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## Email from Luis L'Aragones

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**From:** LUIS ARAGONES POMARES [REDACTED]  
**Sent:** Saturday, 8 November 2025 12:47 am  
**To:** Erich Bachmann [REDACTED]  
**Cc:** lallespanu@gmail.com; Malcolm Morrison [REDACTED]  
**Subject:** Re: FW: FW: Depth of Closure: New calculation method based on sediment data

Hello Malcolm and Erich,

Sorry for the delay in replying, but I've been quite busy. I'm going to try to explain our methodology and subsequently explain why it is not advisable to extract sand at those depths.

Our methodology, **validated with precision profiles of more than 20 years**, shows that the average sediment size **D50 decreases** as we go deeper. This is in line with other studies that indicate that the sediment size has its position in the coastal cross-section. If you take samples every meter of depth, you will observe what I am telling you, but there comes a time when the size will increase slightly. This is due to those waves **exceeding 12 hours a year ( $\$H_{\{s,12\}}\$$ )**. Between the previous sample and the next one, we have the **DoC (Depth of Closure)**, where the longitudinal and transversal movements occur between it and the coastline. The **Di or shoal depth** would be approximately double the DoC; at this depth, the transversal movements would cease.

**Beyond the Di or shoal depth, gravitational movements occur**, so if sand is going to be extracted within the Di zone or close to it, the **coastline will be affected very quickly and will retreat**, as everything that is extracted will be taken from the dry zone of the beach.

I am sending you an **article published by us** where you can see how, since the river stopped supplying sediment, the depth near the coastal shore has **dropped more than 1m in some areas**, which has caused the **coastline to retreat**.

I hope my explanations have helped you to **immediately stop the dredging so close to the coastline**. In Spain, there is a saying for this that goes **"Bread for today, hunger for tomorrow"** (Pan para hoy, hambre para mañana). I hope you understand it.

**Best regards and at your disposal**

El jue, 6 nov 2025 a las 10:53, Erich Bachmann [REDACTED] escribió:

Estimado Dr Aragones,

Hace unas semanas un conocido mio, el Sr Malcolm Morrison, le mando el siguiente mail. Posiblemente usted no recibio el mail, por lo tanto que el Sr Morrison me pidio intentar tomar contacto con usted. Le agradeceriamos mucho si podria mandarnos una respuesta sobre este tema que ha conmocionado a la poblacion local ya que los planes empresariales podrian afectar el medio ambiente de la zona en una forma muy negative.. Le agrsdecemos mucho su amable atencion.

Este es la trqduccion del mail que le habia mandado el Sr Morrison. La version en ingles aparece mas abajo.

Saludos cordiales desde Nueva Zelanda,

Erich Bachmann

We refer to your co-authored 2017 paper, "Depth of Closure; New calculation method based on sediment data".

Aquí en Nueva Zelanda, soy un miembro principal de una asociación benéfica llamada Bream Bay Guardians que protege el medio ambiente de Bream Bay, particularmente la vida marina.

La nueva legislación "Fast Track" destinada a "reducir la burocracia" y producir beneficios económicos rápidos pasa por alto casi todas las consideraciones ambientales. A través de este sistema, McCallum Brothers Ltd (MBL) está solicitando realizar el dragado de arena a una profundidad de 20 a 30 m en Bream Bay.

MBL ha estado dragando arena en Pākiri (50 km al sur de la bahía de Bream) tan cerca de 2 km de la costa y en unos 25 m de agua durante 80 años. El medio ambiente ha sido devastado. La playa ahora es casi inutilizable, toda la vida marina se ha ido y la población local ha sufrido. A través de una acción pública muy fuerte, el Tribunal de Medio Ambiente de Nueva Zelanda ha forzado recientemente a detener esta actividad.

Bream Bay es conocida por tener dos de las mejores playas de Nueva Zelanda, y tiene un entorno marino próspero. La serie Mammals de David Attenborough (episodio 3) muestra una manada de nuestros delfines locales de nariz de botella cazando en cooperación con falsas orcas, filmada en Bream Bay alrededor del área que MBL está proponiendo para extraer arena.

Nuestra área es el hogar de solo 2 sitios de anidación de la rara y estrictamente protegida Tara Iti/ Fairy Tern. Quedan menos de 40 aves. La evidencia científica aceptada muestra que no se reproducirán con barcos

que operan a menos de 4 km de los sitios de anidación, lo cual es una restricción que MBL no puede evitar.

Creemos que podríamos usar la metodología de su artículo de 2017 para apoyar nuestro entendimiento de que la profundidad de cierre propuesta por MBL (alrededor de 20 m) no es lo suficientemente profunda. Más allá de los 30 m hay un área de anclaje de barcos que prohíbe la minería de arena, por lo que MBL se está viendo obligado a tratar de dragar lo más poco posible.

Se nos ha mostrado una diapositiva de powerpoint de los datos granulares que los asesores expertos de MBL han recopilado, lo que creemos que muestra que la profundidad del cierre debería estar mucho más lejos de lo que se muestra.

¿Podría ofrecernos algún consejo sobre el uso de su metodología en competencia contra el uso de Hallermeier por parte de MBL?

¿Conoces más estudios después de tu artículo de 2017?

Gracias por su asistencia con esta asunto.

**From:** Malcolm Morrison  
**Sent:** Sunday, 7 September 2025 10:11 am  
**To:** [REDACTED]  
**Cc:** Valentina Spanu [REDACTED] ANDRE ROBIN LA BONTE [REDACTED]  
**Subject:** Depth of Closure: New calculation method based on sediment data

Hi

I live in the north of New Zealand at Langs Beach which is in Bream Bay, Waipu and am a senior member of a charitable association called Bream Bay Guardians which has a purpose to protect the Bream Bay environment, especially the marine aspects.

[www.savebreambaysand.org](http://www.savebreambaysand.org)

Our government has introduced a new "Fast Track" law that is meant to be producing quick economic benefits to the region and the country. This new law by passes almost all consideration of environmental issues in considering whether projects can be permitted to go ahead very quickly.

Bream Bay is located about 50 km north of Pakiri Beach where McCallum Brothers Ltd have been dredging sand as close as 2 km from shore and in about 25m of water. They have been doing this for 80 years and the devastation is terrible. The beach is now almost unusable, all sea life has gone and the local people have suffered badly.

Through some very strong public action the New Zealand Environment Court has now stopped this activity in the last few weeks.

But because of this new Fast Track legislation McCallum Brothers is now applying to undertake dredging at 20 – 30m depth in Bream Bay.

Bream Bay is known as having two of the best beaches in NZ and has sea life that has been shown on David Attenborough's program Mammals (Episode 3). This shows the local pod of bottlenose dolphins pack hunting cooperatively with a school of false killer whales. [www.tvn.co.nz/shows/mammals](http://www.tvn.co.nz/shows/mammals) (episode 3 Water about 34 minutes in and see also "How we filmed this" segment at the end).

This was filmed in Bream Bay around the area that McCallum Brothers are hoping to sand mine.

We are really concerned about the Depth of Closure that McCallum Brothers are recommending in their application (about 20m). Beyond 30 m there is a ship anchoring area which prohibits sandmining so McCallum's are being forced to try and dredge as shallow as possible.

We have collected a group of local people to assist us and we have been hoping to use your co-authored 2017 paper, "Depth of Closure; New calculation method based on sediment data" because we have been shown a powerpoint slide of the granular data that McCallum's expert advisers have gathered which we think shows that the depth of closure should be far further out than shown.

We have a very rare and strictly protected bird in NZ, Tara Iti/ Fairy Tern, with less than 40 still surviving which has only two nesting sites, both in our area; one is at Pakiri Beach and the other in Bream Bay. The accepted scientific evidence shows that they will not breed with ships operating within 4 km of the nesting sites which is a constraint that McCallum's cannot avoid.

We believe that the Depth of Closure recommended by McCallum is too shallow so could you please offer us any advice about using your methodology in competition against McCallum's use of Hallermeier?

Have there been more studies following your 2017 paper?

Do you think that your paper would suggest that the Depth of Closure as proposed by McCallum is not deep enough?

Thankyou very much for reading this email.

Cheers

**Malcolm Morrison**

[REDACTED]

[REDACTED]

**Bream Bay Guardians**

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#### Attachments

- 1-s2.0-S0048969715310391-main.pdf