

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Boating and Ocean Recreation
Honolulu, Hawaii 96819

March 12, 2021

Chairperson and Members
Board of Land and Natural Resources
State of Hawaii
Honolulu, Hawaii

Land Board Members:

SUBJECT: Issuance of a Right-Of-Entry Permit to Seabin Pty Ltd, for Floating
Rubbish Seabin Pilot Program Purposes at Ala Wai Small Boat Harbor,
Honolulu, Oahu, Hawaii, Tax Map Key: (1) 2-3-037:012 (Por.)

And

Declare Project Exempt from Requirements of Chapter 343, HRS and
Title 11, Chapter 200.1, Hawaii Administrative Rules.

APPLICANT:

Seabin Pty Ltd. (“Seabin”) whose mailing address is, P.O. Box 1446, Qld, 4575, Australia.

LEGAL REFERENCE:

Sections 171-55, Hawaii Revised Statutes, as amended.

LOCATION:

Portions of Government submerged lands situated at Ala Wai Small Boat Harbor, Ala Wai,
Honolulu, Oahu, Hawaii, Tax Map Key: (1) 2-3-037:012 (Por), hereinafter referred to as the
“Premises” as shown on the site map labeled Exhibit A and attached hereto.

AREA

Site Location Map labeled Exhibit A attached hereto.

ZONING:

State Land Use District: Urban
County of Honolulu CZO: Public Precinct (Waikiki Special District)

TRUST LAND STATUS:

Section 5(b) lands of the Hawaii Admission Act

DHHL 30% entitlement lands pursuant to the Hawaii State Constitution: NO

CURRENT USE STATUS:

Encumbered by a 6-month Right-of-Entry (“ROE”) issued to Seabin for the period August 1, 2020, to January 31, 2021.

CHARACTER OF USE:

To determine the effectiveness of the water filtering to clean the coastal waters of Ala Wai Small Boat Harbor.

TERM OF RIGHT OF ENTRY

From February 1, 2021, to July 31, 2021.

RENTAL:

Gratis

COLLATERAL SECURITY DEPOSIT:

Waived

DCCA VERIFICATION:

Place of business registration confirmed: NA
Registered business name confirmed: NA
Applicant in good standing confirmed: NA

Seabin Pty Limited is a for profit corporation based in Australia

CHAPTER 343 – ENVIRONMENTAL ASSESSMENT:

In accordance with Section 11-200.1-15, Hawaii Administrative Rules (HAR) and the Exemption List for the, Department of Land and Natural Resources, reviewed and concurred in by the Environmental Council on November 10, 2020, the subject request is exempt from the preparation of an Environmental Assessment pursuant to Exemption Class No. 1, No. 44, that states, “Permits, licenses, registrations, and rights-of-entry issued by the Department that are routine in nature, involving negligible impacts beyond that previously existing.”

APPLICANT REQUIREMENTS:

Provide a comprehensive written report every 6-months on the results of the research to DLNR, DOBOR staff.

REMARKS:

Seabin produces aquatic trash receptacles that are positioned in harbors and marinas where ocean debris tend to collect. The bins collect trash, oil and micro plastics, which are disposed of through routine maintenance. In addition, data is collected for research on the spread of marine debris throughout the world.

In 2013, Seabin was created by two waterman, Andrew Turton and Pete Ceglinskim, to address the challenge of removing pollutants from the ocean. It started from the thought that, “If you can have rubbish bins on land then why not have them in the water”. Seabin Pty Ltd was founded in 2015. Their business model is a 50% for profit and 50% non-profit. The Seabin Foundation is a charity that addresses Education, Science, Research and Community activities with the goal of preventing plastics from entering our waterways.

Seabin seeks to measure their technology’s performance to ensure a positive impact on the environment. Their data collection has aided them in establishing a marine litter research program in collaboration with top scientific institutions and reputed experts around the world.

Seabin was issued a 6-month ROE, commencing August 1, 2020, to January 31, 2021, approved by the Chairperson pursuant to the Board action dated December 12, 2014, agenda item J-2, for two (2) floating rubbish Seabin Pilot Program at Ala Wai Small Boat Harbor” (see Exhibit B), The applicant is requesting to extend the project for an additional six (6) months.

The purpose of this program is to determine if utilizing floating rubbish bins is sustainable, effective and reasonable method to improve the water quality of small boat harbors. In support of this, Seabin has provided its findings for the first 6 months of operation in the Ala Wai Small Boat Harbor reflecting positive results. (see Exhibit C).

To date this project has been funded by Seabin Foundation. Seabin cannot self-fund this project in the long run. Seabin is hoping that this pilot program will result in long term support from the community, corporations, government, non-profits and or environmental agencies.

Seabin has not had a lease, permit, easement or other disposition of State lands terminated within the past five years due to non-compliance with such terms and conditions.

RECOMMENDATION:

That the Board of Land and Natural Resources:

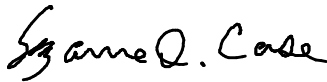
1. Declare that, after considering the potential effects of the proposed project as provided by Chapter 343, HRS, and Chapter 11-200.1, HAR, this project will probably have minimal or no significant effect on the environment and is therefore exempt from the preparation of an environmental assessment.
2. Authorize the issuance of a (1) year right-of-entry to Seabin Pty Ltd., covering the subject area under the terms and conditions cited above, which are by this reference incorporated herein and further subject to the following:
 - a. The standard terms and conditions of the most current right-of-entry permit form, as may be amended from time to time; and
 - b. Such other terms and conditions as may be prescribed by the Chairperson to best serve the interests of the State.
3. Authorize the Chairperson to issue the Right of Entry Permit for good reason.

Respectfully Submitted,



EDWARD R. UNDERWOOD, Administrator
Division of Boating & Ocean Recreation

APPROVED FOR SUBMITTAL:



SUZANNE D. CASE, Chairperson
Board of Land and Natural Resources

Attachments:

- A. Site Map
- B. (6) Month ROE August 1, 2020, to January 31, 2021
- C. Status Report

OAHU

Revocable Permits

Exhibit A



Exhibit A

Exhibit A

Ala Wai Small Boat Harbor

Seabins
Receptacles



Exhibit A

Exhibit B

DAVID Y. IGE
GOVERNOR OF HAWAII



**STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES**

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 29, 2020

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
FIRST DEPUTY

M. KALEO MANUEL
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAMOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

Seabin Pty Ltd
P.O Box 1446,
Qld, 4575, Australia

Dear Mr. Turton,

Subject: Issuance of Right-of-Entry Permit to Seabin Pty Ltd, here in after referred to as ("Seabin") for Two (2) Floating Rubbish Seabins Pilot Program, from August 1, 2020 to January 31, 2021, at the Ala Wai Small Boat Harbor, Floating D Dock and Floating F Dock, Oahu, Hawaii, Tax Map Key: (1) 2-3-037:012.

Pursuant to the authority granted by the Board of Land and Natural Resources ("BOARD") at its meeting of December 12, 2014, Item J-2, the State of Hawaii, Department of Land and Natural Resources, Division of Boating and Ocean Recreation ("DOBOR"), hereby grants a Right-of Entry Permit ("ROE") to Seabin Foundation, for Two (2) Floating Rubbish Seabins Pilot Program at the Ala Wai Small Boat Harbor, Floating D Dock and Floating F Dock, Oahu, Hawaii, Tax Map Key: (1) 2-3-037:012.

The right-of-entry is subject to the terms and conditions stated below:

1. Payment Gratis.
2. Upon acceptance of the terms herein and the provision of the liability insurance required in paragraph 3, this right-of-entry permit shall be effective during the periods from August 1, 2020 to January 31, 2021
3. Seabin, its consultants, contractors and/or persons acting for or on its behalf shall procure at its own expense, and maintain during the entire period of this right-of-entry, from an insurance company or companies licensed or authorized to do business in the State of Hawaii with an AM Best rating of not less than "A- VIII" or other comparable and equivalent industry rating, a policy or policies of comprehensive

Exhibit B

public liability insurance or its equivalent, in an amount of at least \$1,000,000 for each occurrence and \$2,000,000 aggregate, and with coverage terms acceptable to the Chairperson of the Board.

The policy or policies of insurance shall name the State of Hawaii as an additional insured and a copy shall be filed with the State of Hawaii, Department of Land and Natural Resources. The insurance shall cover the entire premises, including all buildings, improvements, and grounds and all roadways or sidewalks on or adjacent to the premises in the use or control of Seabin, its consultants, contractors and/or persons acting for or on its behalf. Seabin, its consultants, contractors and/or persons acting for or on its behalf shall furnish the Department with a certificate(s) showing the policy(s) to be initially in force, keep certificate(s) on deposit during the entire period and furnish a like certificate(s) upon each renewal of the policy(s). This insurance shall not be cancelled, limited to scope of coverage, or nonrenewed until written notice has been given to the Department. The Department shall retain the right at any time to review the coverage, form, and amount of the insurance required. If in the opinion of the Department, the insurance provisions in this right-of-entry do not provide adequate protection for the Department, the Department may require Seabin, its consultants, contractors and/or persons acting for or on its behalf to obtain insurance sufficient in coverage, form, and amount to provide adequate protection. The Department's requirements shall be reasonable but be designed to assure protection for and against the kind and extent of the risks which exist at the time a change in insurance is required. The Department shall notify Seabin, its consultants, contractors and/or persons acting for or on its behalf in writing of changes in the insurance requirements and Seabin, its consultants, contractors and/or persons acting for or on its behalf shall deposit copies of acceptable insurance policy(s) or certificate(s) thereof, with the Department incorporating the changes within receipt of the notice.

The procuring of the required policy(s) of insurance shall not be construed to limit Seabin its consultants, contractors and/or persons acting for or on its behalf, liability under this right-of-entry nor to release or relieve Seabin, its consultants, contractors and/or persons acting for or on its behalf of the indemnification provisions and requirements of this right-of-entry. Notwithstanding the policy(s) of insurance, Seabin, its consultants, contractors and/or persons acting for or on its behalf shall be obligated for the full and total amount of any damage, injury, or loss caused by Seabin, its consultants, contractors and/or persons acting for or on its behalf negligence or neglect connected with this right-of-entry.

4. At all times herein, Seabin, its consultants, contractors and/or persons acting for or on its behalf shall keep the right-of-entry area or premises in a clean, sanitary, orderly, and available condition; and provide adequate and necessary consultants, contractors and/or persons acting for or on its behalf to manage any/all of the daily, weekly and/or otherwise timely emptying of the floating rubbish bins; including hauling off and disposing of all of the rubbish/trash collected to an offsite location if necessary, contingent upon the availability of empty trash bins within the Ala Wai Harbor which are also used/shared by other tenants, general public and harbor staff.

5. Seabin, its consultants, contractors and/or persons acting for or on its behalf shall be responsible for cleaning and restoring the area or premises to its original condition or a condition satisfactory to the Department of Land and Natural Resources upon completion of the Floating Rubbish Seabins Pilot Program. All trash and other material related to Seabin shall be removed from the area or premises.
6. Seabin will provide DOBOR at the end of the ROE Pilot Program with a written report within 60 days, documenting the total volume of trash, to include the various identifiable types of trash collected by the rubbish bins.
7. Seabin, its consultants, contractors and/or persons acting for or on its behalf shall comply with all of the requirements of all laws, statutes, ordinances, rules and regulations of the Federal, State and County governments relative to the use of the right-of-entry area, including those relating to public health.
8. Seabin, its consultants, contractors and/or persons acting for or on its behalf shall indemnify, defend, and hold the State of Hawaii, Department of Land and Natural Resources harmless from and against any claim or demand for loss, liability, or damage, including claims for bodily injury, wrongful death, or property damage, arising out of or resulting from any act or omission on the part of Seabin, under this approval or relating to or connected with the granting of this approval.
9. All equipment shall be placed within the right-of-entry area or premises described and shown on the attachments herewith.
10. Seabin will be responsible for providing its own security for their equipment and property within the permit area during its study.
11. Seabin shall supply to DOBOR a name and local telephone number of the contact person who can be reached at any time around the clock during this pilot program.
12. There shall be no commercial activity in connection with the project. As such, it is not necessary for Seabin to register with the Department of Commerce and Consumer Affairs.
13. Seabin shall work with all other tenants, and general public activities that use the Ala Wai Boat Harbor and ensure that the project does not interfere with their activities, if any.
14. Seabin, its consultants, contractors and/or persons acting for or on its behalf shall not cause or permit the escape, disposal or release of any hazardous materials except as permitted by law. Seabin, its consultants, contractors and/or persons acting for or on its behalf shall not allow the storage or use of such materials in any manner not sanctioned by law or by the highest standards prevailing in the industry for the storage and use of such materials, nor allow to be brought onto the right-of-entry area or premises any such materials except to use in the ordinary course of Seabin, its consultants, contractors and/or persons acting for or on its behalf business, and

then only after written notice is given to the State of Hawaii, Department of Land and Natural Resources of the identity of such materials and upon the Department's consent which consent may be withheld at the Department's sole and absolute discretion. If any lender or governmental agency shall ever require testing to ascertain whether or not there has been any release of hazardous materials by Seabin, its consultants, contractors and/or persons acting for or on its behalf, then the Seabin, its consultants, contractors and/or persons acting for or on its behalf shall be responsible for the cost thereof. In addition, Seabin, its consultants, contractors and/or persons acting for or on its behalf shall execute affidavits, representations and the like from time to time at the Department's request concerning Seabin, its consultants, contractors and/or persons acting for or on its behalf best knowledge and belief regarding the presence of hazardous materials on the right-of-entry area or premises placed or released by Seabin, its consultants, contractors and/or persons acting for or on its behalf.

15. Seabin, its consultants, contractors and/or persons acting for or on its behalf agree to indemnify, defend and hold the State of Hawaii, Department of Land and Natural Resources harmless, from any damages and claims resulting from the release of hazardous materials on the right-of-entry area or premises occurring while Seabin, its consultants, contractors and/or persons acting for or on its behalf is/are in possession, or elsewhere if caused by Seabin, its consultants, contractors and/or persons acting for or on its behalf. These covenants shall survive the expiration or earlier termination of this right-of-entry.

For purposes of this right-of-entry, "hazardous material" shall mean any pollutant, toxic substance, hazardous waste, hazardous material, hazardous substance, or oil as defined in or pursuant to the Resource Conservation and Recovery Act, as amended, the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, the Federal Clean Water Act, or any other federal, state, or local environmental law, regulation, ordinance, rule, or by-law, whether existing as of the date hereof, previously enforced, or subsequently enacted.

16. Seabin, its consultants, contractors and/or persons acting for or on its behalf in the exercise of this right-of-entry shall use appropriate precautions and measures to minimize inconveniences to surrounding residents, landowners, and the public in general.
17. All costs associated with the installation, repairs, and removal within the right-of-entry area or premises shall be the sole responsibility of the Seabin, its consultants, contractors and/or persons acting for or on its behalf.
18. Seabin, its consultants, contractors and/or persons acting for or on its behalf shall maintain and employ debris, pollution and contamination control measures, safeguards and techniques to prevent debris, pollution or contamination to the ocean waters, streams or waterways resulting from Seabin, its consultants, contractors and/or persons acting for or on its behalf use, maintenance, repair and operation of the right-of-entry area or premises, and shall take immediate corrective action in the event of such pollution or contamination to immediately remove the cause of such pollution or contamination, and shall immediately clean the right-of-entry area or

premises and its surrounding waters of such pollutant or contaminant and restore to the State of Hawaii, Department of Land and Natural Resources satisfaction the area affected by such pollution or contamination, all at Seabin, its consultants, contractors and/or persons acting for or on its behalf own cost and expense.

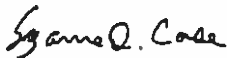
19. In the event any historic properties or burial sites, as defined in section 6E-2, Hawaii Revised Statutes, are found on the premises, Seabin, its consultants, contractors and/or persons acting for or on its behalf shall immediately stop all land utilization or work or both and contact the Historic Preservation Office in Kapolei at (808) 692-8015 immediately in compliance with chapter 6E, Hawaii Revised Statutes.
20. This right-of-entry is revocable and terminable for any breach of terms and conditions herein at the sole and absolute discretion of the Chairperson.
21. This right-of-entry or any rights hereunder shall not be sold, assigned, conveyed, leased, sub-let, mortgaged or otherwise transferred or disposed.
22. The Department of Land and Natural Resources reserves the right to impose additional, but reasonable terms and conditions as it deems necessary while this right-of-entry is in force.
23. All disputes or questions arising under this right-of-entry shall be referred to the Chairperson of the Board of Land and Natural Resources for a determination and resolution of the dispute or question. The Chairperson's decision shall be final and binding on the parties herein.

Should you concur with the above terms and conditions, please acknowledge and return a signed copy of this letter together with the required liability insurance policy to DOBOR's Office at: 4 Sand Island Access Road., Honolulu, HI 96819.

If you have any questions, please feel free to contact my staff Teresa Bryant at (808) 587-2683.

ERU

Sincerely,


Suzanne D. Case
Chairperson

ACCEPT AND CONCUR:
"Seabin Pty Ltd"



David Turton, CFO and Chairman

7/13/2020
Date

Attachments:

Exhibit A – Areal Map of Ala Wai SBH

Exhibit B – Map of Ala Wai SBH

Exhibit C – Seabin Technology Information



EXHIBIT A
ROE Seabins Pty Ltd
AREAL MAP OF ALA WAI
SMALL BOAT HARBOR

The map illustrates the Ala Wai Small Boat Harbor and its surroundings. Key features include:

- Harbor Entrance:** Located at the top, with a breakwater and a channel leading to the beach.
- Docks and Rows:** Docks are labeled A through H. Rows are numbered 1 through 8, with Row 1 being the closest to the entrance.
- Landmarks:** The Hilton Lagoon is located to the right of the harbor. The Ala Moana Boulevard runs along the left side. The Ala Wai Marina is located at the bottom left.
- Buildings:** The Hawaii Prince Hotel and Chen House are located near the harbor entrance. The Hilton Lagoon is located to the right of the harbor.
- Parking:** Public parking areas are located near the harbor entrance and the Hilton Lagoon.
- Directions:** Arrows indicate directions to the beach, the Hilton Lagoon, and the Ala Moana Boulevard.

**ALA WAI SMALL BOAT HARBOR
1651 ALA MOANA BOULEVARD**

WHAT IS SEABIN CLEAN TECHNOLOGY?

A Seabin is a floating rubbish bin designed to be installed in marinas, ports and yacht clubs. Each Seabin is capable of capturing plastic bags, bottles, oil, fuel, coffee cups, micro plastics and even micro fibers.

Each Seabin collects on average 3.9kgs of marine litter per day or around 1.4 tonnes of marine litter every year. (data sourced from 21 locations from 13,330 hours of operation)

10 units = 56 tons marine litter per year
 100 units = 140 tons marine litter per year

The most collected items by the Seabins are

1. Cigarette butts
2. Micro plastics
3. Food wrappers

Seabin technology is the perfect platform in addressing the real challenge in turning off the tap before the litter enters our waterways and makes its way into our oceans.



SEABIN GROUP



Partners for Data Collection

Jenna Jambeck Research
Sustainable Coastlines Hawaii
NOAA
Ocean Conservancy
Mirpuri Foundation
Algakito
Hewlett Packard
Bureo
Mission Blue
City of Paris
Surfnder Foundation
Poralu Marine

Australian National Maritime
Museum
TOMRA
Life Cykel
Butterfield Bank
Port Adriano
La Grande Motte
Porto Montenegro
Safe Harbour Marmas
Wartsila Corporation
City of Dubai
Wharf Mooloolaba



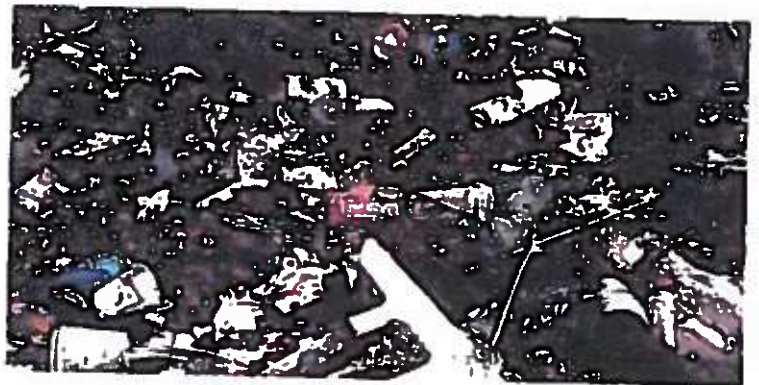
SEABIN GROUP



DATA COLLECTION

Data collection is our prime focus in achieving measurable impact and creating opportunities.

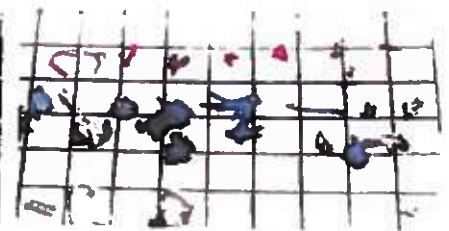
- Each Seabin collects on average 3.9kgs per day
- Each Seabin collects 1.4 tons of marine litter per year
- Data collected from 13 international locations
- 555 day data collection period
- 13,330 hours of data processed by hand
- 2.2 tons of data samples recorded
- 79,040 items were catalogued in the data sampling
- 1,580 of these items were cigarette butts
- 13,438 of these items were plastic
- 64,024 of these items were contaminated marine debris pieces, mainly plastic and polystyrene foam particles being the main items.



Seabin litter sample from Darling Harbour, Sydney, Australia over a 5 day period.



Contaminated marine debris



Micro Plastics – 5mm diameter or less

SEABIN GROUP



- September 2018
- 456 hours of operation
- 227,767 items
- 245.12 kg's dried weight
- Polystyrene Balls 11,650
- Plastic Pieces 5,401
- Cigarette Butts 1,267
- 209,654 items of terrestrial Bio Mass
- 3,152 items of marine Bio Mass



THE SEABIN DAILY CATCH

- [illegible]

SEABIN GROUP








Right-Of Entry permit Seabin Pty Ltd.

Final Audit Report

2020-07-03

Created:	2020-06-30
By:	Teresa Bryant (teresa.a.bryant@hawaii.gov)
Status:	Signed
Transaction ID:	CBJCHBCAABAAGMq88Fn7_ubkR5rVZGZhAyIRJXG_kC2

"Right-Of Entry permit Seabin Pty Ltd." History

-  Document created by Teresa Bryant (teresa.a.bryant@hawaii.gov)
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Signature Date: 2020-07-03 - 2:12:17 AM GMT - Time Source: server - IP address: 1.128.104.220
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ROE 6-Month Seabin Pty Ltd Ala Wai SBH

Final Audit Report

2020-07-06

Created:	2020-07-06
By:	Teresa Bryant (teresa.a.bryant@hawaii.gov)
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-  Signed document emailed to Suzanne Case (suzanne.case@hawaii.gov), Ed Underwood (ed.r.underwood@hawaii.gov), Teresa Bryant (teresa.a.bryant@hawaii.gov), and Richard Howard (richard.t.howard@hawaii.gov)
2020-07-06 - 11:37:06 PM GMT

IMPACT REPORT:

Seabin Results: Ala Wai Harbor, Honolulu

August 2020 – January 2021

Smart Tech Solutions for Hawaii



Exhibit C

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Executive Summary

This preliminary report is intended for the Board of Land and Natural Resources (BOARD), the State of Hawaii, Department of Land and Natural Resources (DLNR), Division of Boating and Ocean Recreation (DOBOR), in regards to a Right-of Entry Permit (ROE) to Seabin Foundation Ltd and Seabin Pty Ltd. Two Seabin units, supplied by Seabin Pty Ltd, were installed at Floating D Dock and Floating F Dock, Ala Wai Harbor, Oahu, Hawaii as part of a Seabin Pilot Programme.

This report summarises the key findings of the Seabin Pilot Programme at Ala Wai Harbor for the period August 2020 to January 2021.

The purpose is to provide insight about the potential of a Seabins effectiveness to:

- Monitor marine debris and create much needed localised base data.
- Build community awareness around the issue of plastics in our oceans.
- Physically remove rubbish from within a harbor environment.

This report has been prepared on request by the BOARD to aid the application to extend the current Right-of-Entry Permit (expiry 31st Jan 2021) for a further 12 months.

A comprehensive project completion impact report will be submitted after the completion of the current ROE term and Seabin Pilot Programme.

Seabin Project and Seabin Foundation wish to extend their thanks and gratitude to the BOARD and all staff at DLNR for their support of the Seabin Pilot Program at Ala Wai Harbor.

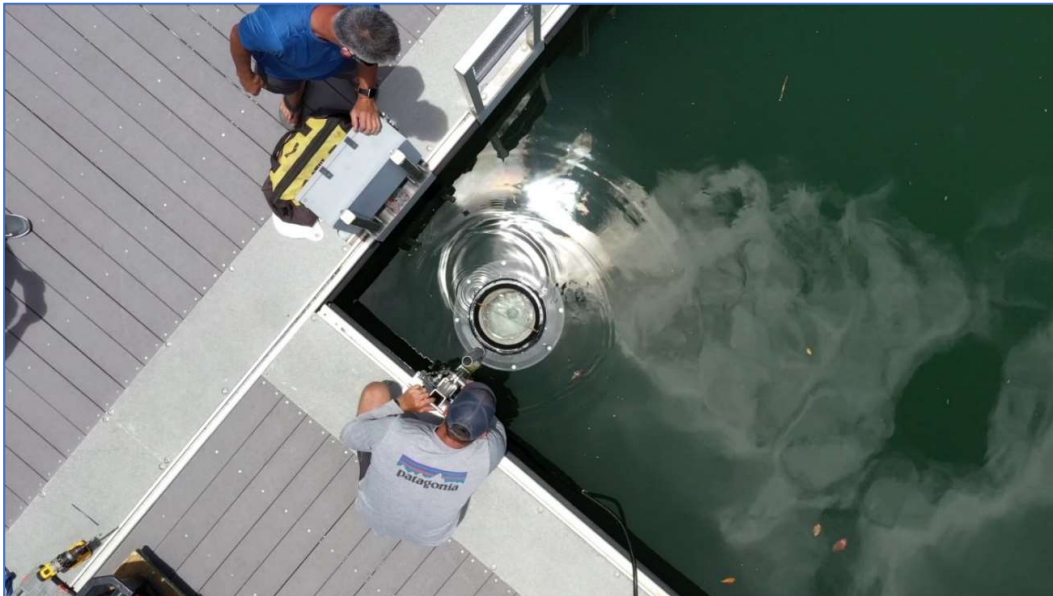


Photo 1: Aerial view of Seabin Unit 1 at Ala Wai Harbor.

Seabin Data Collection Results

Key Findings

Annual Estimates

- **9,814lb or 4,452kg of marine debris¹ to be captured²**
- **115.7 Million Gallons or 438 Million litres of water to be filtered for microplastics, plastic fibres, oils, fuels and more.**

Facts

- 390lb or 177kg of marine debris captured over the 6 month Seabin Pilot Programme.
- 15 million gallons or 58 million litres of water filtered for microplastics, plastic fibres, oil, fuel and more.
- 13.45lb or 6.1kg per day captured on average.
- 514 plastic items were counted and recorded from 29 data collections conducted on site.
- The category “Hard Plastic Food Packaging” contributed to highest proportion of the weight, 68.8%, of the total plastic items.
- 288 daily empties recorded (combination of Units 1 & 2) by the Seabin Enviro Technician, Fernando Torres.

¹ Marine debris (or marine litter): any persistent, manufactured or processed solid material discarded, disposed of or abandoned in the marine and coastal environment (UN Environment Program, 2009). Marine debris, microplastics and microfibrils are captured by floating organic matter which is collected in Seabins.

² Potential annual capture of marine debris calculated using the daily average derived from the data collections conducted on Seabins catches specific to this site.



Photo 2: Ben Wilkinson and family at the Seabin installation day.



Photo 3: Seabin Project are self-funding the services of Ben Wilkinson (left) responsible for installations and technical maintenance & Fernando Torres (right) responsible for the daily empties and data collections at Ala Wai Harbor.

Breakdown Of Marine Debris Caught

Table 1 below displays a breakdown the main plastic items captured and counted in the 29 data collections conducted between September 2020 and January 2021 from the two Seabin units located at Ala Wai Harbor.

The two units were operational since August 2020. On average, data collections were conducted weekly.

Table 1: Breakdown of the main items captured in the Ala Wai Harbour Seabin units from September 2020 to January 2021

MARINE DEBRIS CATEGORY	Total item count
MICROPLASTICS <5mm (incl. PELLETS, NURDLES)	121
SOFT PLASTIC FOOD PACKAGING / WRAPPERS	99
PLASTIC BAGS	56
HARD PLASTIC FOOD PACKAGING (CUPS etc.)	41
FOAM PIECES	33
PLASTIC STRAWS	24
UNIDENTIFIED PLASTIC ITEMS - SOFT >5mm	24
PLASTIC LIDS	19
PLASTIC LOLLIPOP / COTTON BUD STICKS	18
UNIDENTIFIED PLASTIC ITEMS - HARD >5mm	16
CIGARETTE BUTTS	14
PLASTIC BOTTLES	13
CANS	9

Main items by count

1. MICROPLASTICS <5mm (incl. PELLETS, NURDLES) – 23.5% (121)
2. SOFT PLASTIC FOOD PACKAGING / WRAPPERS – 19.3% (99)
3. PLASTIC BAGS – 10.9% (56)

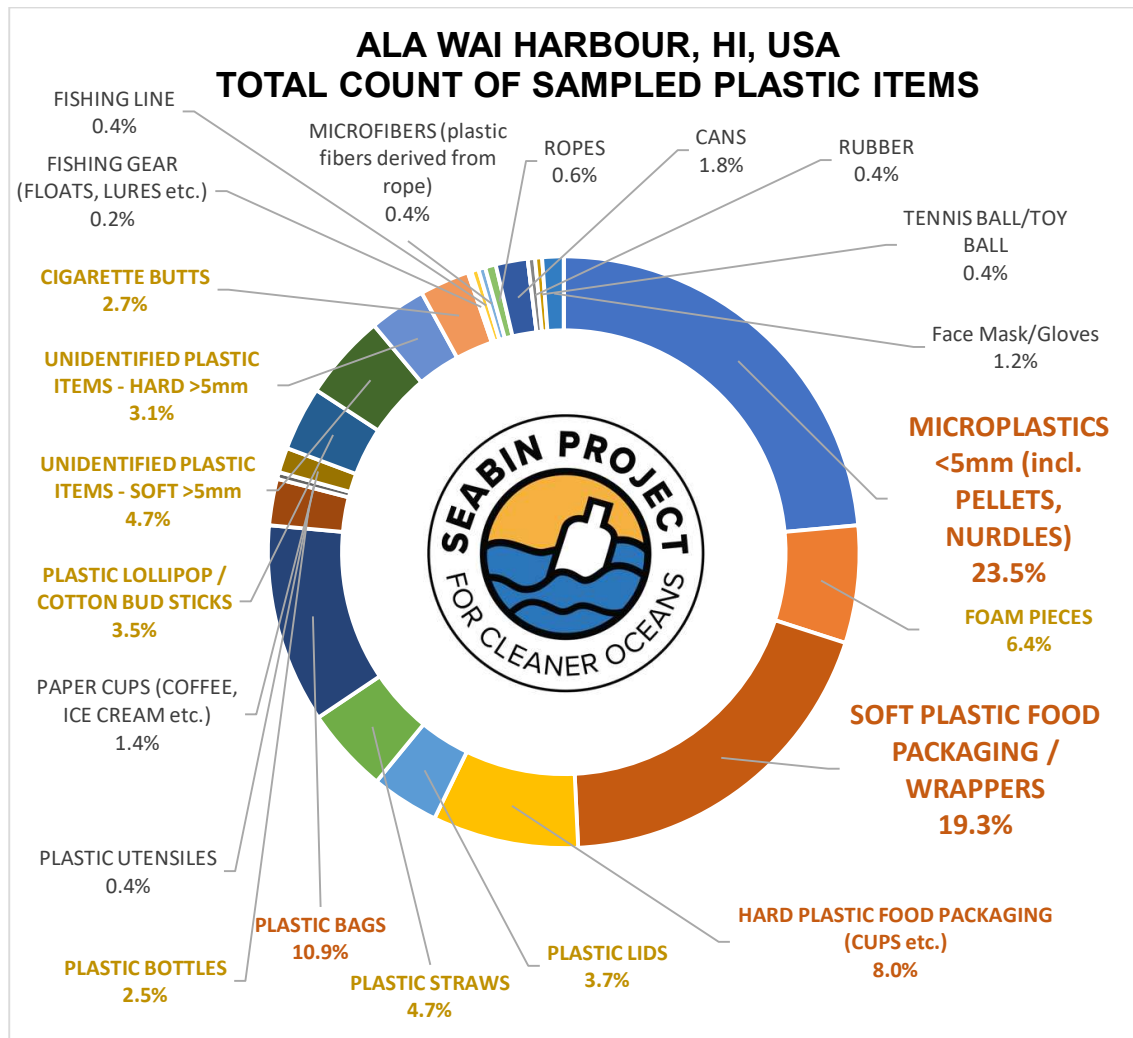


Figure 2: The total count of plastic items displayed as percentages from 29 data collections at the two Seabin units. In orange are items found with percentage >10%. Items found in percentage between 2-9% are in dark yellow.

Main items by weight

1. HARD PLASTIC FOOD PACKAGING (CUPS etc.) – 63.8% (11.57oz or 328g)
2. PLASTIC BOTTLES – 30.4% (5.5oz or 156g)
3. PAPER CUPS (COFFEE, ICE CREAM etc.) – 24.5% (4.44oz or 126g)

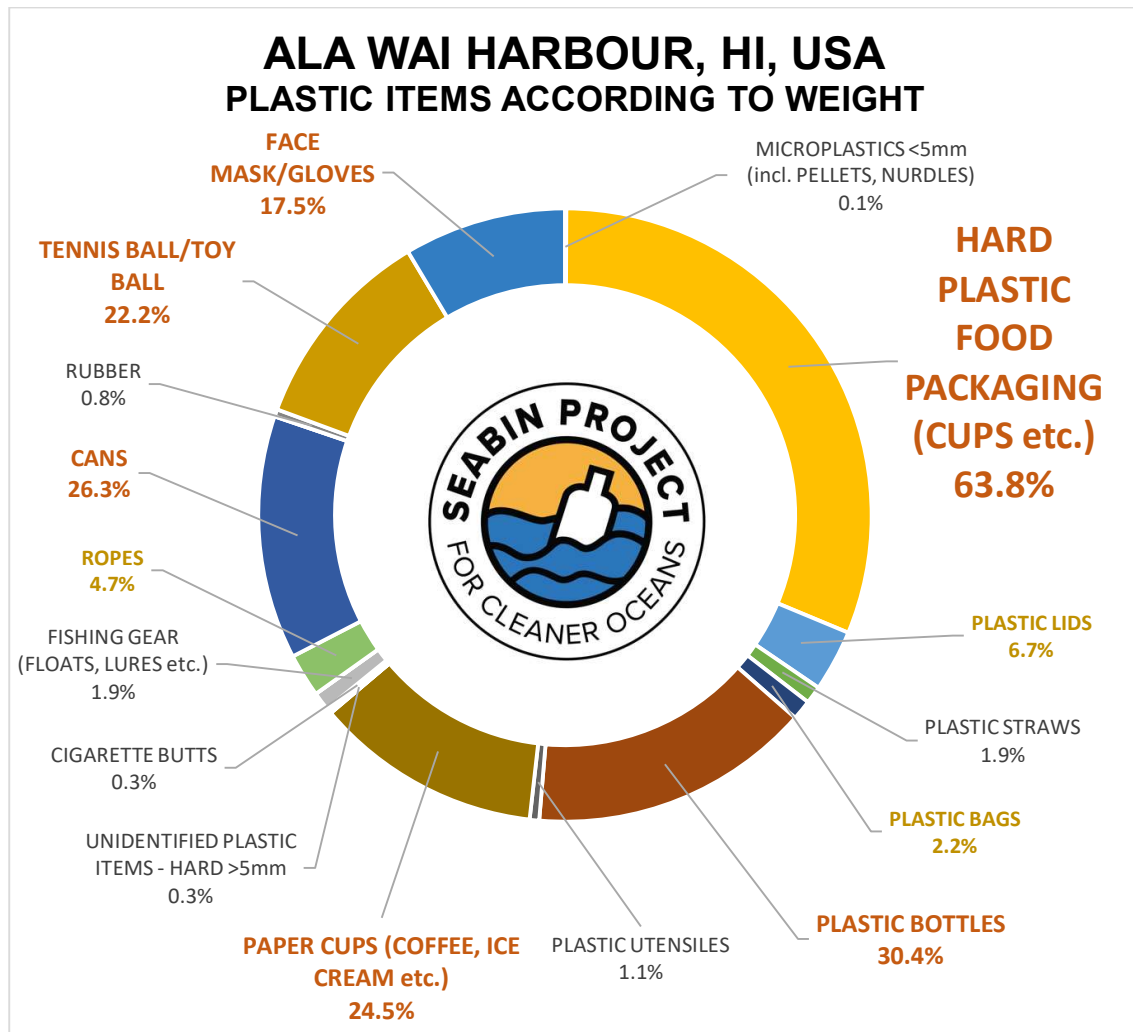


Figure 3: The total weight of counted plastic items displayed as percentages from 29 data collections at the two Seabin units. In orange are items found with percentage >10%. Items found in percentage between 2-9% are in dark yellow.

Examples of Seabin catches at Ala Wai Harbor, HI, USA.



