

# COASST Technology Platform and Tools Request for Proposals

**Opening Date: July 1, 2014**

**Priority Review Deadline: July 21, 2014**

**Closing Date: July 30, 2014 (or until successful applicants are selected)**

**Submission:** Applications should be sent to rfp@coasst.org by the closing date.

Applicants should be prepared to start work as soon as possible and no later than September 1, 2014.

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# RFP for COASST Technology Platform and Tools

## Introduction

The Coastal Observation and Seabird Survey Team (COASST) is a citizen science project of the University of Washington in partnership with state, tribal and federal agencies, environmental organizations, and community groups. COASST believes citizens of coastal communities are essential scientific partners in monitoring marine ecosystem health. By collaborating with citizens, natural resource management agencies and environmental organizations, COASST works to translate long-term monitoring into effective marine conservation solutions.

COASST intends to modernize their existing website, scientific database, and associated tools. In addition COASST will be expanding their program to include new monitoring protocols, datasets and supporting technologies. COASST is seeking contractor/technology partner(s) to design, implement and maintain some or all of the technology components described below. Interested parties should submit a proposal by the closing date listed above, in compliance with this Request for Proposals (RFP), the scope of work and the instructions for preparation of the proposal described below.

## Background

COASST historically focused on a single data type - beached birds. To date, beached bird data include over 40,000 carcass observations of 166 bird species from over 3,000 COASST participants who have conducted approximately 50,000 surveys. Each year, the COASST website receives about 10,000 hits.

COASST volunteers are at the heart of the program. COASST started as a small program with 12 participants on the south coast of Washington in 1999, and has steadily grown to about 800 participants annually collecting data on more than 400 beaches, including sites in Oregon (added in 2001), California (2006) and Alaska (2006).

In 2012, the COASST Advisory Board members were asked to name the single most important additional data type they would like to see collected within the program. Marine debris was their top response. COASST volunteers provided a similar response when asked the same question. In part this is because the Japanese tsunami of 2011 garnered *huge* media attention on the West Coast (1,083 articles published in 2012; Google News Jan. 2013). Many members of coastal communities voice fears about threats to public health, harm to wildlife, and the possibility of invasive marine organisms colonizing local waters. As a result of these concerns COASST will be expanding their work on beached birds into marine debris. Marine debris monitoring will be carried out by the existing COASST volunteers as well as by additional new volunteers.

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The new technology platform will support all efforts of the COASST programs related to beached bird and marine debris data and the associated web and IT supporting technologies.

### Experience and Qualifications

The technology partner should have a history of working with environmental non-profits and/or universities and be able to demonstrate successful, completed technology projects that meet the requirements of the scope of work described below. The technology partner must have the ability to communicate effectively and engage with non-technical COASST staff. COASST has a very strong preference to use popular, open source web application frameworks, programming languages and databases whenever possible.

### Period of Performance

The period of performance will vary depending on the technology component. Once the planned technology components described in this proposal are operational they will need to be maintained at least through September 30, 2017.

### Scope of Work

The COASST technology requirements have been divided up into “technology components” in order to more clearly describe their specific needs and to more easily evaluate technical approaches and costs. COASST seeks a technology partner to address all or some of the technology components listed below. COASST has external IT advisors and experts to help ensure these technology components will form a coherent and cutting edge IT infrastructure platform. However, in the proposal response be sure to explicitly identify any high-level integration or dependencies required of one technology component to another. The ideal applicant will be flexible and agile in their approach to building technology solutions. If there is a need for additional information to develop the proposal response please email: [rfp@coasst.org](mailto:rfp@coasst.org).

#### Technology Component 1: COASST website redesign

The COASST website needs to be redesigned to have a new look and feel (including but not limited to a new user interface, navigation, graphics, etc.) and be implemented using an open source Content Management System (CMS). Please see [www.coasst.org](http://www.coasst.org) for the current website and functionality and see Appendix 1 for the new website navigation and ideas for a new website. The revised website should work across modern browser platforms and on mobile devices. The website statistics should be available via Google Analytics (COASST will provide a user account). COASST uses Atlassian’s JIRA for helpdesk and software bug/issue tracking.

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The current website includes dynamic pages with maps as well as tables and reports that are generated from a relational database storing scientific data (PostgreSQL). COASST anticipates additional data summaries and statistics (e.g., tables, graphs and simple maps <http://depts.washington.edu/coasst/patterns.html>) using the marine debris and beached bird data. COASST would like to have higher quality, more visually appealing graphs and tables. These can be native to the CMS or utilize additional open source technologies (e.g., jQuery, highcharts, etc). COASST anticipates several additional graphs (e.g., histograms, bar charts, pie charts) to provide insight into the beached bird and marine debris data.

Additional requirements of the CMS include the following:

- User Roles and Profiles: A key advantage of moving to a CMS will be the creation and integration of user roles with their user profile. COASST envisions a “myCOASST” type area within the website where logged-in users can go to launch various applications, maintain and modify their user profile, access collaboration tools and find other important pieces of information and products. COASST staff and volunteers will have several roles that enable them do certain activities (e.g., upload data, verify data, assign roles to other users, admin, etc).
- Participant Filter and Report Tool: COASST staff would like to filter by many participant attributes (see Appendix 6 for Volunteers table). A Boolean type filter that enables COASST staff to dynamically filter participants is required. For example, COASST staff may want to find participants that meet a certain subset of criteria to facilitate communication with specific groups of volunteers, or staff may want to know which participants surveyed a particular beach within a certain time period. Filtering user profiles should also be possible by beach and zip code and COASST staff will assist in populating the database with any additional information. Once a filter is applied the data should be available for download (csv format). COASST staff needs to be able to edit and view all COASST participant attributes. Lastly, COASST staff would like to prepare simple reports (e.g., a pdf) based on the various filters described above.
- Event Management Tool: This tool will enable COASST staff to create and filter events as well as assign users to events. A typical event could be a volunteer training session (there are less than a dozen event types). Example characteristics of an event COASST staff would like to track are: event name, event description, date, location, event type, number of attendees, COASST volunteers and/or staff attended. In addition to seeing a list of participants when viewing an event itself, COASST staff would also like to be able to see all events that a volunteer participated in by looking at their profile.

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- Beached Bird Reports: COASST staff would like to be able to generate reports for a region based on a variety of data. These include number of birds, number of beaches surveyed, species lists, number of volunteers, surveys completed, total travel hours, what beaches have not been recently surveyed (e.g., in the last 3 months), etc. There may be a similar reporting requirement for marine debris.
- Collaboration tools: COASST staff and volunteers would like to take advantage of the collaboration tools available within the CMS (natively or through additional modules). Key functionality of interest includes forums, blogs, and the ability to share images among COASST staff and volunteers. For example, it would be useful to enable COASST volunteers to easily share images on a beached bird and/or marine debris with other volunteers. *Note that the collaboration tools are lower priority than other parts of the CMS and most 'out of the box' CMS collaboration tools should work initially.*

### Technology Component 2: Data Management System

COASST data are divided into beach-specific information (data) collected by the participants and information about the participants (attributes described above). Beach-specific information includes data collected on beached bird surveys as well as data collected on the soon to be implemented marine debris surveys. Beach-specific information is currently collected via field forms (paper) and photographs. These data are digitized via a data entry portal and housed in a database. The level of effort required for this technology component is expected to be the highest among all the technology components. The main tasks that need to be completed are:

- Database Schema
  - Review and extend the COASST scientific database. COASST currently has 50,000 surveys of 40,000 beached birds and 55,000 photos. COASST expects an additional 10,000+ surveys and 100,000+ photos of marine debris data per year. See Appendix 6 for an entity relationship diagram for the current beached bird database and the anticipated extensions for the marine debris. Note that this database also includes attributes about the COASST participants (volunteers table).
- Data Ingestion and Management Application
  - Rebuild the existing data ingestion system (currently built using Rails 3.4) for the beached bird data and photos. See Appendix 2 for field forms and Appendix 3 for screen shots of the existing application.
  - Design and implement a data ingestion system for marine debris data. See Appendices 4 & 5 for draft marine debris field forms and protocol. Data ingestion will be similar in scope to the beached bird data ingestion. A requirements meeting will be needed prior to starting work on this.

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- COASST staff need to be able to manage information within the database about beaches, volunteers (described above) and species authority information for beached birds and marine debris (see Appendix 7 for snapshot of current interface for beached birds). The existing interfaces will be expanded and changed. Additional beached bird interfaces are needed for the Counties, Groups, Subgroups, Foot Type Families and Plumages database tables. The marine debris protocol will also need an interface to manage the approved taxonomy for COASST marine debris names and categories (table *object\_taxons* in the database schema).
- A report or summary should be available to COASST volunteers when they complete entering their data. The goal is to communicate to the volunteer how this particular data entry contributes to the larger effort. For example, how did the data contribute to their beach, how much data have they individually collected, what type of data, etc.
- Provide instructions for COASST volunteers to get images off of their devices (mostly likely iOS or Android) and uploaded through the data ingestion tools. For example, using dropbox to get their images to their local computer and from local computer to the data ingestion tool.
- Data Verification – COASST staff verify all data. See Appendix 8 for screen shots of the current verification process for beached birds, the new version will be an improvement on this interface. COASST would like to continue to see a summary page on what observations need to be reviewed but would like the verification process to be image driven (or provide a complementary ‘mode’ that is image driven). For example, a COASST verifier should easily view how many records need to be reviewed (filtered by beach) and then use the images and the observation data to quickly review observations. The interface should include a photo-viewing tool where single photos can be scrolled through and viewed at high resolution on one side, and on the same screen some fields (for beached birds: species, measurements, and foot type family minimally) should be viewed and edited simultaneously without scrolling. All changes by a verifier should be tracked and the volunteer’s initial identification preserved for comparison to verifier determination, in order to gage volunteer accuracy. The database includes attributes to capture verification input (e.g., verifier name, verified {y/n}, verified comment, etc). Additional log tables may be required to track changes made by verifiers. Error rates by volunteer, object characteristic (bird and marine debris attributes), and identity should be available in a summary page. This will enable COASST staff to easily view and understand data quality. Additional requested features include:
  - The ability to “high grade” photos while they are being verified. This should function for both the beached bird and marine debris photos. For example, during the verification process the verifier has the ability to assign a photo quality level (level 1,2,3, etc) to each photo.

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The “high graded” images should also be easily downloadable by COASST staff.

- All photos should be easily searchable by their quality level as well as editable individually or in batch mode. For example, COASST staff may want a maximum number of images per level. If the number of images per level exceeds the maximum, COASST staff can ‘demote’ images from one class to another.
- Photos should also be searchable by a number of data attributes. For example, COASST staff want to be able to look at all marine debris images identified by the attribute ‘sharp’ from a specific beach, time period or particular participant.
- Data Export Tool – A simple data export tool is required for COASST staff. The exported data file should be a csv file and have the ability to be ordered (e.g., by date and by beach). The current tool is illustrated in Appendix 9.
- Interoperability:
  - Build API’s as needed to exchange COASST data with partner organizations. The format and precise exchange formats are still being defined and will most likely need to be XML or JSON web RESTFUL services.

### Technology Component 3: Crowd Source Application

COASST would like a web-based crowd sourcing application focused on the marine debris data. It should also work well with mobile devices (tablets higher priority than phone).

- All pieces of marine debris found on COASST surveys will have a set of characteristics attributed to them, including the identification of the object. In many cases, identity will be “unknown”. COASST will use a crowd source application to help identify unknown items where:
  - Each unknown item may be presorted into a larger category that can be filtered by the app user (e.g., likely fishery gear; fragments-plastic; milled lumber; presence of a logo; presence of a barcode; etc.) based on his/her expertise and interest.
  - Each unknown item will have a set of character states attached to it which may potentially aid in identification (See Appendix 4 for the Marine Debris protocol).
  - Each item will have at least one photograph with a centimeter scale included.
  - Each item will have a date and geocoordinates.
  - Each item may have information about the other type(s) of debris found nearby.

See Appendix 10 for initial concept wire frames of application (they do not reflect all of the ultimate elements, navigation or look and feel). Key application functionality includes:

- Every crowd sourcer will be tested with known images of a particular marine debris category and their results stored as a profile attribute.

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Tests should occur more frequently when a user first starts crowd sourcing and then less often over time. COASST envisions the tests being implemented as “blind tests” so that the crowd sourcer cannot tell the difference between a test object and an unknown object.

- The application should display a selected image in the category identified by the user, allow the user to bring up known information about the object, and allow the user to identify the object.
- Identification name selection should relate to the approved list of marine debris names (i.e., those stored in table *object\_names* in the database).
- The confidence around object identification will improve as more crowd sourcers converge on a single identification. An averaging routine will be used to help select the “most correct” identity, where highly accurate users will be more heavily weighted. Users will receive accuracy scores within categories (e.g., 95% accurate within fishery gear; 20% accurate in all other categories) after a minimum number of entries.
- Statistics on the object identity (e.g., number of users identifying the object, number of users correctly identifying the object, average accuracy rate of correct users, etc.) must be attached to each object as database fields. COASST staff will subsample a fraction of identified unknowns for independent confirmation by experts (including COASST staff).
- A gaming aspect, allowing users to create unique usernames and passwords, and allowing users to release their object identity stats to the public portion of the site, should be included.
- The home page (entry page) should display the total number of objects in the COASST marine debris database, the number of unknown objects, the number of unknowns identified by users, and user stats; as well as photos of new unknowns.
- The current database schema will need to be extended to meet the needs of this application.

### Technology Component 4: Data Visualization

COASST anticipates 2 types of data visualizations beyond what are described in Technology Component 1. Specifically, these are highly interactive graphs and maps and are described below:

- COASST staff would like a new interactive way of viewing encounter rate data via a dynamic bar chart (see Appendix 11 for initial concept diagram). Encounter rate is a calculated variable that COASST will provide through the database.
- COASST envisions an interactive mapping application that will visualize a subset of beached bird (encounter rate) or marine debris (density) data in geographic space. The display will include visualized data within a mapped construct (e.g. heatmap or heatmovie) as well as outside the map frame (e.g., one or more data visualizations such as histograms) Users will be able to



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filter data to visualize according to specific geographic areas such as beaches, regions or states; by specific time periods, such as months, seasons or year ranges; and by particular classifications. For beached birds these classifications are species and higher orders, in addition to instances of oiling and entanglement. For marine debris, classification will be based on particular debris characteristics of interest, such as instances of biofouling, or a combination of characteristics informative for risk of harm to specific species of wildlife. For instance, a user could filter debris by harm to sea lions and visualize concentrations of debris that pose particular harm to those organisms based on an intersections of several characteristics. This mapping component may be linked to the Find a Beach function that exists on the current website (but will be improved in the new development).

### **Technology Component 5: Hosting, software, email, security, backup and maintenance**

The current COASST website, applications and scientific database are hosted by a private hosting provider. However, COASST is open to new approaches, services and solutions. Technical support is essential. Please address any requirements for website and application hosting, database and file backup strategies, security and software maintenance. Describe for which parts of this technology component the applicant will provide services and/or be responsible for over the duration of the contract. Two important pieces of software that need to run from the hosting provider are:

- [JIRA](#)- JIRA is used as a software feature/issue tracker among COASST staff. It also serves as the help desk system.
- [R Studio Server](#) – R Studio Server and the R programming language will form the backend of the COASST analytical environment. R Studio server needs to be installed in a location that has access to the production database.

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### Project Duration, Deliverables and Timeline\*

Year	Jan	Feb	Mar	Apr	Ma y	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014								Late August: Contractor Start and Initial Meeting		TC#1: Website redesign and initial release (late october)	TC#2: Data Management for Beached Birds. TC#4: Beached Birds	
2015	TC#2: Marine debris data management testing	TC#1: CMS Front-End MD Updates (1.x);	TC#2: Fully operational	TC#3: Crowd source app;			TC#4: MD Data Viz					
2016	Continued maintenance of all TCs.											
2017	Continued maintenance of all TCs.											

\*Technology Component #5 will be required throughout the project duration (September, 2017)/

MD = Marine Debris

BB = Beached Bird

TC= Technology Component

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## Instructions for the Preparation of the Proposal

### Cover Note

Applicants should include a cover note to their proposals listing all documents submitted. The cover note should clearly list the name of the organizational chief executive, and, if different, the name(s) of all parties with the ability to legally bind the organization and the name(s) of all parties whom COASST should contact for clarifications and negotiations. The cover note should also provide a complete mailing address, street address (if different), electronic mail address(es), and telephone and fax numbers.

### Organizational Capabilities

Applicants should provide documentation that provides evidence of the ability to complete the tasks described in the scope of work. This should include, at a minimum:

- i. Basic organizational information, including: year organization established, total permanent staff, and organizational history and mission statement.
- ii. Relevant experience in developing and implementing IT systems and applications for university and/or non-profit organizations.

### Technical Approach (maximum 10 pages)

Applicants should demonstrate their understanding for each technology component they are proposing to work on. Applicants should include a workplan with key milestones to meet the deliverables and timeline identified above. Please distinguish the level of effort for major software builds and releases and the ongoing maintenance required to ensure the software is running through 2017.

### Workflow and Team Structure Diagram

The applicant should include a workplan with clearly identified deliverables. As appropriate, the applicant may provide work flow diagrams (e.g., Gantt charts), team structure diagrams, or any other visual element to better explain how technical activities will take place, when they will take place, and who will be responsible for leading them. COASST has external technical advisors and experts that will participate and facilitate technology component design and implementation. The applicant should plan to engage with these advisors and COASST staff. Please provide your recommended approach on how best to engage with these stakeholders (e.g., applicant will interface with key COASST staff points of contact in regular bi-weekly meetings).

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## **Curricula Vitae of Key Personnel**

This work effort will be taking place over a very tight time-frame and a primary basis of selection will be the expert personnel who are immediately available to begin work. Applicants must identify, by name, the team leader and any other additional individuals who will work on this project. Sub-contractors during the contract period will not be permitted unless explicitly agreed upon.

## **Budget**

Applicants must submit a budget in a functioning Microsoft Excel file and a brief companion narrative. Worksheets should show all calculations, including unit costs, total units, and total level of effort for each technology component of the Scope of Work during the contract term.

Please email [rfp@coasst.org](mailto:rfp@coasst.org) for budget guidance related questions. The applicant should include in the budget the cost of 1 of trip to the University of Washington per year.

## **Evaluation Criteria**

COASST will make a best value determination of technical proposals in relation to proposed budgets. The least-cost budget will not necessarily be ranked the highest for evaluation purposes. All applicants will be notified whether their application was accepted or not.

## Appendices

### Appendix 1: New Website Structure

**Color Key**

Main landing page

“Second level” page accessed via a tab in one of main the landing pages

“Third level” page accessed via a tab in one of the second level pages

“Fourth level” page accessed via a tab in one of the third level pages

Footer links accessible from any page

## HOMEPAGE

## WHAT’S COASST

- Vision and Mission
- History [update!]
- Participants (Volunteers)
- Staff
- Supporters [also includes: profiles—articles written by COASST staff about partners]
- Advisors

## GET INVOLVED

- Participate (Volunteer) [Introduction to BB & MD programs w/ links to more info on requirements of each. Joint training calendar?]
- Events [Calendar]

# RFP for COASST Technology Platform and Tools

**Make a Gift** (Giving)

**Learn More** [maybe other resources? Learn more seems like learn more about COASST but these are links to outside orgs/resources]

**COASSTAL NEWS** [will have some overlap with “explore our data”]

**COASST in the News** (News) [these are links to articles about COASST]

**Scientific Publications**

Academic publications

By Us

About us

**Beached Birds: A COASST Field Guide** [where is this most appropriate? Also in science stories? Volunteer toolkit?]

**News from COASST**

**Blogs: Bird Buzz** [incorporate features into blog and delete as separate part of the site], **Trash Talk**

**COASST Reports**

**FIND A BEACH** [link w/ visualizations? maybe photos? Focus on: where, start, stop, coded by activity, other off-limits locations, etc. True to its name]

**EXPLORE OUR DATA** (BEACHED BIRD PATTERNS)

**Mapping Tool**

**Frequency Distributions** [e.g. species tables, etc]

Crowd-source ID

Other?

## TOOLBOX

### Beached Birds

Supplies

Refresher

Bird Buzz

Quizzes

### Marine Debris

Supplies

Refresher

Trash Talk

Identification Guide [? JKP asks: what is this?]

Identification Portal [? JKP asks: what is this? If crowd-source app, move to explore data]

Quizzes [? Ask Hillary - is this something we want?]

### Tides and Weather [do we need this? Look at use stats and remove if needed]

### Data Entry

*CONTACT US* [Iconize w/ FB, twitter(?), email etc.]

*MAKE A GIFT*

*BLOGS, Bird Buzz and Trash Talk (LIVE CHAT)*

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## Appendix 2: Beached Bird Field Forms

**COASTAL OBSERVATION AND SEABIRD SURVEY TEAM**  
DATA SHEET

**PROGRAM DATA - DO NOW!**

<p><b>Notetaker:</b> _____</p> <p><b>Data Collector:</b> _____</p> <p><b>Region:</b> _____</p> <p><small>AK: Southeast, Gulf of Alaska, Aleutian Islands, Bering Sea WA: Puget Sound, North Coast, South Coast, Strait, San Juans OR: Oregon North, Oregon South CA: Humboldt</small></p> <p><b>Beach Name:</b> _____</p>	<p>Date: _____ <small>(mm/dd/yyyy)</small></p> <p>Round trip travel time to beach: _____ approx (hh:mm)</p> <p>Survey Start Time: _____</p> <p>Survey End Time: _____ <small>(24:00)</small></p>
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**PHYSICAL DATA - DO @ THE HALF**

<b>Weather</b> <small>(circle predominant)</small>	Sun	Clouds	Fog	Rain	Snow
<b>Oil</b> <small>An oil patch was encountered every:</small>	None	1Km	100m	10m	1m
				Sheen	Tarballs
				Goopy	
<b>Wood Present</b>	<small>Circle Predominant Wood Size (circle one)</small>			<small>Circle Wood Continuity</small>	<small>Circle Wood Zone</small>
<input type="checkbox"/> Yes <b><i>if present:</i></b>	SM (<20cm diameter)			Patchy	Low
<input type="checkbox"/> No	Med			Continuous	High
	LG (>1M diameter)				
<b>Wrack Present</b>	<small>Circle Wrack Width</small>			<small>Circle Wrack Continuity</small>	
<input type="checkbox"/> Yes <b><i>if present:</i></b>	Thin (<1M wide)			Patchy	
<input type="checkbox"/> No	Thick			Continuous	

**HUMAN DATA - DO ON RETURN LEG**

	<small>TRACKS OBSERVED? (Y/N)</small>	<small>INDIVIDUALS ACTUALLY SEEN? RECORD #</small>
<b>Humans</b>		
<b>Dogs</b>		
<b>Horses</b>		
<b>Cars/Trucks</b>		
<b>ATVs</b>		

**COMMENTS** - any additional information that could not be recorded in the above form.

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**Return to:** COASST, University of Washington, Box 355020 Seattle, WA 98195-5020  
Or enter data electronically at the COASST Web Site: <http://www.coasst.org/> and mail photos and data sheets.



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Bird # of day	WF	R	C	FC	E	BP	EN	O	FOOT TYPE	BILL (mm)	WING (cm)	TARSUS (mm)	SPECIES	A	P	SEX	# OF PHOTOS	WHERE FOUND
																		HIGH WRACK SURFLINE UNKNOWN
<b>COMMENTS:</b>																		
																		REFUND (Y/N) COLLECTED (Y/N) FOOT CONDITION PLIABLE STIFF ROTTEN UNKNOWN EYES CLEAR SUNK GONE UNKNOWN BODY PARTS INTACT HEAD BREAST FEET (# and L or R) WINGS (# and L or R) ENTANGLED NO NET LINE HOOK 6 PACK OIL (Y/N)
<b>COMMENTS:</b>																		
																		TAKE MEASUREMENTS AND ID BIRD AGE UNKNOWN ADULT JUVENILE SUBADULT PLUMAGE UNKNOWN BREEDING NON BREEDING TRANSITIONAL JUVENILE NOFU ONLY LIGHT DARK OR INTERMEDIATE SEX (UNK MALE/FEMALE)
<b>COMMENTS:</b>																		
																		Tag ID#    COLOR SEQUENCE    WHERE TAGGED
<b>COMMENTS:</b>																		
																		Tag ID#    COLOR SEQUENCE    WHERE TAGGED
<b>COMMENTS:</b>																		
																		Tag ID#    COLOR SEQUENCE    WHERE TAGGED
<b>COMMENTS:</b>																		
																		Tag ID#    COLOR SEQUENCE    WHERE TAGGED
<b>COMMENTS:</b>																		

# RFP for COASST Technology Platform and Tools

## Appendix 3: Legacy Beach Bird Data Ingestion Screen Shots

**COASST**

### Data Entry

Verify data
Administer
My info
Logout

**Step 1: Who? volunteers** | Step 2: When? timing | Step 3: Beach conditions | Step 4: Birds characteristics

[Cancel Survey](#)

**Submitters**

**Data Collectors**

As you type, the list below will offer suggestions.

[Add volunteer](#)

Volunteer not appearing in suggestion list above? [Add person to the database](#)

[Go Back](#) [Verify Step 1](#)

# RFP for COASST Technology Platform and Tools

**COASST**

## Data Entry

Verify data
Administer
My info
Logout

**Step 1: Who? volunteers**   **Step 2: When? timing**   Step 3: Beach conditions   Step 4: Birds characteristics

[✖ Cancel Survey](#)

**Data collectors verified**

Survey Date

**Thursday, 06/05/14**

Please check that the date is correct. It's important to us.

Start Time  
  
11:00, 11am, 1100

End Time  
  
2:00, 2pm, 1400

**11:00 am – 4:00 pm**

[Go Back](#)   [Verify Step 2](#)

# RFP for COASST Technology Platform and Tools

**COASST**

**Data Entry**

Verify data  
Administer  
My info  
Logout

Step 1: Who? volunteers   Step 2: When? timing   **Step 3: Beach conditions**   Step 4: Birds characteristics

[Cancel Survey](#)

**Added survey time successfully**

Beach:  
As you type, the list below will offer suggestions.

Travel time:  
90, 1.5 hr, 90 min

Volunteer	Time

Weather:  
 Sun    Clouds    Fog    Rain    Snow

Oil Present?  
 Yes    No

How frequent? One oil patch every:

What types of oil?  
 Sheen  
 Tarballs  
 Goopy  
 Mousse

Oil comment. It's important to us.

Wood Present?  
 Yes    No  
What size?   Continuity?   Which Zone?  
     

Wrack Present?  
 Yes    No  
How wide?   Continuity?  
  

Human Data?    Yes    No

Any comments on the state of the beach?

Project  
 COASST  
 Marine Biology  
 Scoter Wreck

[Go Back](#)   [Verify Step 3](#)

# RFP for COASST Technology Platform and Tools

COASST

Data Entry

Verify data  
Administer  
My info  
Logout

Step 1: Who? volunteers  
Step 2: When? timing  
Step 3: Beach conditions  
Step 4: Birds characteristics

Were birds found during the survey?  
 Yes: Add A Bird  
⇒ No: Complete Verification

COASST

Data Entry

Verify data  
Administer  
My info  
Logout

### Add Bird #1

Cancel this bird

Where was the bird found?  
 High  Wrack  Surfline  Not noted

Is this a refind?  
 Yes  No

Collected  
 Yes  No

Collected comment: It's important to us.

Foot condition  
 Pliable  Stiff  Rotten  Feet Missing  Not noted

Eyes  
 Clear  Sunk  Gone  Head Missing  Not noted

Bird is intact?  
 Yes  No (scavenged or otherwise disfigured)

Head  
 Present  Missing

Breast  
 Present  Missing

Feet  
 Both Feet Present  One Foot Present  Feet Missing

Wings  
 Both Wings Present  Left Wing Present  Right Wing Present  Wings Missing

Entangled  
 Not Entangled  Net  Fishing Line  Hook  Plastic  Other Man-Made Substance

Entangled comment: It's important to us.

Oil on body?  
 Yes  No

Oil comment: It's important to us.

Foot Type Family  
Tuberosus; Albatrosses (2 webbed, 4th absent (or vestigial), huge feet)

Species  
Black-footed Albatross

Age	Plumage	Sex
<input type="radio"/> Adult	<input type="radio"/> Unknown	<input type="radio"/> Female
<input type="radio"/> Immature	<input type="radio"/> Breeding	<input type="radio"/> Male
<input type="radio"/> Unknown	<input type="radio"/> Non-breeding	<input type="radio"/> Unknown
	<input type="radio"/> Transitional	
	<input type="radio"/> Light morph	
	<input type="radio"/> Dark morph	
	<input type="radio"/> Brown	
	<input type="radio"/> Pied	
	<input type="radio"/> Checkered	
	<input type="radio"/> Winter	
	<input type="radio"/> Summer	
	<input type="radio"/> Intermediate	

Bill length: 94 - 113 mm  
 mm

Wing length: 48 - 53 cm  
 cm

Tarsus length: 80 - 95 mm  
 mm

Number of Photos:

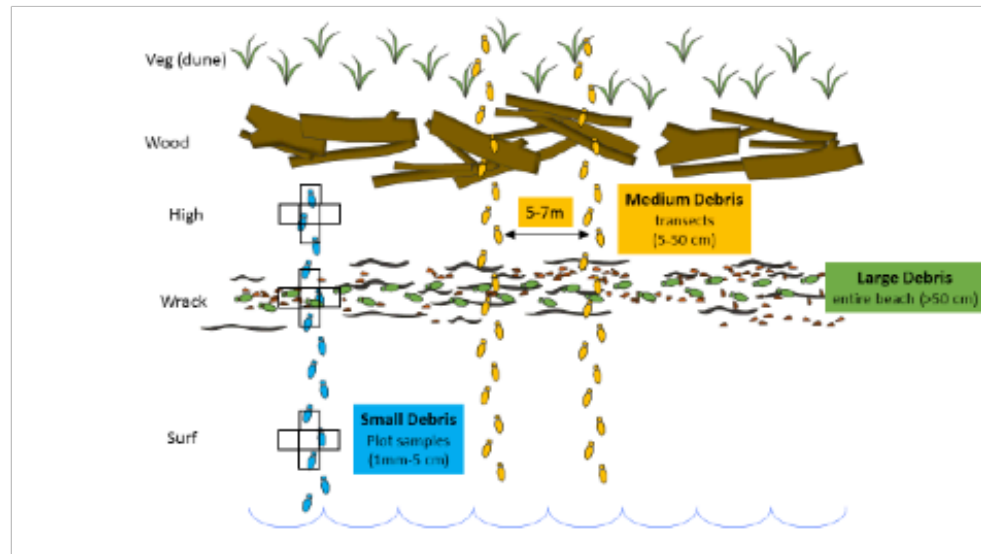
Tie Number:

Tie location  
 Right Wing  Left Wing  Leg  Bill  Multiple

Species Trump: the true species listed on the datasheet:

# RFP for COASST Technology Platform and Tools

## Appendix 4: Marine Debris Protocol



## An Introduction to COASST Marine Debris

COASST developed three survey types to study marine debris: Large, Medium and Small, which correspond both to the size of debris and area sampled on the beach. Each survey can be conducted independently or collectively with one or more type of survey.

Whichever combination you choose to commit to, we ask that you always fill-out a physical data sheet, which includes information about the condition of your beach and human use during the survey. We recommend this order of operations in the following scenarios:

### 1. *Large debris survey alone*

Conduct the survey, pace zone widths at turnaround point, and collect physical data on return leg

### 2. *Large debris survey & medium and/or small*

Conduct the large survey first. Do not pace zone widths at turnaround point (these are done in your transects). Select your random number at the turnaround point and conduct small/medium samples and collect physical data while walking on the return leg.

### 3. *Small and/or medium alone*

Walk the length of your beach, collecting physical data along the way. Do not do zone widths at the turnaround point (these are done in your transects). Select your random number at the turnaround point and conduct your small/medium surveys on the return leg.

For safety, efficiency and enjoyment, we recommend that all surveys are conducted by 2 or more people working as a team.

## RFP for COASST Technology Platform and Tools

For each survey, you will need to know your *average paces per meter*. This number will be part of your profile on our website, and used to convert your paces to meters for zone width measurements. To figure this out go outside (ideally on your beach and walking from the upper part toward the water) and pace a known distance in meters (minimum 10 meters), counting paces. Do this three times, to get an *average number of paces*. Divide by the known number of meters to get average paces per meter. Be sure to report this number to COASST staff or update this field in your online profile within your first month as a COASST Marine Debris Participant. Be sure to note who did the paces on a given day in the *DEBRIS HANDLER/PACER* line on your data sheet.

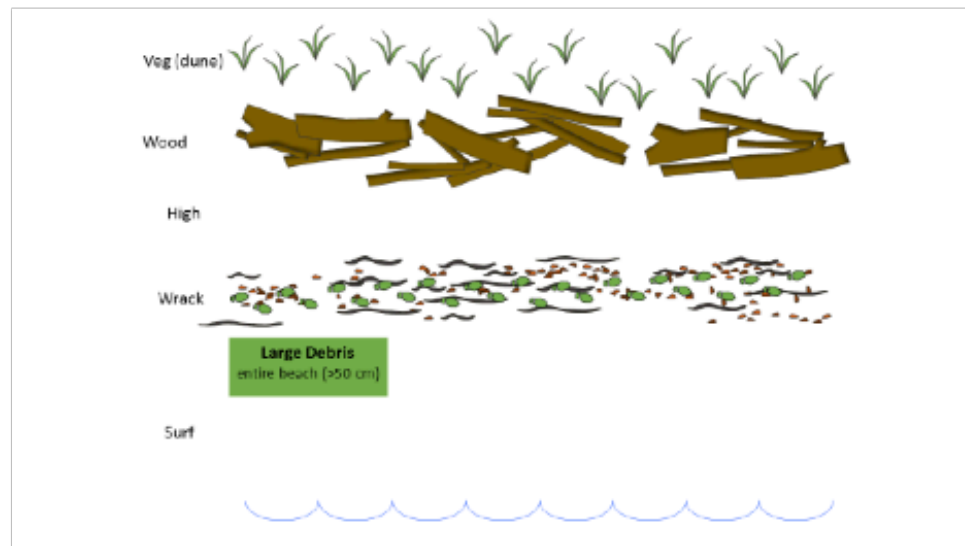
### Marine Debris Toolkit:

Tool	Survey Type	Use
flags	S, M, L	marking zones
pace clicker	S, M, L	counting random number and zone width paces
spray paint or nail polish	L	marking debris
clipboard	S, M, L	to record data
datasheets	S, M, L	to record data
pencil(s)	S, M, L	to record data
.25m square	S, M, L	for small plots and quick in/out of survey types: medium debris is between 5cm (marked in orange) and 50cm (inner length of the square), large is greater than 50cm
color bars	S, M, L	compare these colors to debris objects for classification. Note: there is more variation on the color bars than there are color options for the data sheet. Pick the closest one.
characteristics guide	S, M, L	to help with characteristics assignment and to code datasheet
protocol	S, M, L	to remind yourself how to do the survey
camera	S, M, L	to take pictures of the beach and objects
chalkboard and chalk	S, M, L	to note annotate your photos
200cm measuring tape	S, M, L	to measure the longest length of small and medium debris, and 3 dimensions plus stretch length of large
debris bag(s)	S, M, L	to keep track of debris found in particular zones during medium surveys or to carry debris off the beach
7m rope	M	to maintain the transect width of the medium survey

## Large Debris Protocol

Size: >50cm

Frequency: at least 1x/month



### PURPOSE

Find and record the characteristics and beach zone of all of the large marine debris on your beach.

### TOOLKIT

Spray paint or nail polish, clipboard, data sheets, pencil(s), 50cm color bar, sampling diagram, characteristics guide, camera, chalkboard and chalk, 200cm measuring tape, pace counter, debris bag(s)

### SAFETY CONSIDERATIONS

Wear gloves. Survey during low or outgoing tide. Keep an eye on the water to avoid surprise waves.

### IN A NUTSHELL

Two people or more people are needed to conduct this survey. The beach is divided into a maximum **5 zones** (**SURF**, **WRACK**, **HIGH**, **WOOD** and **VEGETATION**) that will vary by location and season, see diagram. Marine debris is sampled along the whole beach. Removal of debris upon completion of survey is optional.

### WHAT TO DO

#### TAKE BEACH PHOTOS

Take two photos of your beach: one at the *start point* of your survey and one at the *turnaround point*.



# RFP for COASST Technology Platform and Tools

## WALK THE BEACH

One person should walk down the beach through the wrack line, if present, otherwise, in the high zone above the wet sand. The second person should walk in the top of the high zone at the edge of the wood or vegetation (if present). Each person should scan the width of the beach looking for large marine debris stopping and alerting their partner(s) when an object larger than 50cm in any dimension is encountered. If your beach is very narrow (less than 6m wide) a single person can conduct this survey by walking through the center of the beach.

## WHEN YOU ENCOUNTER A MARINE DEBRIS OBJECT

What is a marine debris object? COASST considers a marine debris object to be any man-made or processed object found on the beach that either originated from land (such as litter) or the ocean.

When you encounter such an object, use your orange outdoor spray paint or nail polish to mark the uppermost surface of each piece of large debris in a circular shape.

If the object found is already marked it is a *Re-find*.

**RE-FINDS.** If the original mark has faded, refresh on top of the original marking in addition to making a second mark to denote that the object has been found two times. On the third encounter you can add a third mark, and so on. Tally re-find objects in the re-find area of your data sheet according to the number of COASST markings and zone the object was found. Only record characteristics and take photos of new finds.

For new items, record *debris characteristics* using your characteristics guide and note the **BEACH ZONE** (SURF, WRACK, HIGH, WOOD or VEG) that the object was found. The **SURF ZONE** is the area where the water is wet. The **WRACK ZONE** is the area where seaweed and other material accumulates at the high tide mark. The **HIGH ZONE** area is above the surf or above the wrack, if wrack is present. The **WOOD ZONE** area is where woody debris accumulates on the beach, and the **VEG ZONE** is where dunes or other vegetation is present.

Objects can fall into one of three categories:

**One of a kind objects** get a complete datasheet line, unique **OBJECT NUMBER** (beginning at 1 for the first object encountered during a survey) and individual photo(s) with that object number on the chalkboard.

**Identical objects** (all characteristics the same) get a single complete datasheet line and are tallied by zone (count becomes zone) and get a single object number one photo is taken of a representative object.

**Unidentifiable objects of the same material** can be tallied in the same manner as identical objects after you have recorded all characteristics of 5 objects. Unidentifiable objects are those that are made of the same material that lack source characteristics. Beginning with the 6<sup>th</sup> like object you can tally by zone in the 5<sup>th</sup> data line and forego photos and unique object numbers except for every 10<sup>th</sup> like object encountered thereafter. For the 10<sup>th</sup>, 20<sup>th</sup>, 30<sup>th</sup> and so on there will be unique data line, all characteristics assigned, object number and photo taken. The 6-9<sup>th</sup> objects are tallied in the 5<sup>th</sup> associated data line, 11-19<sup>th</sup> in the 10<sup>th</sup> associated line and so on.

## RFP for COASST Technology Platform and Tools

For example: 3 pieces of unbranded lumber without mortise and tenon style put you into the tally option, but if 2 of 5 have companies stamped on them or are mortise and tenon\*, we want to know and collect info about each of those separately and they don't count toward the 5.

\*insert box about mortise and tenon

***Take a photo of each object.*** Place the ***ruler*** and ***chalkboard*** in the photo frame. Note the ***DATE, BEACH NAME,*** and ***OBJECT NUMBER*** on the chalkboard to link the photo to the object's datasheet record.

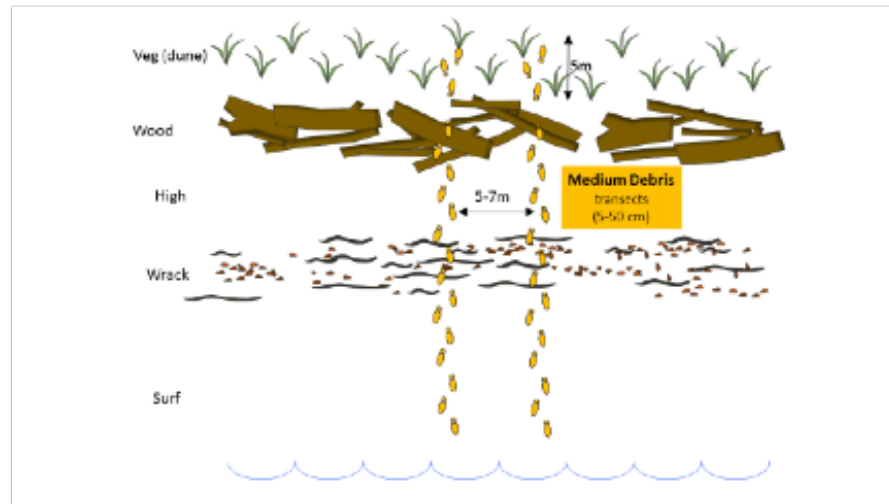
For objects that require one or more ***detailed photos*** (when logo/brand, barcode, writing, other source clues are present) take an "in focus" image where characteristic of interest is well represented and if possible, the chalkboard is in the frame. It is OK if multiple images are required to capture the relevant details.

When finished, ***continue the survey*** repeating the process for each marine debris object found until the entire beach has been surveyed.

## Medium Debris Protocol

Size: 5-50cm

Frequency: at least 1x per month



### PURPOSE

Find and record the characteristics and beach zone of all marine debris between 5 and 50cm at the longest dimension within transects perpendicular to the long-axis of the beach.

### TOOLKIT

clipboard, data sheets, pencil(s), 50cm color bar, sampling diagram, characteristics guide, camera, chalkboard and chalk, 200cm measuring tape, pace counter, debris bag(s), 7m rope with meters marked and flag at center, flags

### SAFETY CONSIDERATIONS

Wear gloves. Try to work during low or outgoing tide. Face the water to avoid surprise waves.

### IN A NUTSHELL

Two people are needed to conduct this survey. The beach is divided into a maximum **5 zones** (surf, wrack, high, wood and vegetation) that will vary by location and season, see diagram. Debris is sampled using a **transect** that runs perpendicular to the water's edge through each zone and created by holding a rope between two partners. Beach zone widths are estimated using **paces** so that we can calculate

# RFP for COASST Technology Platform and Tools

concentration of debris by location on the beach. Removal of debris upon completion of survey is optional.

## WHAT TO DO

### ESTABLISH A TRANSECT

Select a random number 5-500 using the random numbers table below (or phone apps work well) by closing your eyes and pointing to a random place on the table.

393	051	086	112	033	271	052	345	194	153	043	239	147	059	192	290	126	123	497	367	130	343	463	104	423	093	455	494	245
131	107	049	224	195	412	125	359	416	378	490	024	165	370	384	474	072	022	303	453	135	327	015	457	356	162	248	253	237
285	142	075	144	433	061	054	208	243	269	190	428	077	006	351	178	200	396	173	216	349	447	151	280	158	027	287	500	488
261	084	250	116	155	402	157	264	206	380	352	073	282	020	441	404	019	181	322	031	409	499	229	179	460	478	292	484	040
118	017	319	405	410	394	442	167	232	301	094	218	211	365	400	426	347	089	234	163	012	335	357	057	329	373	010	473	308
437	183	184	444	029	149	418	109	407	141	312	063	314	421	363	041	377	098	439	045	102	065	176	338	479	056	070	160	386
336	121	139	449	014	197	274	174	476	430	435	420	467	324	389	458	120	375	368	025	425	451	372	114	391	188	169	492	382
082	486	398	035	133	465	462	340	341	105	186	306	078	266	068	298	469	088	471	446	388	067	038	255	100	202	259	222	333
495	008	213	227	317	047	361	146	296	110	171	354	431	331	137	091	096	080	128	481	414	483	276	036	393	051	086	112	033
271	052	345	194	153	043	239	147	059	192	290	126	123	497	367	130	343	463	104	423	093	455	494	245	131	107	049	224	195
412	125	359	416	378	490	024	165	370	384	474	072	022	303	453	135	327	015	457	356	162	248	253	237	285	142	075	144	433
061	054	208	243	269	190	428	077	006	351	178	200	396	173	216	349	447	151	280	158	027	287	500	488	261	084	250	116	155
402	157	264	206	380	352	073	282	020	441	404	019	181	322	031	409	499	229	179	460	478	292	484	040	118	017	319	405	410
394	442	167	232	301	094	218	211	365	400	426	347	089	234	163	012	335	357	057	329	373	010	473	308	437	183	184	444	029
149	418	109	407	141	312	063	314	421	363	041	377	098	439	045	102	065	176	338	479	056	070	160	386	336	121	139	449	014
197	274	174	476	430	435	420	467	324	389	458	120	375	368	025	425	451	372	114	391	188	169	492	382	082	486	398	035	133
465	462	340	341	105	186	306	078	266	068	298	469	088	471	446	388	067	038	255	100	202	259	222	333	495	008	213	227	317
047	361	146	296	110	171	354																						

From your beach access point, walk down to the surf (wet sand) zone on the beach.

Pace *your random number* down the beach (parallel to the water).

*Start* your first transect here.

### FIGURE OUT THE BEACH ZONES

1. Starting at the water, walk perpendicular up the beach, watching for zone transitions.
2. Place a zone transition flag at each transition point.
3. Before the survey, *pace the distance* between each transition flag to establish the width of each zone; record the number of paces for each zone and note the pacer's identity.

The **SURF ZONE** is the area where the water is wet. The **WRACK ZONE** is the area where seaweed and other material accumulates at the high tide mark. The **HIGH ZONE** area is above the surf or above the wrack, if wrack is present. The **WOOD ZONE** area is where woody debris accumulates on the beach, and the **VEG ZONE** is where dunes or other vegetation is present.

You should *always* have a transition from surf to upper beach (wrack or high).

You *may* have additional flags at:

- wrack to high (if wrack is present on the beach)
- high to wood (if wood is present on the beach)
- wood to veg OR high to veg (if wood, and/or dune vegetation is present)

# RFP for COASST Technology Platform and Tools

If there is a **VEG ZONE**, do not pace it. If the dunes are steep and eroding or if there are signs of nesting birds, note that it is not **survey-able** in the **COMMENTS** of your data sheet. If it is survey-able, **you will survey a distance of 5m** into the vegetation.

If there is a **WOOD ZONE**, assess whether it is **safe** to enter the wood zone. Large logs that surveyors must scramble over are not safe. If it **is** safe, pace the whole zone to establish the width. If it is **not** safe, proceed toward the water to the next zone.

## TAKE TRANSECT PHOTOS

Take two photos of each transect: one photo facing toward the water and one photo facing toward the back of the beach

## DETERMINE TRANSECT WIDTH

The transect width is the distance between the survey pair, kept constant by a taut measured rope held between them. If transect is predominantly **SAND (less than mm)**, transect width is **7m**; if beach is **COBBLE (mm-tens of cm)** or another substrate, transect width is **5m**.

## CONDUCT THE SURVEY

**Within each zone**, surveyors should **walk toward the water** (with the exception of the veg zone, where you are going in the opposite direction) **in a straight line** parallel to each other holding the rope taut between you proceeding slowly, and looking into the transect (distance between the surveyors) for debris.

If there is a veg zone, assess whether it is **survey-able** per criteria above. If it **is survey-able**, survey a distance of 5m into the vegetation being careful to avoid stepping on vegetation. If it is **not survey-able**, or there is no vegetation zone, continue the survey back down the beach moving towards the water.

If there is a wood zone, assess whether it is **safe** to enter the wood zone. If it is **safe**, survey the **entire zone**, but never picking up or moving any wood. If it is **not safe**, proceed toward the water to the next zone.

In the surf zone, **stop** above the high reach of the waves. The point of the survey is not to get swept away, or even wet. Stay safe!

Make sure to keep the transect **headed straight** down the beach. The zone transition flags should be used to center the rope and keep the **transect width constant**.

As the transect rope moves over each sighted marine debris object, lay down the transect rope and proceed to the debris, adding it to a **pile** or **bag for each beach zone** then return to your walking position and continue the survey.

What is a marine debris object? COASST considers a marine debris object to be any man-made or processed object found on the beach that either originated from land (such as litter) or the ocean.

When you've reached the **end of a beach zone**, lay the rope down and return to your debris pile to conduct debris characteristic recordings. When finished, continue the survey for the next zone until all zones have been surveyed.

## RFP for COASST Technology Platform and Tools

If you encounter **2+ objects** of **identical characteristics** within a 1.5cm size range, eg., a bunch of broken-up Styrofoam, use one line of your datasheet, count the items and put this in the “count” cell, noting the size range (e.g., smallest piece is 3.5cm and largest is 5cm) in the longest length cell.

**Take a photo** of each piece of debris. Number each piece of debris on your datasheet according to the order you take the photos, starting at 1 for each zone within a transect. Place the **ruler** and **chalkboard** in the photo frame. Note the **DATE, BEACH NAME, BEACH ZONE** and **OBJECT NUMBER** on the chalkboard to link the photo to the object’s datasheet record.

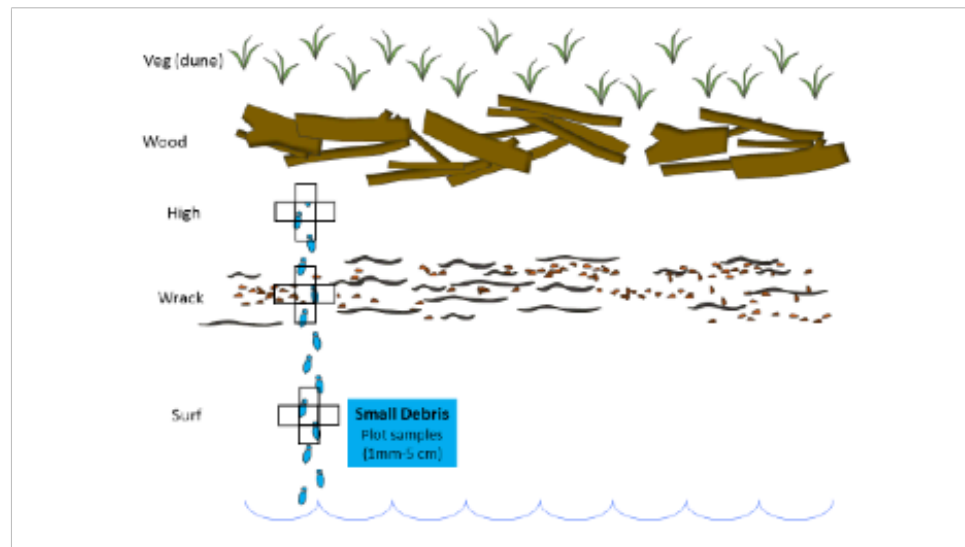
For objects that require one or more **detailed photos** (when logo/brand, barcode, writing, other source clues are present) take an “in focus” image where characteristic of interest is well represented in the frame and, if possible, the chalkboard can also be seen. It is OK if multiple images are required to capture the relevant details.

For your **next transect**, select a new random number and begin pacing from the location of your current transect, continuing down the beach. Repeat this process until at least 2 transects have been completed for beaches greater than or equal to 6m wide (length perpendicular to the water), and a minimum of 3 for beaches less than 6m wide.

## Small Debris Survey Protocol

Size: 1mm-5cm

Frequency: at least 1x/month



### PURPOSE

Find and record the characteristics and beach zones of all of the marine debris between 1mm and 5cm within plots made up of 0.25m<sup>2</sup> squares within 2-3 transects on the beach

### TOOLKIT

clipboard, data sheets, pencil(s), .25m square, sampling diagram, characteristics guide, camera, chalkboard and chalk, flags, measuring tape, pace counter, debris bag(s)

### SAFETY CONSIDERATIONS

Wear gloves. Try to work during low or outgoing tide. Face the water to avoid surprise waves.

### IN A NUTSHELL

The beach is divided into 3 zones depending on the morphology of the beach and the presence/absence of beach wrack (washed up seaweed). Debris is sampled in each zone so that we can estimate *density* of debris by location on the beach. Removal of debris upon completion of survey is *optional*. Squares are placed along a transect that runs perpendicular to the water. This transect can be related to a medium debris transect (Option 1) or be established separately

# RFP for COASST Technology Platform and Tools

(Option 2), see below. Note: although we distinguish 5 potential beach zones for medium debris, we only consider three for small debris sampling: surf, wrack, and high.

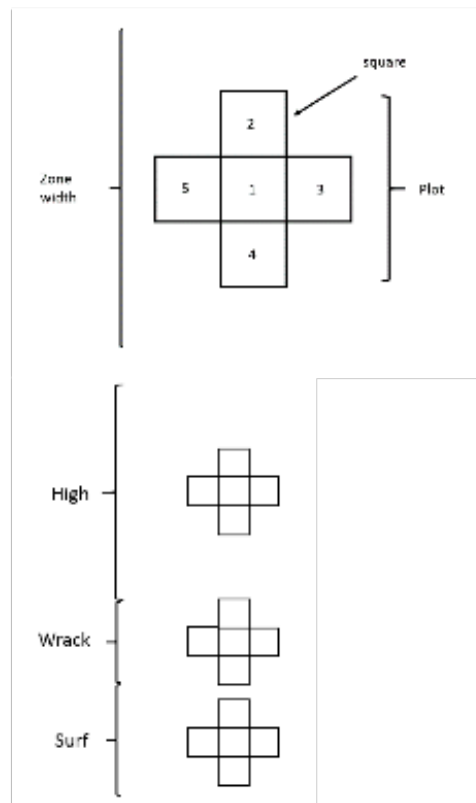
\*\*\*\*\*

WHAT TO DO: Option 1. If you *already established* a medium debris transect:

**IF** you've already established a transect for a medium debris survey: walk 10 paces to the right (facing water) and place the square in the center (perpendicular to the water) of the highest beach zone (surf, wrack or high) present.

ESTABLISH YOUR PLOT

Start with your square here in the center, and then flip it once along each edge for a total of 5 squares (see diagrams). Consider each set of 5 squares your "plot" for that zone.



You've already paced the widths of the zones, record these on the small debris data sheet.

CONDUCT THE SURVEY



# RFP for COASST Technology Platform and Tools

**Search each square** for all small marine debris and record the **characteristics** for each marine debris object found. Use the characteristic definitions as your guide.

What is a marine debris object? COASST considers a marine debris object to be any man-made or processed object found on the beach that either originated from land (such as litter) or the ocean.

**Take a photo** of the debris from **each plot**. Place the ruler and chalkboard in the photo frame and cluster the small debris from a single plot in one visible layer to fit the photo frame. Note the date, beach name, transect number and beach zone on the chalkboard to link the photo to the object records on the datasheet.

Once you've completed the plot, move toward the water to the center of the next beach zone, using the flags from the transect as your guide. Repeat steps 1 and 2 until all 3 zones have been surveyed at this transect and repeat the entire process until the minimum number of transects has been completed. The minimum is 2 for beaches greater than or equal to 6m wide (length perpendicular to the water), and 3 for beaches less than 6m wide.

\*\*\*\*\*

WHAT TO DO Option 2. If you have not established a transect yet.

ESTABLISH A TRANSECT

Select a random number 5-500 using the random numbers table below (or phone apps work well) by closing your eyes and pointing to a random place on the table.

393	051	086	112	033	271	052	345	194	153	043	239	147	059	192	290	126	123	497	367	130	343	463	104	423	093	455	494	245
131	107	049	224	195	412	125	359	416	378	490	024	165	370	384	474	072	022	303	453	135	327	015	457	356	162	248	253	237
285	142	075	144	433	061	054	208	243	269	190	428	077	006	351	178	200	396	173	216	349	447	151	280	158	027	287	500	488
261	084	250	116	155	402	157	264	206	380	352	073	282	020	441	404	019	181	322	031	409	499	229	179	460	478	292	484	040
118	017	319	405	410	394	442	167	232	301	094	218	211	365	400	426	347	089	234	163	012	335	357	057	329	373	010	473	308
437	183	184	444	029	149	418	109	407	141	312	063	314	421	363	041	377	098	439	045	102	065	176	338	479	056	070	160	386
336	121	139	449	014	197	274	174	476	430	435	420	467	324	389	458	120	375	368	025	425	451	372	114	391	188	169	492	382
082	486	398	035	133	465	462	340	341	105	186	306	078	266	068	298	469	088	471	446	388	067	038	255	100	202	259	222	333
495	008	213	227	317	047	361	146	296	110	171	354	431	331	137	091	096	080	128	481	414	483	276	036	393	051	086	112	033
271	052	345	194	153	043	239	147	059	192	290	126	123	497	367	130	343	463	104	423	093	455	494	245	131	107	049	224	195
412	125	359	416	378	490	024	165	370	384	474	072	022	303	453	135	327	015	457	356	162	248	253	237	285	142	075	144	433
061	054	208	243	269	190	428	077	006	351	178	200	396	173	216	349	447	151	280	158	027	287	500	488	261	084	250	116	155
402	157	264	206	380	352	073	282	020	441	404	019	181	322	031	409	499	229	179	460	478	292	484	040	118	017	319	405	410
394	442	167	232	301	094	218	211	365	400	426	347	089	234	163	012	335	357	057	329	373	010	473	308	437	183	184	444	029
149	418	109	407	141	312	063	314	421	363	041	377	098	439	045	102	065	176	338	479	056	070	160	386	336	121	139	449	014
197	274	174	476	430	435	420	467	324	389	458	120	375	368	025	425	451	372	114	391	188	169	492	382	082	486	398	035	133
465	462	340	341	105	186	306	078	266	068	298	469	088	471	446	388	067	038	255	100	202	259	222	333	495	008	213	227	317
047	361	146	296	110	171	354																						

From your beach access point, walk down to the surf (wet sand) zone on the beach.

Pace **your random number** down the beach (parallel to the water).

**Start** your first transect here.

# RFP for COASST Technology Platform and Tools

## FIGURE OUT THE BEACH ZONES

Starting at the water, walk perpendicular up the beach, watching for zone transitions.

Place a zone transition flag at each transition point.

Before the survey, *pace the distance* between each transition flag to establish the width of each zone; record the number of paces for each zone and note the pacer's identity.

The **SURF ZONE** is the area where the water is wet. The **WRACK ZONE** is the area where seaweed and other material accumulates at the high tide mark. The **HIGH ZONE** area is above the surf or above the wrack, if wrack is present. The **WOOD ZONE** area is where woody debris accumulates on the beach, and the **VEG ZONE** is where dunes or other vegetation is present.

You should *always* have a transition from surf to upper beach (wrack or high).

You *may* have additional flags at:

wrack to high (if wrack is present on the beach)

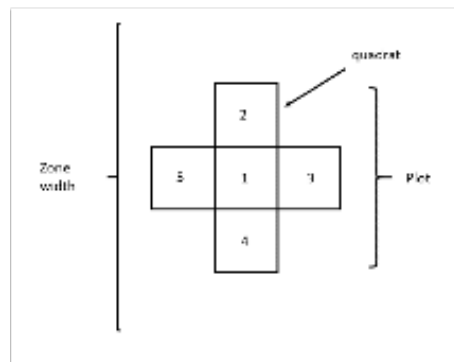
high to wood (if wood is present on the beach)

wood to veg OR high to veg (if wood, and/or dune vegetation is present)

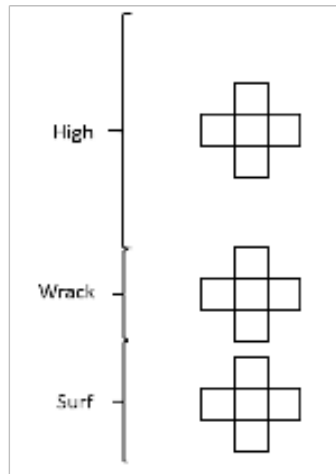
Note: you only survey small debris in the **SURF**, **WRACK**, and **HIGH ZONE**.

## ESTABLISH YOUR PLOT

Start with your square in the center, and then flip it once along each edge in the order shown (1-5) for a total of 5 squares (see diagrams). Consider each set of 5 squares your "plot" for that zone.



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You've already paced the width of the zones, record these on the small debris data sheet.

### CONDUCT THE SURVEY

**Search the square** for all small marine debris and record the **characteristics** for each debris object found. Use the characteristic definitions as your guide.

What is a marine debris object? COASST considers a marine debris object to be any man-made or processed object found on the beach that either originated from land (such as litter) or the ocean.

**Take a photo** of the debris from **each plot**. Place the ruler and chalkboard in the photo frame and cluster the small debris from a single plot in one visible layer to fit the photo frame. Note the date, beach name, transect number and beach zone on the chalkboard to link the photo to the plot's object records on the datasheet.

Once you've completed the plot, move toward the water to the center of the next beach zone, using the flags from the transect as your guide. Repeat steps 1 and 2 until all the surf, wrack and high zones have been surveyed if present at this transect and repeat the entire process until the minimum number of transects has been completed. The minimum is 2 for beaches greater than or equal to 6m wide (length perpendicular to the water), and 3 for beaches less than 6m wide.

# RFP for COASST Technology Platform and Tools

## Appendix 5: Marine Debris Field Forms

### Large Debris

Date		Beach Name										Start Time			
Data Recorder					Debris Handler					Stop Time					
Z	ZC	ON	OID	S	Com	Con	W	M	P	Col	Sha	Cru	Shi	BF	BC
S						W									
Wr					S	F	L				Y	Y	Y	Y	Y
H						P	M								
Wo					C	U	H				N	N	N	N	N
Veg															
LB	LBW	B	L	CL	Dim	Flex	Ho	Op	Si						
Y		Y		Y	Dia	2	Floppy	Rigid	IB	Yes					
N		N		N		3	Floppy	Rigid	IB	No	0				
Comments:															
Z	ZC	ON	OID	S	Com	Con	W	M	P	Col	Sha	Cru	Shi	BF	BC
S						W									
Wr					S	F	L				Y	Y	Y	Y	Y
H						P	M								
Wo					C	U	H				N	N	N	N	N
Veg															
LB	LBW	B	L	CL	Dim	Flex	Ho	Op	Si						
Y		Y		Y	Dia	2	Floppy	Rigid	IB	Yes					
N		N		N		3	Floppy	Rigid	IB	No	0				
Comments:															
Z	ZC	ON	OID	S	Com	Con	W	M	P	Col	Sha	Cru	Shi	BF	BC
S						W									
Wr					S	F	L				Y	Y	Y	Y	Y
H						P	M								
Wo					C	U	H				N	N	N	N	N
Veg															
LB	LBW	B	L	CL	Dim	Flex	Ho	Op	Si						
Y		Y		Y	Dia	2	Floppy	Rigid	IB	Yes					
N		N		N		3	Floppy	Rigid	IB	No	0				
Comments:															
REFINDS	1	2	3	4	5	6	7	8	9						
S															
Wr															
H															
Wo															
Veg															

# RFP for COASST Technology Platform and Tools

## Large Debris

Date		Beach Name														
Z	ZC	ON	OID	S	Com	Con	W	M	P	Col	Sha	Cru	Shi	BF	BC	
S						W										
Wr					S	F	L				Y	Y	Y	Y	Y	
H						P	M									
Wo					C	U	H				N	N	N	N	N	
Veg																
LB	LBW	B	L	CL	Dim	Flex	Ho	Op	Si							
Y		Y		Y	Dia	2	Floppy	Rigid	IB	Yes						
N		N		N		3	Floppy	Rigid	IB	No	0					
Comments:																
Z	ZC	ON	OID	S	Com	Con	W	M	P	Col	Sha	Cru	Shi	BF	BC	
S						W										
Wr					S	F	L				Y	Y	Y	Y	Y	
H						P	M									
Wo					C	U	H				N	N	N	N	N	
Veg																
LB	LBW	B	L	CL	Dim	Flex	Ho	Op	Si							
Y		Y		Y	Dia	2	Floppy	Rigid	IB	Yes						
N		N		N		3	Floppy	Rigid	IB	No	0					
Comments:																
Z	ZC	ON	OID	S	Com	Con	W	M	P	Col	Sha	Cru	Shi	BF	BC	
S						W										
Wr					S	F	L				Y	Y	Y	Y	Y	
H						P	M									
Wo					C	U	H				N	N	N	N	N	
Veg																
LB	LBW	B	L	CL	Dim	Flex	Ho	Op	Si							
Y		Y		Y	Dia	2	Floppy	Rigid	IB	Yes						
N		N		N		3	Floppy	Rigid	IB	No	0					
Comments:																
Z	ZC	ON	OID	S	Com	Con	W	M	P	Col	Sha	Cru	Shi	BF	BC	
S						W										
Wr					S	F	L				Y	Y	Y	Y	Y	
H						P	M									
Wo					C	U	H				N	N	N	N	N	
Veg																
LB	LBW	B	L	CL	Dim	Flex	Ho	Op	Si							
Y		Y		Y	Dia	2	Floppy	Rigid	IB	Yes						
N		N		N		3	Floppy	Rigid	IB	No	0					
Comments:																

# RFP for COASST Technology Platform and Tools

## Medium Debris

Date		Beach Name			Data Recorder				Debris Handler											
Start Time		Stop Time				Transect no.				Random no.				Zones present		Surf	Wrack	High	Wood	Veg
Substrate		Sand	Cobble	Bed	Mud	Man-made				Zone Widths				Sha	Cru	Shi	BF	BC		
Z	ZC	ON	OID	S	Com	Con	W	M	P	Col	Sha	Cru	Shi	BF	BC					
S						W														
Wr					S	F	L				Y	Y	Y	Y	Y					
H						P	M													
Wo					C	U	H				N	N	N	N	N					
Veg																				
LB	LBW	B	L	CL	Dim	Flex	Ho	Op	Si											
Y		Y		Y	Dia	2	Floppy	Rigid	IB	Yes										
N		N		N		3	Floppy	Rigid	IB	No	0									
Comments:																				
Z	ZC	ON	OID	S	Com	Con	W	M	P	Col	Sha	Cru	Shi	BF	BC					
S						W														
Wr					S	F	L				Y	Y	Y	Y	Y					
H						P	M													
Wo					C	U	H				N	N	N	N	N					
Veg																				
LB	LBW	B	L	CL	Dim	Flex	Ho	Op	Si											
Y		Y		Y	Dia	2	Floppy	Rigid	IB	Yes										
N		N		N		3	Floppy	Rigid	IB	No	0									
Comments:																				
Z	ZC	ON	OID	S	Com	Con	W	M	P	Col	Sha	Cru	Shi	BF	BC					
S						W														
Wr					S	F	L				Y	Y	Y	Y	Y					
H						P	M													
Wo					C	U	H				N	N	N	N	N					
Veg																				
LB	LBW	B	L	CL	Dim	Flex	Ho	Op	Si											
Y		Y		Y	Dia	2	Floppy	Rigid	IB	Yes										
N		N		N		3	Floppy	Rigid	IB	No	0									
Comments:																				
Z	ZC	ON	OID	S	Com	Con	W	M	P	Col	Sha	Cru	Shi	BF	BC					
S						W														
Wr					S	F	L				Y	Y	Y	Y	Y					
H						P	M													
Wo					C	U	H				N	N	N	N	N					
Veg																				
LB	LBW	B	L	CL	Dim	Flex	Ho	Op	Si											
Y		Y		Y	Dia	2	Floppy	Rigid	IB	Yes										
N		N		N		3	Floppy	Rigid	IB	No	0									
Comments:																				

# RFP for COASST Technology Platform and Tools

## Medium Debris

Date		Beach Name													
Z	ZC	ON	OID	S	Com	Con	W	M	P	Col	Sha	Cru	Shi	BF	BC
S						W									
Wr					S	F	L				Y	Y	Y	Y	Y
H						P	M								
Wo					C	U	H				N	N	N	N	N
Veg															
LB	LBW	B	L	CL	Dim	Flex	Ho	Op	Si						
Y		Y		Y	Dia	2	Floppy	Rigid	IB	Yes					
N		N		N		3	Floppy	Rigid	IB	No	0				
Comments:															
Z	ZC	ON	OID	S	Com	Con	W	M	P	Col	Sha	Cru	Shi	BF	BC
S						W									
Wr					S	F	L				Y	Y	Y	Y	Y
H						P	M								
Wo					C	U	H				N	N	N	N	N
Veg															
LB	LBW	B	L	CL	Dim	Flex	Ho	Op	Si						
Y		Y		Y	Dia	2	Floppy	Rigid	IB	Yes					
N		N		N		3	Floppy	Rigid	IB	No	0				
Comments:															
Z	ZC	ON	OID	S	Com	Con	W	M	P	Col	Sha	Cru	Shi	BF	BC
S						W									
Wr					S	F	L				Y	Y	Y	Y	Y
H						P	M								
Wo					C	U	H				N	N	N	N	N
Veg															
LB	LBW	B	L	CL	Dim	Flex	Ho	Op	Si						
Y		Y		Y	Dia	2	Floppy	Rigid	IB	Yes					
N		N		N		3	Floppy	Rigid	IB	No	0				
Comments:															
Z	ZC	ON	OID	S	Com	Con	W	M	P	Col	Sha	Cru	Shi	BF	BC
S						W									
Wr					S	F	L				Y	Y	Y	Y	Y
H						P	M								
Wo					C	U	H				N	N	N	N	N
Veg															
LB	LBW	B	L	CL	Dim	Flex	Ho	Op	Si						
Y		Y		Y	Dia	2	Floppy	Rigid	IB	Yes					
N		N		N		3	Floppy	Rigid	IB	No	0				
Comments:															

# RFP for COASST Technology Platform and Tools

## Small Debris

Date		Beach Name				Data Recorder				Debris Handler							
Transect no.	Random no.	Zones present	Surf	Wrack	High	Wood	Veg	Start Time	Stop Time	B	L	O					
Substrate	Sand	Cobble	Bed	Mud	Man-made												
Z	Q	C	ON	OID	S	Com	Con	M	P	Col	Sha	Shi	LB	LBW	B	L	O
Comments:																	
Z	Q	C	ON	OID	S	Com	Con	M	P	Col	Sha	Shi	LB	LBW	B	L	O
Comments:																	
Z	Q	C	ON	OID	S	Com	Con	M	P	Col	Sha	Shi	LB	LBW	B	L	O
Comments:																	
Z	Q	C	ON	OID	S	Com	Con	M	P	Col	Sha	Shi	LB	LBW	B	L	O
Comments:																	
Z	Q	C	ON	OID	S	Com	Con	M	P	Col	Sha	Shi	LB	LBW	B	L	O
Comments:																	
Z	Q	C	ON	OID	S	Com	Con	M	P	Col	Sha	Shi	LB	LBW	B	L	O
Comments:																	

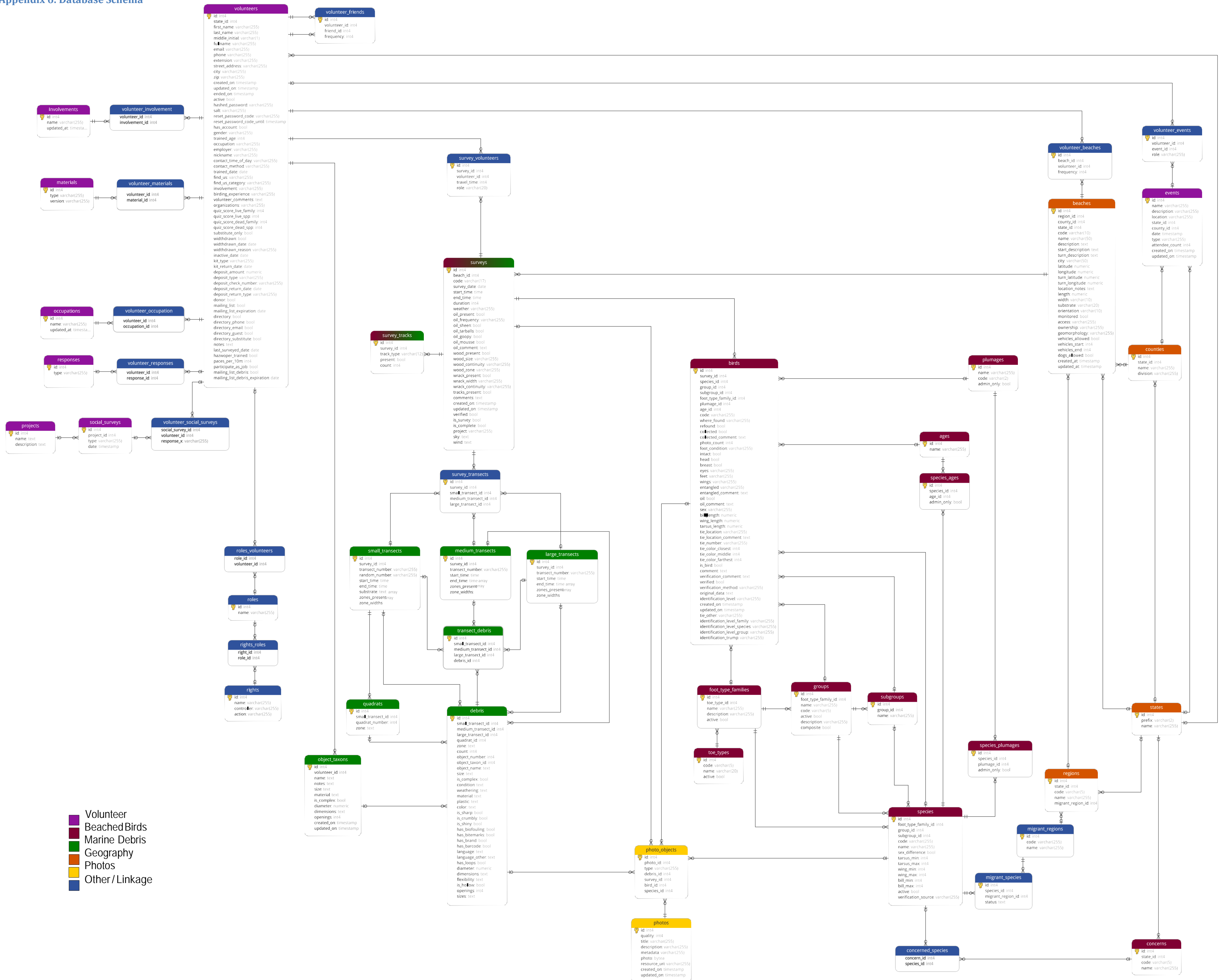


# RFP for COASST Technology Platform and Tools

## Small Debris

Date		Beach Name															
Z	Q	C	ON	OID	S	Com	Con	M	P	Col	Sha	SHI	LB	LBW	B	L	O
Comments:																	
Z	Q	C	ON	OID	S	Com	Con	M	P	Col	Sha	SHI	LB	LBW	B	L	O
Comments:																	
Z	Q	C	ON	OID	S	Com	Con	M	P	Col	Sha	SHI	LB	LBW	B	L	O
Comments:																	
Z	Q	C	ON	OID	S	Com	Con	M	P	Col	Sha	SHI	LB	LBW	B	L	O
Comments:																	
Z	Q	C	ON	OID	S	Com	Con	M	P	Col	Sha	SHI	LB	LBW	B	L	O
Comments:																	
Z	Q	C	ON	OID	S	Com	Con	M	P	Col	Sha	SHI	LB	LBW	B	L	O
Comments:																	

Appendix 6: Database Schema



# RFP for COASST Technology Platform and Tools

## Appendix 7: Additional Data Management Requirements

### Beach data management interface

#### Beaches

[Search](#) [Add new beach](#) [Export to CSV](#)

Name	Code	Description	City	Region	Edit	Delete	Show
Admiralty Inlet	AdmInlt		Port Townsend	Puget Sound	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Afognak Beach	AfgnkBch	PRIVATE property signs everywhere, according to...	Seward	Gulf of Alaska	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Agate Beach	AgateBch		Newport	Oregon North	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Airport Beach	ArprtBch		Seward	Gulf of Alaska	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Ala Spit	AlaSpt	rip rap at south end to first piling	Oak Harbor	Puget Sound	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Alki Beach	AlkBch	53rd Bus Stop SW to Beach house	Seattle	Puget Sound	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Anchor River S	AnchrRS		Homer	Gulf of Alaska	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Arcadia Beach	ArcdBch		Cannon Beach	Oregon North	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Bagley Creek	BgleyBch	volunteer says L= approx 1.5	Port Angeles	Strait	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Barge Basin North Bc	BrgBsnNt	Privately owned - contact Wayne Barrowcliff at ...	Homer	Gulf of Alaska	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Bastendorff	Bstndrff	Creek to South Jetty/Coos Bay entrance	Coos Bay	Oregon South	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Battery Point N	BtryN	6th st entrance to lighthouse	Crescent City	Humboldt	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Battery Point S	BtryS	lighthouse to pool parking lot	Crescent City	Humboldt	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Beach 1	BchOne	Campground & stream to Beach 1 trailhead &a...	Forks	North Coast	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Beach 2	BchTwo	trailhead for Beach 1, north to trail for Bch2 ...	Forks	North Coast	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>

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1 2 3 .. 48 Next

[Back to Data Entry](#)

### Bird species authority interface

#### Species

[Search](#) [Add new species](#) [Export to CSV](#)

Name	Code	Group	Subgroup	Foot type family	Edit	Delete	Show
American Coot	AMCO	Coots	Coots	Coots	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
American Crow	AMCR	Corvids	Crows	Perching Birds	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
American Robin	AMRO	Songbirds	Thrushes	Perching Birds	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
American White Pelican	AWPE	Pelicans	Pelicans	Pouchbills	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
American Wigeon	AMWI	Tipplers	Dabbling Ducks	Waterfowl	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Ancient Murrelet	ANMU	Small Alcids	Murrelets	Alcids	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Arctic Tern	ARTE	Terns	Terns	Larids	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Bald Eagle	BAEA	Eagles	Eagles	Raptors	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Band-tailed Pigeon	BTPJ	Pigeons	Pigeons	Pigeons	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Barn Owl	BNOW	Owls	Large Owls	Raptors	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Barred Owl	BDOW	Owls	Large Owls	Raptors	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Barrow's Goldeneye	BAGO	Diving Ducks	Diving Ducks	Waterfowl	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Bar-tailed Godwit	BTGO	4-Toed Shorebirds	Godwits	Shorebirds	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Belted Kingfisher	BEKI	Kingfishers	Kingfishers	Kingfishers	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Black-bellied Plover	BBPL	4-Toed Shorebirds	Plovers	Shorebirds	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Black-footed Albatross	BFAL	Albatrosses	Albatrosses	Tubenoses	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Black-headed Grosbeak	BHGR	Songbirds	Finchs	Perching Birds	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Black-legged Kittiwake	BLKI	Kittiwakes	Kittiwakes	Larids	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Black Oystercatcher	BLDY	3-Toed Shorebirds	3-Toed Shorebird	Shorebirds	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Black Scoter	BLSC	Diving Ducks	Scoters	Waterfowl	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Black Turnstone	BLTU	4-Toed Shorebirds	4-Toed Shorebirds	Shorebirds	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Blue-footed Booby	BFBO	Sulids	Boobies	Pouchbills	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Bonaparte's Gull	BOGU	Gulls	Gulls	Larids	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Brandt's Cormorant	BRCO	Cormorants	Large Cormorants	Pouchbills	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>
Brant	BRAN	Geese	Geese	Waterfowl	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Show</a>

175 Found
1 2 3 .. 7 Next

[Back to Data Entry](#)

**Appendix 8: Beached Bird Verification**

Beached bird verification process. All COASST data is verified by COASST staff

## Data Entry

[Verify data](#)  
[Administer](#)  
[My info](#)  
[Logout](#)

# Verification: Lukanin South

Total of 115 surveys for this beach.

[Go Back to Beaches](#)

### Unreviewed

Date	Cable Tie	Birds Found	Verified?
<a href="#">2014-03-28</a>			<i>None found</i>
<a href="#">2014-05-30</a>			<i>None found</i>

### Reviewed

Date	Cable Tie	Birds Found
<a href="#">2014-05-09</a>		<i>None found</i>
<a href="#">2014-04-25</a>		<i>None found</i>
<a href="#">2014-04-11</a>		<i>None found</i>
<a href="#">2014-02-28</a>		<i>None found</i>
<a href="#">2014-02-07</a>		<i>None found</i>
<a href="#">2014-01-10</a>		<i>None found</i>
<a href="#">2013-12-26</a>		<i>None found</i>
<a href="#">2013-12-12</a>		<i>None found</i>
<a href="#">2013-11-27</a>		<i>None found</i>
<a href="#">2013-11-01</a>		<i>None found</i>
<a href="#">2013-10-18</a>		<i>None found</i>
<a href="#">2013-09-27</a>		<i>None found</i>
<a href="#">2013-09-13</a>	138	<a href="#">Short-tailed Shearwater</a>
<a href="#">2013-08-02</a>		<i>None found</i>
<a href="#">2013-07-19</a>		<i>None found</i>
<a href="#">2013-01-04</a>		<i>None found</i>

Editing and verification process by COASST staff for a bird observation

# RFP for COASST Technology Platform and Tools

**Data Entry**

Verify data  
Administer  
by mbo  
Logout

Step 1: Where? Submitters  
Step 2: What? Using  
Step 3: When? conditions  
Step 4: How? characteristics  
Cancel Survey

## Edit Bird #1 of 1

**X Delete this bird**

Where was the bird found?  
 Right  Weath  Surfline  Not noted

Is this a nest?  
 Yes  No

Collected  
 Yes  No

Foot condition  
 Hobb  Stiff  Fetter  Foot Missing  Not noted

Eyes  
 Clear  Sunk  Gone  Head Missing  Not noted

Bird is Insect?  
 Yes  No (exuviated or otherwise disfigured)

Head  
 Present  Missing

Beak  
 Present  Missing

Feet  
 Both Feet Present  One Foot Present  Foot Missing

On an body?  
 Yes  No

Foot Type Family

Species

Age	Plumage	Sex
<input type="checkbox"/> Adult	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Female
<input type="checkbox"/> Immature (Juvenile)	<input type="checkbox"/> Breeding	<input type="checkbox"/> Male
<input type="checkbox"/> Immature (Subadult)	<input type="checkbox"/> Non-breeding	<input type="checkbox"/> Unknown
<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Transitional	
	<input type="checkbox"/> Light morph	
	<input type="checkbox"/> Dark morph	
	<input type="checkbox"/> Brown	
	<input type="checkbox"/> Pink	
	<input type="checkbox"/> Checkered	
	<input type="checkbox"/> White	
	<input type="checkbox"/> Summer	
	<input type="checkbox"/> Juvenile	
	<input type="checkbox"/> Intermediate	

Bill length: 26 - 25 mm  
 mm

Wing length: 26 - 29 cm  
 cm

Tarsus length: 44 - 51 mm  
 mm

Number of Photos:

The Number:

The location  
 Right Wing  Left Wing  Leg  Bill  Multiple

Bird Comments

Verifier: Bird Comments

Verification Methods  
 Measurement & Photograph  
 Measurement  
 Photograph  
 None

Family Identification Level  
 Correct  
 Correct Unknown  
 Timid  
 Ambitious  
 Incorrect  
 Accuracy Unknown

Group/Subgroup Identification Level  
 Correct  
 Correct Unknown  
 Timid  
 Ambitious  
 Incorrect  
 Accuracy Unknown

Verification Methods  
 Measurement & Photograph  
 Measurement  
 Photograph  
 None

Family Identification Level  
 Correct  
 Correct Unknown  
 Timid  
 Ambitious  
 Incorrect  
 Accuracy Unknown

Group/Subgroup Identification Level  
 Correct  
 Correct Unknown  
 Timid  
 Ambitious  
 Incorrect  
 Accuracy Unknown

Species Identification Level  
 Correct  
 Correct Unknown  
 Timid  
 Ambitious  
 Incorrect  
 Accuracy Unknown

Species 'Trump': the true species listed on the datasheet  
(Don't add a name)

# RFP for COASST Technology Platform and Tools

## Appendix 9: Data Export Interface

**EXPORT DATA**

Export data as a downloadable CSV file.

Start Date

End Date

[Go Back](#) [Download CSV](#) [Back to Data Entry](#)

## Appendix 10: Crowd Source ID App Mock Ups

### Homepage (example mockup)

Option 1. Pick a debris category

- Debris Category
  - Fishery Gear
  - Logos
  - Russian Language
  - .....etc

Option 2. ID a random object

Go to Object ID page

Go to Object ID page

Randomly generated\* \*new users get several (#?) known objects to ID first, and unknowns cycled in over time. This information will be associated with their profile.

\* Anyone doing crowd sourcing will need to be registered within the COASST website. A CMS role will be established for this app. The app should be available via the coasst.org domain (e.g., coasst.org/marinedebrisID or something more catchy).

## Example Object ID Page

Object ID: 343234



Scroll through other images associated with this debris object

Location: Ocean City, WA | Date Found: 5/31/2014 | Dimensions: 59x31x5 | Condition: Fragment  
Weathering: Low | Material: Plastic | Color: Black | Logo/Brand: Magellan International Inc

List relevant characteristics for this debris object

Go to: ID it! Pop up form

ID it!!

Skip and go to another object

## ID it! Pop-up form (small to not cover all images)

What is it. *Autocomplete from authoritative list OR free write if not available*

How confident are you? (pick list: scale TBD)

Other Comments? (free write box)

How confident are you? (pick list: scale TBD)

Only one of these available

Submit and ID another random object!

Go to Object ID page

Submit and ID a similar object!

Go to Object ID page. Defaults to whatever option was chosen on homepage

Submit and let me choose a new debris category to ID.

Go to Homepage

Submit and Exit

Close pop-up an application

## Crowd Source App User Profiles & Registration

- Username
- Password
- Expertise *(Is there any expertise the crowd sourcer has that will enhance their ability to identify marine debris)*
- Occupation
- COASSTer *A COASST volunteer could check a CMS role and become a crowd sourcer. Anyone else (non COASST volunteer and staff) will automatically be assigned the crowd source role after registering (or they select it at time of registration). The app is open to the public*
- “My Stats”
  - # Identified objects
  - # Correctly verified identifications
  - Category ranking? (function of # and correctness of IDs) Like a category “badge”?  
After so many correct IDs in a particular category, get a badge?

### Appendix 11: Encounter Visualization

Example interactive graph for encounter rate.

