copper and zinc originating from various sources enter the marine water column and sediments via road run-off and stormwater. It is also fact that those contaminants are leached into the water column from boat hulls and can be assimilated into sediments. While it is acknowledged (as expected) that the levels of those contaminants are high in the close vicinity of the boat yard, it is also likely that the neighbouring industrial and maritime activities also contribute (now and in the past) to the contaminant levels of sediments in the Opuia basin.

35. I consider that this ecological assessment actually confirms the local public fears, that indeed the sediments and potentially also the shellfish beds have been contaminated with metals most likely sourced from this Boatyard's activities.

The 4Sight report does confirm that the sediments in close proximity to the slipway (at the sample site immediately adjacent to the slipway) exhibited very high (above ANZECC ISQG high) concentrations of copper and to a lesser extent (Above ANZECC ISQG low) levels of zinc. It is reasonable to conclude, the source of those pollutants at that site is likely to be the boat maintenance activities (both historic and current) associated with the boatyard. Such levels of contaminants in sediments in close proximity to the boatyard slipway are not unexpected.

While it can be inferred from the results of the survey that the shellfish beds are potentially contaminated with heavy metals originating from the boatyard activity, it was beyond the scope of the survey to quantitatively determine the level of contamination or otherwise of the shellfish living on the beach adjacent to the boatyard.

If you have further queries please do not hesitate to contact the undersigned.

Yours sincerely



Stephen Brown
Principal Marine Ecologist
4Sight Consulting Ltd



Attachment A: Curriculum Vitae Dr Stephen Brown



LAND. PEOPLE. WATER.



Stephen Brown

Principal Marine Ecologist

Stephen is a Coastal Ecologist with over 27 years' experience in consulting and crown research agencies. He is passionate about using his skills and experience in marine ecology and environmental science to solve problems relating to the sustainable use of our natural resources, while helping to maintain a healthy and thriving natural environment.

Stephen has extensive experience managing and implementing a range of commercial and public-sector projects with a focus on marine benthic ecology, including assessment of ecological effects, ecological monitoring, marine biosecurity surveys, and aquaculture site assessments. He has also conducted research projects focusing on habitat enhancement, marine biodiversity and biosecurity.

Stephen has authored more than 150 peer reviewed client reports, and presented findings at various fora ranging from local government resource management hearings to international conferences.

Qualifications:

PhD (Zoology)
University of Canterbury
New Zealand

MSc (Applied Science)
University of Otago

PGDipResStud
(Resource Studies)
Lincoln University

PGDipSci (Botany)
Massey University

BSc (Botany)
Massey University

Key Areas of Expertise

- Assessment of ecological effects
- Ecological effects monitoring
- Aquaculture site assessment
- Coastal benthic and intertidal surveys
- Technical reviews
- Marine biosecurity

Recent Job Experience

Job title: Benthic Ecological Assessments for 8 Proposed Salmon Farm Sites
Job Role: Project Manager

Stephen led a multidisciplinary science team engaged by the Ministry for Primary Industries (MPI) to undertake ecological benthic assessments at eight potential aquaculture farm sites in the Marlborough Sounds as part of the process to assess their suitability for relocation of existing salmon farms.

Job title: Benthic monitoring survey for Marine farm U991187 in Forsyth Bay, Pelorus Sound
Job Role: Project Manager

Stephen led a project to conduct a seabed monitoring survey at a marine farm in Forsyth Bay in the Marlborough Sounds. The survey measured key seabed characteristics to assess effects on the seabed resulting from the farming activity.

Job title: Assessment of ecological effects for a proposed mussel farm in the Firth of Thames
Job Role: Report author

Stephen reported on results of a seabed and water column survey and produced an assessment of ecological effects for a proposed marine farm in the outer Firth of Thames.

Job title: Port Taranaki Ecological Characterisation
Job Role: Project Manager

Stephen produced a desktop study for Port Taranaki Ltd, reviewing existing information to describe the marine ecological features of the Port. The review was intended to provide a baseline for future assessments of environmental effects that may be required for Port activities subject to resource consents under the Resource Management Act.

Job title: Waimakariri District Council Ocean Outfall: Ecological Monitoring Survey
Job Role: Project Manager

Stephen led this survey to monitor the water quality, sediment quality, and seabed infauna in the vicinity of the Waimakariri District Council Ocean Outfall ocean outfall as required by the Council's resource consent conditions.

Job title: Effects on the Avon-Heathcote estuary from contaminant discharge into rivers
Job Role: Expert Witness

Stephen conducted a desktop study on behalf of Christchurch City Council (CCC) to assess the short and long-term effects on the Avon-Heathcote estuary / Ihutia from the discharge of contaminants (including untreated sewage) into the Avon/Ōtakaro and Heathcote/Opawaho Rivers - including additional information on ecosystems in the waters and on the margins. Stephen attended the associated Environment Canterbury hearing to present evidence as an expert witness.



Attachment B: Excerpt of Contract of Approved Scope of Work Between Dougs Boatyard and 4Sight Consulting.



9 Mar 18

Mr Doug Schmuck
Doug's Opuu Boatyard, Opuu.

By e-mail: totarahill@xtra.co.nz

Dear Doug,

RE: OFFER OF SERVICE FOR ECOLOGICAL ASSESSMENT

4Sight Consulting (4Sight) appreciates the opportunity to provide this offer of services to Doug's Opuu Boatyard to undertake an ecological assessment at the Opuu Site.

OUR UNDERSTANDING OF THE PROJECT

We understand you propose to upgrade the boatyard which has been operating successfully and in compliance with existing consent conditions for many years. You have sought early renewal to consents for existing structures (jetty, slipway, a dinghy ramp, a workboat mooring and stone seawalls) and new consents for associated activities (demolition and reconstruction of the jetty, two ~~quayside~~ grids, refurbishment of the slipway, and the use of two jetty facility berths as a marina; a new 40m length of seawall, and disturbance of the foreshore during demolition and construction activities and beach rehabilitation). New capital and maintenance dredging is proposed to form 5 all tide berths and an approach channel to the jetty and slipway.

Notwithstanding this extensive range of activities, we understand you have applied for the consent, having prepared the documentation yourself and we understand the application has been notified and the submission period has closed.

To be clear, we understand from our telephone discussions, that there is a very limited scope to our brief. In our discussions, you have asked for us to provide information which will assist you in clarifying the status of pipi on the beach adjacent to the facility. This information has not been specifically sought by Council or any other party but we understand you are interested to have some more formal but brief assessment which may assist you in your broad ~~consent~~ to encourage improved environmental quality around your facility, and which may be of assistance to present 'your case' at a hearing, in that eventuality.

You have also asked us to consider what information might be useful in responding to the Submission from the District Health Board (NDHB). That submission does not oppose the application but does seek various requirements to do with dredging and sediment and shellfish quality. In response to that submission we propose to determine contaminant levels in sediments, and to broadly ~~characterise~~ the population structure of edible shellfish species in close vicinity to the boatyard.

Although the NDHB submission recommends a consent requirement to measure contaminant levels in shellfish, we are not of the opinion that this is necessary in relation to your consent application. The consented industrial and marine commercial services at Port Opuu, plus the large moored and itinerant boat fleet, as well as the natural discharges from the river catchments potentially influence water and sediment chemistry and ultimately shellfish quality. We are unaware of the area adjacent to your operations being ~~recognised~~ as a recreational shellfishery and think that is unlikely given the status of the locality and environs under the Regional Coastal Plan. We would expect filter feeding shellfish at this location to reflect these influences in terms of contaminant levels. However, a survey designed to detect shellfish contamination immediately adjacent to the boatyard would suffer two limitations. First, it would

not necessarily determine the relative contribution of potential sources of contamination in the Port area. Second, copper is the primary contaminant of interest in terms of boatyard activities and it is our understanding that the NZ Food Standards provide no threshold of acceptability for copper. Should the NDHB have an interest and concern regarding edible shellfish quality from a public health standpoint, we see it as their responsibility to undertake appropriate investigations and follow up if necessary. However, we would be happy to discuss this with you but at this stage have anticipated only a brief narrative style comment in our report back to you regarding this aspect.

SCOPE OF SERVICE

We would do the following

Task 1 – Shellfish and Site Survey

We will

- Inspect the site, in company with you, and collect general descriptive environmental information and sample the mid to low shore zone to establish the density and size frequency of edible shellfish.

Task 2 – Sediment Quality

We will

- Collect 5 sediment low shore and nearshore subtidal samples to be analysed for Total Recoverable Copper and Zinc. These samples will collectively represent the slipway 'hotspot', the proposed dredging areas and adjacent 'background areas. For analytical purposes, each sample will be a composite of several sub samples to ensure a representative picture is obtained.

Task 3 – Reporting

We will

- Report the results in a short report which will have the following broad structure: Shellfish and local environmental features; sediment quality; response to issues raised by the Northland District Health Board.