

Nurdle Patrol Year 3 Quarter 1 Progress Report (June 1, 2022 – August 31, 2022)

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September 14, 2022

Administration:

Contract Activity

- The Nurdle Patrol Expansion, Education, and Outreach was approved for funding for Year 3 on June 1, 2022.
- The Subaward Agreement No. UTA20-000902 between The University of Texas at Austin and Texas A&M University Corpus Christi was fully funded for year three for the amount of \$35,825.00 to further enhance the website for usability and the ongoing maintenance of the phone app to help promote the awareness and education of Nurdle Patrol.

Risks and Impacts: None

Project Tasks:

Hire full-time staff to organize annual meeting, training, travel, manage website and develop promotional materials about Nurdle patrol.

Tracy Weatherall was hired during the first quarter of year one on July 1, 2020, June 1, 2021, for year two, and June 1, 2022, for year three.

Host the Texas Plastic Pollution Symposium (TPPS)

The 5th Annual Texas Plastic Pollution Symposium planning committee met 3 times during the first quarter to plan the symposium logistics in the Houston area in 2023. It was decided that the event will be held at the University of Houston at Clear Lake in Clear Lake, Texas on April 4th of 2023. The Call for Abstracts and Registration will take place on January 9th, 2023 and the Save the Date will be posted soon.

Student Scholarships

As described in the consent decree, students that attend in person and present their research at the Texas Plastic Pollution Symposium will receive a \$500 stipend to cover costs for travel and expenses.

Create Starter and Teacher Kits

The Nurdle Patrol Starter Kit was created during the first year of Nurdle Patrol (2020) for organizations to start-up their own Nurdle Patrol citizen science project or to incorporate nurdle surveys into their existing monitoring program. The kits were designed to supply organizations with resources needed to conduct surveys, talk to their volunteers about nurdles, and provide a foundation for a successful project. As of August 31, 2022, 192 partners have received the starter kits (Figure 1).



Figure 1 . Nurdle Patrol Starter Kit items.

The Nurdle Patrol Teacher Kits were also developed during the first year of Nurdle Patrol due to many requests from teachers across the United States that wanted to teach their students about how plastics reach the ocean and what negative impacts plastics have on the environment. These kits include a curriculum about nurdles entering the ocean, what negative impacts there are, and what solutions are out there to prevent nurdles from getting into the waterways. The interactive teacher kits include six jars of nurdles, information card about how to conduct a nurdle survey, a presentation all about nurdles, and articles describing the problem. An updated version of the teacher kit curriculum was completed during the third quarter which includes an All Level Nurdle Survey, a Nurdle Hurdle Race, K-5 curriculum that includes lesson plans for age specific children in K-1, 2-3, and 4-5, and Middle School and High School Chemistry curriculums. These lesson plans are now linked to our webpage. As of the end of the first quarter of year 3, 1,294 teacher kits have been shipped to educators in the USA, Canada, Mexico, Puerto Rico, Costa Rica, Columbia, UK, Spain, Africa, Australia, Turkey, Italy and Thailand (Figure 2).

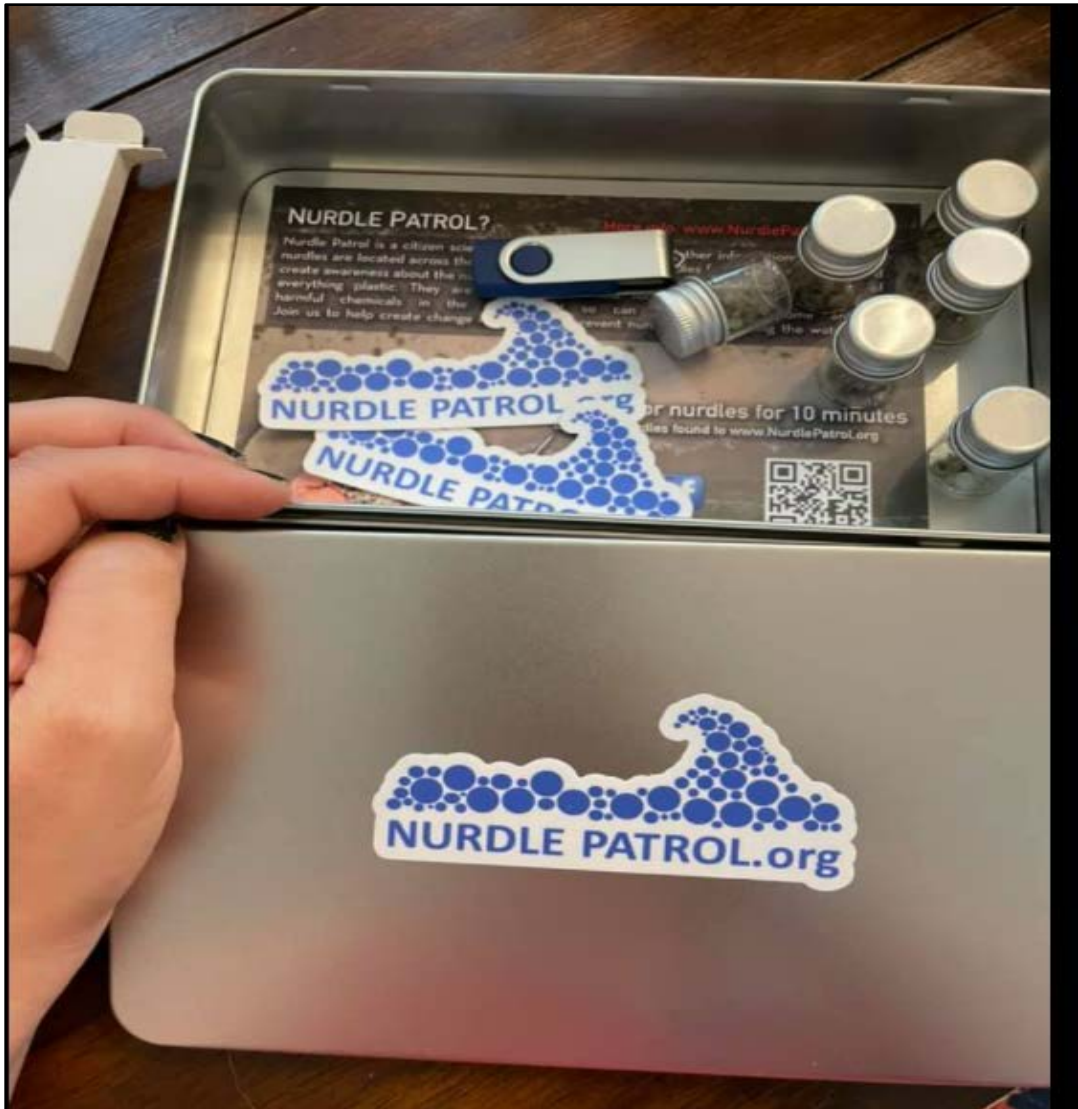


Figure 2. Teacher kit items.

Plastic Free Life Kit

In January 2021, we initiated the Plastic Free Life Challenge. This friendly competition was designed as an incentive to encourage our partners and individuals to conduct as many nurdle surveys as possible each month. The group that conducts the most surveys will win a Plastic Free Life starter kit that includes 42 single-use plastic alternatives (Figure 3).



Figure 3. Plastic Free Life Starter Kit items.

Individual Kit

Individual Kits were created during the first quarter of year 3 to give individual citizen scientists everything they need to conduct a nurdle patrol survey on a regular basis. The kit includes a cotton zippered pouch with a Nurdle Patrol information card, a glass vial to hold the collected nurdles, a sticker and magnet (Figure 4).



Figure 4. Nurdle Patrol Individual Kit.

Meet with organizations about Nurdle Patrol – Outreach

During the 1st quarter, we acquired 21 new Nurdle Patrol partners and shipped 299 teacher kits (Figures 5-16; Table 1-3). Virtual and in-person presentations and meetings were given to promote Nurdle Patrol to new organizations, including:

- June 9, 2021 - New York students via Zoom.
- July 7, 2021 – Teachers on The Estuary (TOTE) Nurdle Patrol presentation in Port Aransas, TX.
- August 4, 2021 - Fidra Nurdle Patrol partnership meeting via Zoom in Scotland.
- August 11, 2021 - Texas Parks & Wildlife Depart. Angler Class via Zoom to area chiefs all over Texas.
- September 9, 2021 – Virtual presentation to the San Diego Girl Scout Club about nurdles and the new nurdle patch.
- September 10, 2021 – Nurdle Patrol presentation to Saint Stanislaus School in Mississippi.
- September 12, 2021 – Virtual presentation to the Texas Parks and Wildlife Leadership Angler Class
- September 21, 2021 – Illinois River Watch virtual presentation.
- September 22, 2021 – Galveston Audubon virtual presentation.
- October 1, 2021 – In-person presentation invited speaker at the Valley Environmental Summit in South Padre Island, Texas.
- October 4, 2021 – Tracy Weatherall attended the STEAM (Science Technology Engineering Arts Mathematics) night at Kaffie Middle School in Corpus Christi, Texas to inform students and their families about nurdles and the issues with marine debris and microplastics and their impact on the environment, animals and people.
- October 10, 2021 – Tropical Trail Association virtual presentation.

- October 22, 2021 – virtual presentation to Loyola University in New Orleans to a natural science class.
- October 28, 2021 – Invited speaker to the General Land Offices’ Adopt-a-Beach Workshop in Galveston, Texas.
- November 1, 2021 – presented to the Galveston Master Naturalists through a virtual presentation.
- November 10, 2021 – Texas A&M University-Kingsville presentation to the SAFER student group.
- January 5, 2022 – Mississippi High School via Zoom presentation
- January 26, 2022 – Gulf of Mexico Alliance presentation to all 5 Gulf states researching plastics in the environment.
- February 18, 2022 – Presentation to multiple universities in Mexico about partnership with Nurdle Patrol.
- January 27, 2022 and February 17, 2022 – The education specialists at the Mission-Aransas NERR met with the general public at the Bay Education Center in Rockport, Texas to discuss the negative impacts of nurdles, microplastics and marine debris to the environment, marine life and people.
- March 1, 2022 – Presentation to Directors of UT Austin’s Campus Environmental Center.
- March 9, 2022 – Presentation at the Harte Research Institute Seminar Series in Corpus Christi.
- March 31, 2022 – Texas Plastic Pollution Symposium presentation about nurdles.
- April 1, 2022 – Presentation at the Society of Environmental Journalists in Houston, Texas.
- April 5, 2022 – Presentation and nurdle survey with the Ocean’s Class from Flour Bluff Jr High.
- April 18, 2022 – Presentation through Zoom to University of Texas class about nurdle policies in Texas.
- April 27, 2022 – Nurdle presentation at the Gulf of Mexico Alliance meeting in Baton Rouge, LA.
- May 22, 2022 – Nurdle presentation through zoom to Orange County Girl Scout group.
- May 23, 2022 – Nurdle presentation to UTMSI marine policy class about nurdle policy in Texas.
- May 31, 2022 – Microplastics Science Team meeting presentation in-person about nurdles.
- June 6, 2022 & June 20, 2022 – Nurdle presentation for Summer Science at UTMSI.
- June 7, 2022 – Nurdle presentation to the San Antonio River Authority via Zoom.
- June 8, 2022 – Summer Science Program nurdle presentation at UTMSI.
- June 9, 2022 – Nurdle presentation to teachers in central Texas via Zoom.
- July 11, 2022 – Nurdle presentation virtual to a Pennsylvania program called Pesky Plastics with students interested in environmental issues.
- July 13, 2022 – Virtual nurdle presentation to the Houston Canoe Club.

- July 30, 2022 – Invited speaker to the Youth Climate Summit to talk about Nurdle Patrol via Zoom.
- August 13, 2022 – Updated the UT Marine Advisory Council about Nurdle Patrol efforts across Texas.
- August 20, 2022 – Presentation in-person in Port Lavaca at the Calhoun County Environmental Forum.

The Nurdle Patrol Facebook group is being utilized as a way to communicate with individual citizen scientists as well as new organizations about new efforts related to Nurdle Patrol. News stories, survey results, and other related material are also shared with the more than 2,800+ followers on the closed group Nurdle Patrol Facebook page. Also, the Nurdle Patrol Twitter account (public) was created in August 2020 to educate and inform the general public about plastic pollution and other science related topics. To date there are 416 followers.

Lisa Scobel, a graduate student studying Environmental Conservation from the University of Wisconsin-Madison, joined the Nurdle Patrol team this summer as an intern and recruited 14 new partners along the Mississippi River's 2,350 mile stretch as well as New York and Canada. In addition, she published 5 Nurdle Patrol related articles that are posted on the nurdlepatrol.org website at <https://nurdlepatrol.org/Forms/News/index.php>. Lisa started a position at the Galveston Bay Foundation in July 2022 as the marine debris coordinator and is helping to spread the word and sample in the Houston/Galveston area about Nurdle Patrol.

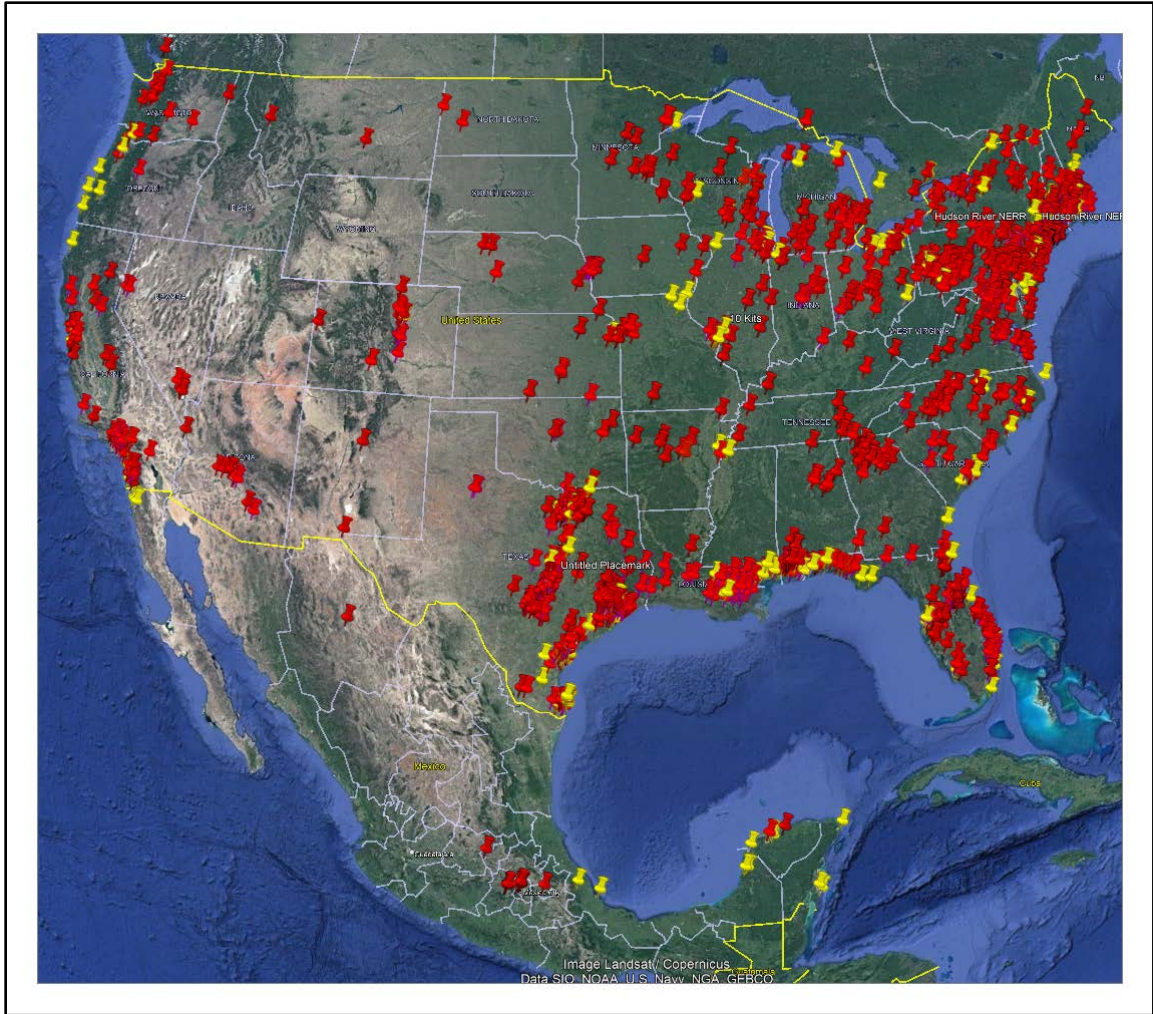


Figure 5. Nurdle Patrol Partners (yellow) and Teacher Kits (red) shipped in the continental United States, Canada, and Mexico.

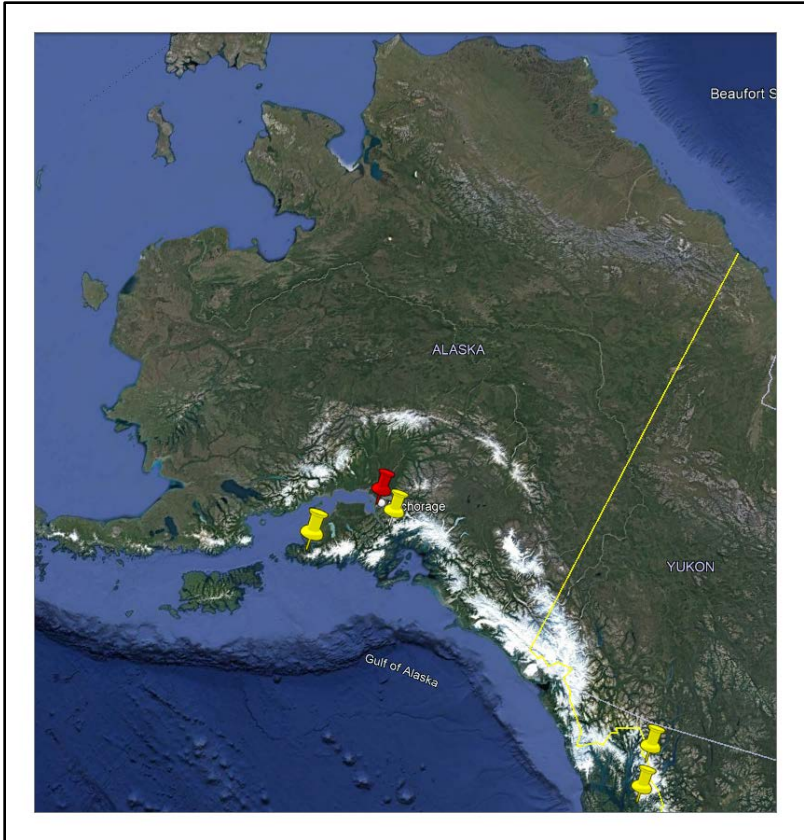


Figure 6. Nurdle Patrol Partners (yellow) and Teacher Kit (red) shipped to Alaska.

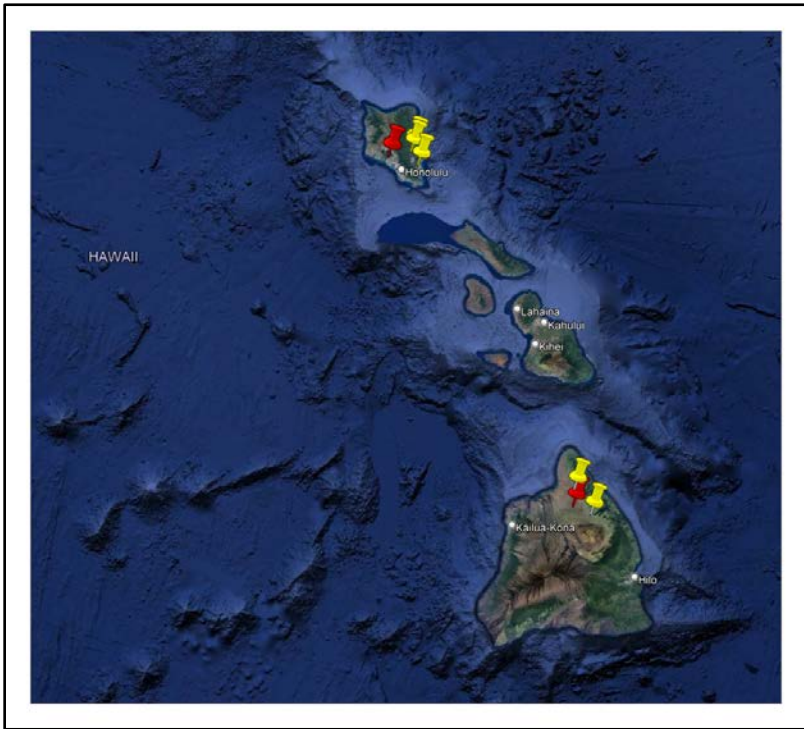


Figure 7. Nurdle Patrol Partners (yellow) and Teacher Kits (red) shipped to Hawaii.



Figure 8. Teacher Kits shipped to Puerto Rico.

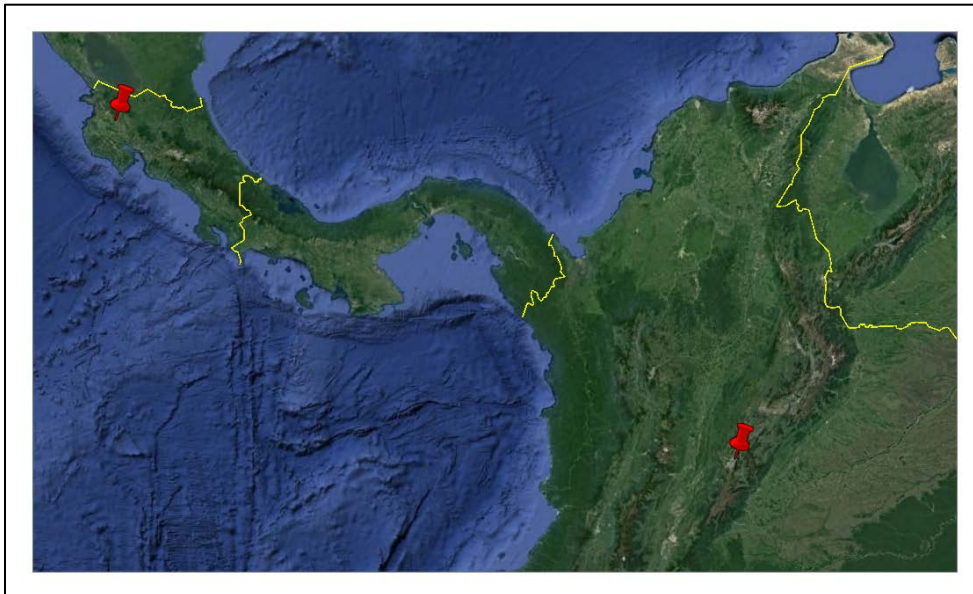


Figure 9. Teacher Kits shipped to Costa Rica and Columbia.



Figure 10. Teacher Kit shipped to Spain.

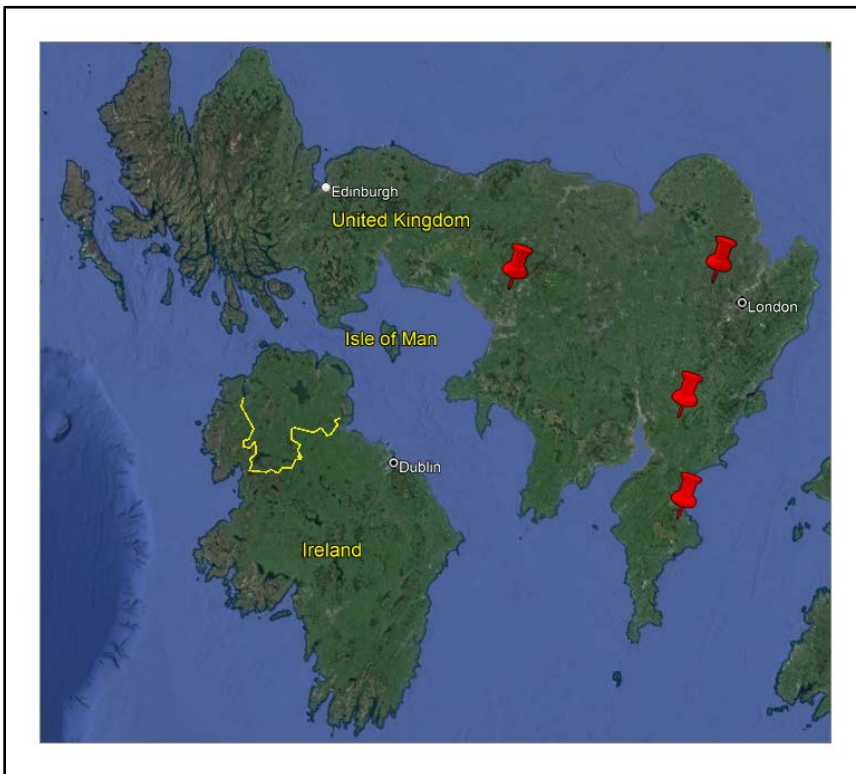


Figure 11. Teacher kits shipped to the UK.

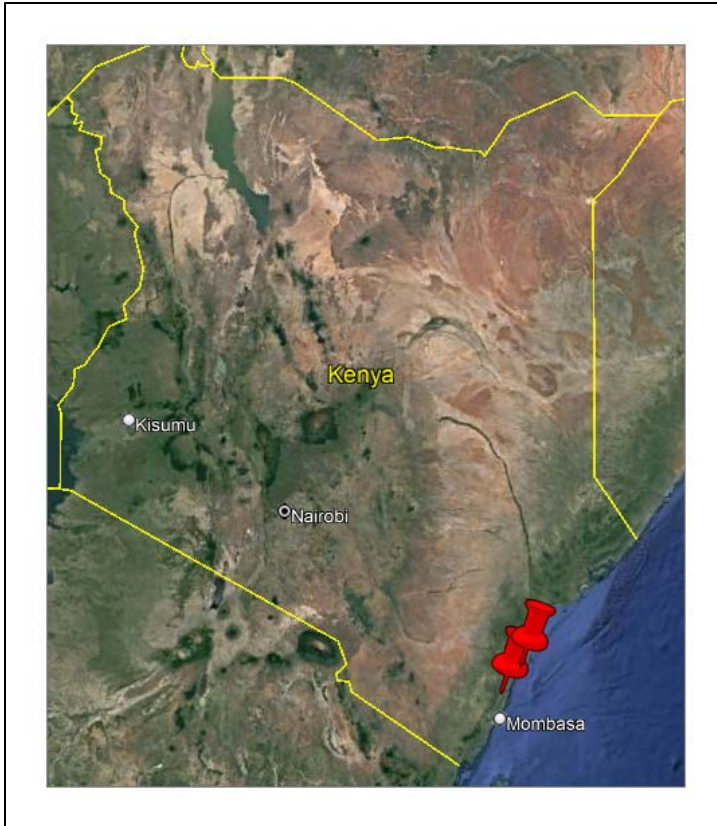


Figure 12. Teacher Kits shipped to Kenya, Africa.

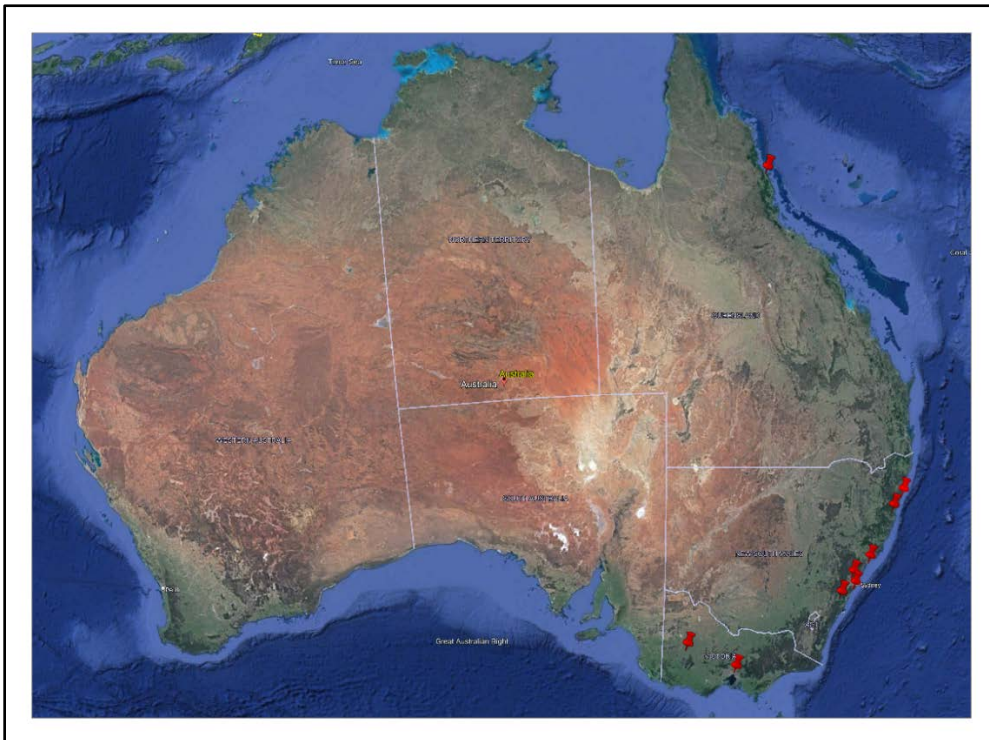


Figure 13. Teacher Kits shipped to Australia.

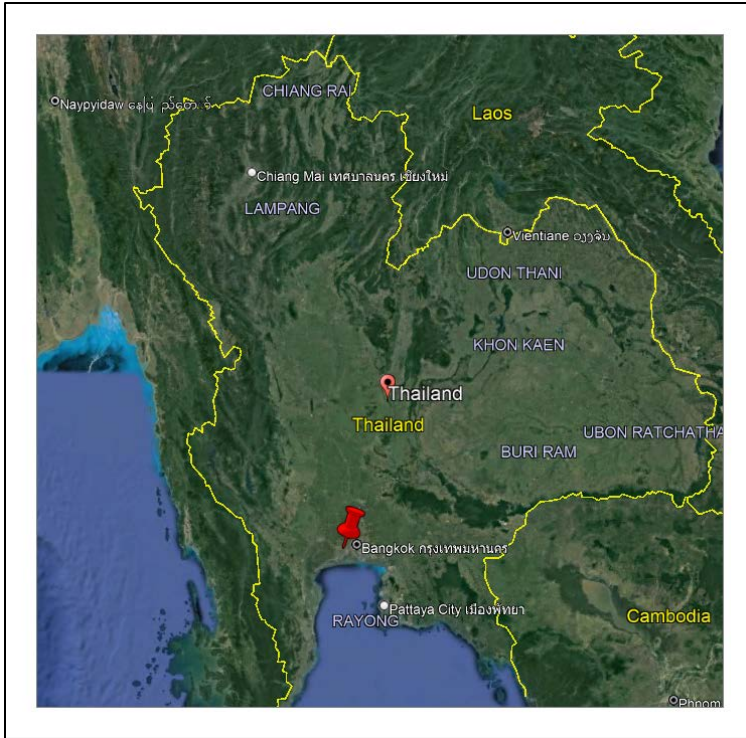


Figure 14. Teacher Kit shipped to Thailand.

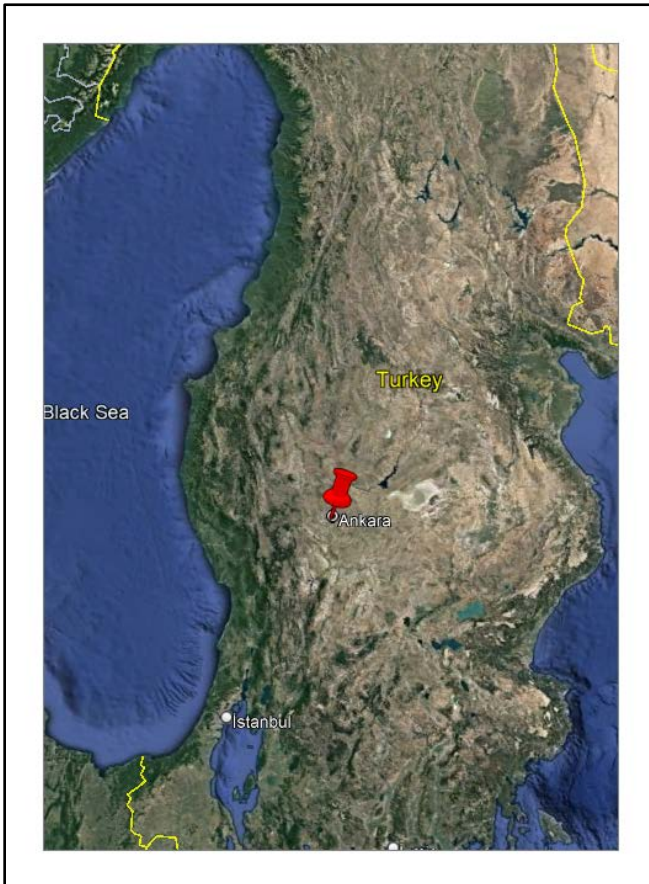


Figure 15. Teacher Kit shipped to Turkey



Figure 16. Teacher Kit shipped to Italy.

Number	Partner	Group Type	State	Number	Partner	Group Type	State
1	Terra Science & Education	School	NY	40	Defenders of Wildlife	Nonprofit	NC
2	STEM Engagement	School	NY	41	Old Women Creek NERR	NERR	OH
3	Tampa Bay Estuary Program	NEP	FL	42	Delaware NERR	NERR	DE
4	Coastal Bend Bays & Estuaries Program	NEP	TX	43	ACE Basin NERR	NERR	SC
5	Weeks Bay NERR	NERR	AL	44	Angler Action Foundation	Nonprofit	FL
6	Rockport Fulton Middle school Ecology/Environmental Club	School	TX	45	Hudson River NERR	NERR	NY
7	Island RV Resort	Business	TX	46	Friends of the Kaw	Nonprofit	KS
8	Southernmost Homeschoolers	Homeschool	FL	47	Buffalo Niagara Waterkeeper	Waterkeeper	NY
9	Inland Ocean Coalition North Texas Chapter	Nonprofit	TX	48	Crystal Coast Waterkeeper	Waterkeeper	NC
10	Choctawhatchee Basin Alliance	Waterkeeper	FL	49	White Oak New Riverkeeper Alliance	Waterkeeper	NC
11	National Park Service - Padre Island National Seashore	Federal	TX	50	Sapelo Island NERR	NERR	GA
12	Friends of Padre	Nonprofit	TX	51	NY-NJ Baykeeper	Waterkeeper	NY
13	Universidad de Veracruzana - Sea & Reef Program	University	MX	52	South Slough NERR	NERR	OR
14	Rookery Bay NERR	NERR	FL	53	A Rocha USA	Business	FL
15	Surfrider Foundation - Texas Coastal Bend Chapter	Nonprofit	TX	54	Sustain 2 Remain	Nonprofit	TX
16	Galveston Bay Foundation	Nonprofit	TX	55	Missouri Confluence Waterkeeper	Waterkeeper	MO
17	Texas A&M University - Corpus Christi, Conrad Blucher Instit.	University	TX	56	Great Bay NERR	NERR	NH
18	Texas Master Naturalist	Nonprofit	TX	57	Sea Grant - Mississippi-Alabama	Sea Grant	MS
19	The University of Texas, Rio Grande Valley	University	TX	58	Mississippi State University Extension	University	MS
20	Parley for the Oceans	Nonprofit	MX	59	Flour Bluff ISD	School	TX
21	11th Hour Racing	Nonprofit	TX	60	Corpus Christi Hooks	Business	TX
22	Monsignor McClancy Memorial HS	School	NY	61	Padilla Bay NERR	NERR	WA
23	Nicholls State University	University	LA	62	Kachemak Bay NERR	NERR	AK
24	Texans For Clean Water	Nonprofit	TX	63	Bayou City Waterkeeper	Waterkeeper	TX
25	Flyaway Paper Straws	Business	FL	64	Save Our Shores	Nonprofit	CA
26	Our Lady Academy	School	MS	65	Delaware Sea Grant	Sea Grant	DE
27	Saint Stanislaus	School	MS	66	Louisiana State University	University	LA
28	Shedd Aquarium	Aquarium	IL	67	Mountain Watershed Association - Youghiogheny Riverkeeper	Nonprofit	PA
29	Charleston Waterkeeper	Waterkeeper	SC	68	Florida Sea Grant - UF/IFAS Extension Pinellas County	Sea Grant	FL
30	South Padre Island Sessions	Business	TX	69	Narragansett Bay NERR	NERR	RI
31	Gulf Guardians	Nonprofit	TX	70	Barataria-Terrebonne National Estuary Program	NEP	LA
32	Sun of a Beach Cleanup	Nonprofit	FL	71	Sarasota Bay Estuary Program	Nonprofit	FL
33	Keep Bolivar Beautiful	Nonprofit	TX	72	He'ela National Estuarine Research Reserve	NERR	HI
34	University of Texas Marine Science Institute	University	TX	73	North Carolina Coastal Reserve and NERR	NERR	NC
35	Mission-Aransas NERR	Governmental	TX	74	North Inlet-Winyah Bay NERR	NERR	SC
36	Jacques Cousteau NERR	NERR	NJ	75	Wildlife Club	Nonprofit	FL
37	Wells Reserve at Laudholm	NERR	ME	76	Tilamook Estuaries Partnership	NEP	OR
38	Tijuana River NERR	NERR	CA	77	Chesapeake & Coastal Service, CBNERR	NERR	MD
39	Guana Tolomato Matanzas NERR	NERR	FL	78	Morro Bay National Estuary Program	NEP	CA

Table 1: Nurdle Patrol Partners who have received startup kits as of August 31, 2022.

Number	Partner	Group Type	State	Number	Partner	Group Type	State
79	Waterkeeper Alliance	Nonprofit	TX	117	Castal Brigade	Nonprofit	TX
80	Healthy Gulf	Nonprofit	LA	118	Northcoast Environmental Center	Nonprofit	CA
81	Texas Marine Mammal Stranding Network	Nonprofit	TX	119	Pascagoula River Audubon Center	Nonprofit	MS
82	Seaside Sustainability	Nonprofit	MA	120	Lower Mississippi River Foundation	Nonprofit	MS
83	Siera Club, Baton Rouge Group	Nonprofit	LA	121	Kipp Delta Public Schools	Public Schools	MS
84	The Gale Academy of Environmental Science and Technology	School	FL	122	Texas Parks and Wildlife Dept.	governmental	TX
85	Lake Worth Waterkeepers	Waterkeeper	FL	123	Illinois River Watch Network	Nonprofit	IL
86	Columbia Waterkeeper	Waterkeeper	OR	124	Ohio Sea Grant	governmental	OH
87	Cahaba Riverkeeper	Waterkeeper	AL	125	Harris County Precinct 2	governmental	TX
88	MTHS Eco Club	Nonprofit	WA	126	Great Lakes Aquarium	Business	MN
89	USM School of Humanities	University	MS	127	Thunder Bay NMS	governmental	MI
90	TAMUCC Green Team	University	TX	128	Upper Mississippi River NWFR	governmental	IL
91	Jean Lafitte National Historical Park ad Barataria Preserve	Nonprofit	LA	129	New York Sea Grant	Governmental	NY
92	O'ahu Waterkeeper	Waterkeeper	HI	130	Great Lakes Environmental Center, Inc.	Business	MI
93	Plastic Free Grants	Nonprofit	MS	131	Lake Huron Centre for Coastal Conservation	Nonprofit	Ontario
94	Chesapeake Bay NERR	NERR	VA	132	Stream Teams United	Nonprofit	MO
95	Friends of Lake Superior Reserve	NERR	WI	133	A Rocha USA	Nonprofit	WI
96	University of Michigan	University	MI	134	KEEP PEARLAND BEAUTIFUL	Nonprofit	TX
97	Save Our Seas Mountain Ocean Project	Nonprofit	TX	135	Wisconsin Sea Grant	Governmental	WI
98	Maryland Coastal Bays Program	Nonprofit	MD	136	Sierra Club of Missouri	Nonprofit	MO
99	University of Alaska Fairbanks	University	AK	137	Environmental Club and Aquatic Science	School Club	TX
100	University of Oregon's Charleston Marine Life Center	University	OR	138	A Greener Future	Nonprofit	Ontario
101	Shoreline Education for Awareness (SEA)	Nonprofit	OR	139	TPWD	Governmental	TX
102	MARYSMA Mar Y Sustentabilidad Para El Medio Ambiente	Eco-Tourism	MX	140	University of Houston-Clear Lake	University	TX
103	Apalachicola Nat'l Estuarine Research Reserve	NERR	FL	141	Calhoun County Extension Service	Governmental	TX
104	FWS Bandon Marsh National Wildlife Refuge	Governmental	OR	142	Boyscouts of America Troop 168	Boyscouts	TX
105	Mobile Baykeeper	Nonprofit	AL	143	Chesapeake Bay Reserve	Governmental	MD
106	Connecticut River Conservancy	Nonprofit	CT	144	Northern Ohio Surfrider Foundation	Nonprofit	OH
107	Dimock and Dimock Photography	Business	OR	145	Black River Audubon Society	Nonprofit	OH
108	Costa Cleanups	Nonprofit	TX	146	Eastern Shore Fly Fishers	Nonprofit	AL
109	Elizabeth Kratzig	Eco-tourism	FL	147	Presque Isle State Park	Governmental	PA
110	Elizabeth Kratzig	Travel	FL	148	Charleston County Public Library	Governmental	SC
111	Rio Grande Chapter of the Texas Master Naturalist	Nonprofit	TX	149	The Sustainability Institute, Environmental Conservation Corps	Nonprofit	SC
112	Mustang Island State Park	Governmental	TX	150	Hawaii Preparatory Academy	Private School	HI
113	Texas Retired Teachers Association	Nonprofit	TX	151	Marine Science Graduate Student Organization	University	TX
114	Sea Turtle Inc.	Nonprofit	TX	152	Riverside-Corona Resource Conservation District	Nonprofit	CA
115	Choctawhatchee Basin Alliance	Nonprofit	FL	153	The Community Environmental Health Lab at MDI Biological Laboratory	Laboratory	ME
116	Turtle Island Restoration Network	Nonprofit	TX	154	Washington State Community College	College	OH

Table 2: Nurdle Patrol Partners who have received startup kits as of August 31, 2022 (continued).

Number	Partner	Group Type	State	Number	Partner	Group Type	State
155	Centro de Investigación y de Estudios Avanzados del I.P.N. Mérida	University	MX	177	Campamento Tortuguero Santander	Nonprofit	MX
156	Sea Hero	Nonprofit	NJ	178	Pensacola & Perdido Bays Estuary Program	Governmental	AL
157	American Association of University Women.	Nonprofit	IL	179	Three Rivers Waterkeeper	Nonprofit	PA
158	Castel High School	High School	AZ	180	Moderna	Pharmaceutical	MA
159	NASA TX Space Grant Consortium UT Austin Center for Space Research	Governmental	TX	181	Adventure Aquarium	Business	NJ
160	Lower Brazos Riverwatch	Nonprofit	TX	182	Prince William Sound Stewardship Foundation	Nonprofit	AK
161	Gulf of Mexico Youth Climate Summit	Nonprofit	TX	183	Scott Township Conservancy	Nonprofit	PA
162	City by the Sea Museum	Nonprofit	TX	184	Big Sewickley Creek Watershed Association	Nonprofit	PA
163	City by the Sea Museum	Nonprofit	TX	185	NC State University- Environmental First Year Program	University	NC
164	Northampton Oceanography	University	PA	186	North American Marine Environment Protection Association	Nonprofit	CT
165	Loggerhead Marinlife Center	Nonprofit	FL	187	Mantowoc Public Library	Library	WI
166	Lehigh Elementary Science club	School Club	PA	188	HAR	Real Estate	PA
167	NAHS Oceanography Club	High School	PA	189	Hawaii Pacific University, Center for Marine Debris Research	University	HI
168	Bois d' Arc Chapter of Texas Master Naturalist	Governmental	TX	190	Audubon Texas Bird City Texas	Nonprofit	TX
169	River Arts Community Arts Center	Nonprofit	VT	191	Isenwater	Nonprofit	IL
170	Ocean Knoll Elementary School	School Club	CA	192	Coast Episcopal School	Private School	MS
171	Center for Reservoir and Aquatic Systems Research, Baylor University	University	TX	193	Cimarron Middle School	Middle School	CO
172	Fundación Pedro y Elena Hernández, AC	Nonprofit	MX	194	ClimbPDX	Nonprofit	OR
173	Menos Plastico En Mahahual	Nonprofit	MX	195	Urban Rivers	Nonprofit	IL
174	CICESE (Center for Scientific Research and Higher Education)	University	MX	196	Girl Scout Troop 809	Nonprofit	FL
175	El Colegio de la Frontera Sur	College	MX	197	North Carolina Coastal Federation	Nonprofit	NC
176	Instituto EPOMEX	University	MX	198	North Carolina Coastal Federation	Nonprofit	NC

Table 3: Nurdle Patrol Partners who have received startup kits as of August 31, 2022 (continued).

Phone App Maintenance and update website

A contract was signed with Texas A&M University-Corpus Christi Conrad Blucher Institute (CBI) in July 2022. The work by CBI includes improvement to the phone app for Nurdle Patrol by adding all data onto a map, as well as updates to the Nurdle Patrol website (www.NurdlePatrol.org). Both versions of the phone app, Android, and iOS, were released

in May 2021. The app is being downloaded and utilized by citizen scientists. During the first quarter of year 3 the development team conducted research and implemented the new geospatial query tool for the map page (Figures 1 & 2). Users will be able to draw a rectangle or a polygon on the Map page to query the Patrol for an area of choice. Also, the user will be able to view, download, search for a list of patrols in the selected area. Supported files format for data export are csv, excel, and pdf.

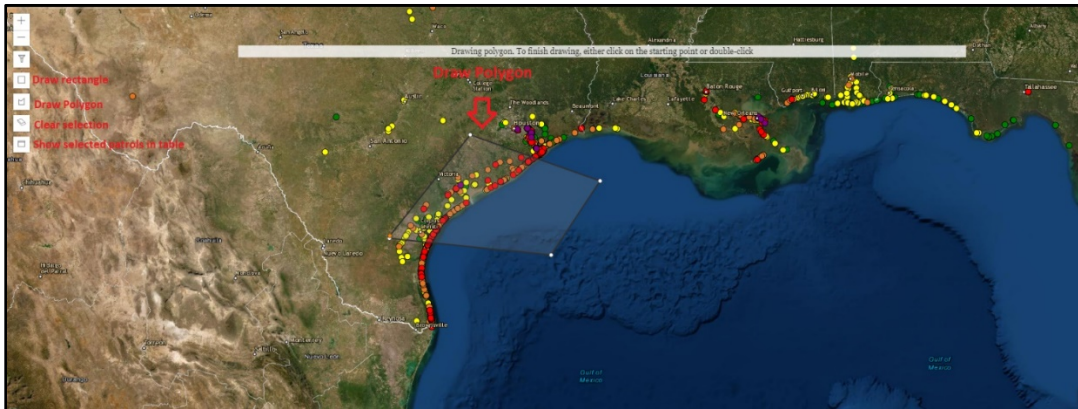


Figure 17. Drawing Polygon using Geospatial search tool.

ID	User	Organization	Amount	Standardized Amount	Longitude	Latitude	Location	Volunteers #	Collecting Time	Patrol Date	Submitted	New Title
7463	Lee von Quae-Guedle	Self	1	1	-96.447188	28.386847	West Matagorda Bay Sand Point Shoreline	1	60	2022-08-25	2022-09-07	No This is the second maulde
7441	Christie Lips	Surfside Foundation Texas Coastal Bend Chapter	65	44	-97.207325	27.621856	Marker 225	1	15	2022-08-27	2022-08-27	Yes They are washing in with
7403	Jane Tunnell	Mission-Aransas NERR	36	36	-96.622087	28.649933	Port Lavaca marina park	1	10	2022-08-19	2022-08-19	No
7415	Kelly Bertrand	Texas Marine Mammal Stranding Network	0	0	-95.032018	29.432523		1	532	2022-08-13	2022-08-13	Yes
7094	Mel Thompson	Texas Marine Mammal Stranding Network	0	0	-95.293342	28.937673	Surfside Army	1	10	2022-07-26	2022-07-26	No

Figure 18. Users will be able to view, download, search on a list of patrols in the selected area.

In August, the team worked on the Monthly Report feature for the Admin user (Figure 19). In the past, the team ran a database query and sent a csv file to our admin user via email every month. There is now an interface for admin users to retrieve the report from the Admin Portal. There are two types of reports: Individual & Organization. The user will be able to select the date range and download the spreadsheet report.

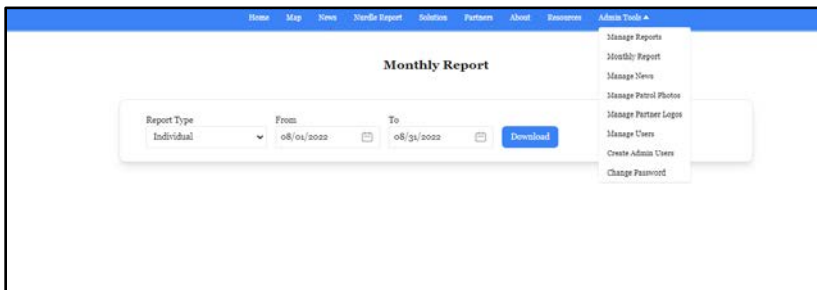


Figure 19. Monthly Report Page.

Develop Educational and promotional videos

Videos produced from year 1 funding (2020) have been placed on the YouTube Channel that the Mission-Aransas Reserve maintains, as well as posting to various social media platforms, and added to the NurdlePatrol.org website. For year 2 (2021) funding, a four-part video series featuring Diane Wilson was produced and completed. The videos were shown at the Nurdle Patrol Film Festival on September 10, 2022.

1. Diane Bio: Diane's life growing up as a multigenerational shrimper, raising kids, living and working on the bay in Texas, and her passion with ensuring that environmental justice was being served. Towards the end of the video, Diane talks about the early days of knowing that Formosa was discharging plastic pellets into the waterways where she had raised her kids and fished for a living and knew that something had to be done.

2. Formosa Lawsuit: Diane describes the long battle with Formosa, taking samples daily for three years straight, making allies with whistle blowers that worked for Formosa, the dangers of working against Formosa in the community, and the lawsuit's ultimate decision. Diane discusses the key pieces of evidence that brought down Formosa, including utilizing Nurdle Patrol data as part of that effort.

3. Working with Nurdle Patrol: Diane and Jace talk about collecting nurdles at Formosa and at other plastic manufacturing sites, sending TCEQ complaints across the state to put nurdle releases from the many plastic manufacturing sites on the official record of the state, using the Formosa lawsuit funding to expand Nurdle Patrol efforts across the U.S., and the continued fight with Formosa. At the end they discuss "where do we go from here?".

4. Future: Where do we go from here? Diane and Jace talk about the Matagorda Bay Mitigation Trust, the \$50M in funding that was set up from the Formosa lawsuit consent decree that Diane established, what projects are being funded, where Nurdle Patrol is going in the future, and what Diane's future plans are. At the end of this video they discuss the future with plastic policy changes that have occurred in Texas and other states, federal efforts going on, and if there is going to be another series about the good things happening.

Public Awareness

In year 1 (2020) we created a Nurdle Patrol rack card that describes how to conduct a Nurdle Survey on the front side and on the back side it has more detailed information including where to look for nurdles, what nurdles are, and a QR Code link to NurdlePatrol.org where a training video can be found. We created this card in English and Spanish (Figures 20 & 21).



Figure 20. Nurdle Patrol outreach flyer front and back.



Figure 21. Spanish version of the Nurdle Patrol outreach flyer front and back.

The billboard campaign was created during the first year (2020) of Nurdle Patrol and was a huge success and has been extended for the second year. One billboard was installed in August 2021 in Portland, Texas near the Gulf Coast Growth Ventures plastics plant that is being constructed, and the second billboard was installed in Point Comfort (site 355751) in February 2022 (Figure 22). Currently, as of August 2022, there is a billboard at the Point Comfort site.



Figure 22. Nurdle Patrol billboard campaign.

Nurdle Patrol is proud to have an outreach installation at the Texas State Aquarium (Figure 23). The Texas State Aquarium reached out to us in the summer of 2021 to request video footage, images of nurdles, and text on the impact of plastics in the environment. From the information we sent, the aquarium was able to create an exhibit with a video that plays continuously, and a poster display educating folks on what nurdles are, how they get into the environment, and solutions for reducing plastics getting into the ocean. As of September 2022, the exhibit is still running strong.

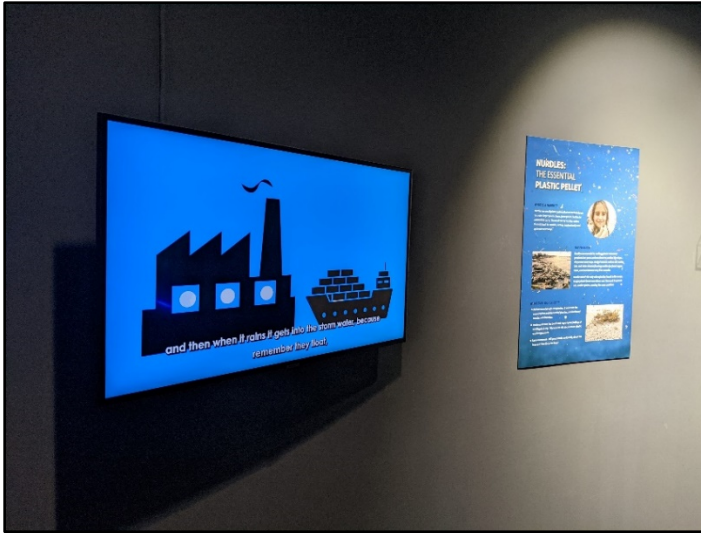


Figure 23. Nurdle Patrol outreach installation at the Texas State Aquarium.

Summary

A total of 823 surveys were conducted during the first quarter of Year 3 and 11,449 nurdles were removed from the beaches, riverbanks, and lake shorelines across the United States, Mexico and 7 additional countries around the world. Nurdlepatrol.org acquired 21 new partners and shipped 299 teacher kits to educators in the USA, Canada, Mexico, Puerto Rico, Costa Rica, Columbia, UK, Spain, Africa, Australia, Turkey, Italy and Thailand. Forty-one individual kits were given to citizen scientists for outreach purposes (Table 4).

Y3Q1	Number of Surveys	Nurdles Removed	New Partners	Teacher Kits	Individual Kits
June	405	11,449	3	13	30
July	170	5,800	6	61	1
August	248	2,382	12	225	10
Total	823	19,631	21	299	41

Table 4: Y3Q1 Progress Report Summary.

Obstacles

Currently there are no obstacles to report.