

Nurdle Patrol Y5Q4 Quarterly Progress Report (March 1, 2025 – May 31, 2025)

PI: Katie Swanson

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Administration:

Contract Activity

- The Nurdle Patrol Expansion, Education, and Outreach was approved for funding for Year 5 (June 1, 2024 through December 31, 2025) on June 16, 2024.
- The Subaward Agreement No.: 5 UTAUS-SUB00001508 between The University of Texas at Austin and Texas A&M University Corpus Christi (TAMU-CC) was fully funded for year five for the amount of \$74,465.00 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 meetings, training, travel, and develop promotional materials about Nurdle patrol.

Tracy Weatherall was hired during the first quarter of year one on July 1, 2020. Her contract was renewed on June 1, 2021 for year two, June 1, 2022 for year three, June 1, 2023 for year four and June 1, 2024 for year five.

Host the Texas Plastic Pollution Symposium (TPPS)

The 7th Annual Texas Plastic Pollution Symposium was another huge success this year! Held on April 3, 2025, at the Houston Zoo, the symposium brought together 200 in-person, and 32 virtual environmental professionals, researchers, students and community members dedicated to addressing the growing challenge of plastic pollution in Texas and beyond. This year the symposium had concurrent sessions because there were 25 oral presentations and 13 poster presentations, covering a wide range of topics from microplastic research and marine debris mitigation to policy strategies and community-driven solutions.

The symposium kicked off the night before, on Wednesday, April 2, with a casual social gathering at Axelrad located near the Hilton Garden Inn Suites, where a room block was available for out-of-town attendees. Pizza, conversation, and community spirit set the tone for the impactful day to follow.

The symposium began with check-in at 8:00 AM, and by 8:30 AM, it was underway with an inspiring welcome from featured speakers Chrissy and Jay Kleberg. The conservationist duo shared the story of their 370-mile trek along Texas' barrier islands, completed over 21 days in October 2023. Their journey aimed to explore the dramatic changes occurring along the Texas coast, observe its rich biodiversity and habitats, and reflect on the future

of this vital region. Their powerful experience was captured in the six-part PBS series, *Chasing the Tide*, offering viewers a rare and intimate glimpse into the shifting coastal landscape.

Another highlight of the day was the Keynote Panel, *The Houston Zoo's Journey to Go Single-Use Plastic Free*, led by Colley Hodges, Kristin Windle, and Adrian Cavazos of the Houston Zoo, along with Mark Kathman, Regional Vice President of SSA Group. The panel explored the Zoo's efforts to eliminate single-use plastics and inspired attendees with practical, scalable solutions. The session was moderated by Ben Jones, Vice President of Conservation and Education at the Houston Zoo.

There was also a Policy Panel called *Nurdle Bill in Texas, a discussion on legislative action to combat plastic pellet pollution*. Panelists included Joanie Steinhaus (*Turtle Island Restoration Network*), Luke Metzger (*Environment Texas*), Jace Tunnell (*Harte Research Institute*), and Neil McQueen (*Surfrider Foundation – Texas Coastal Bend Chapter*). The discussion was moderated by Sara Burgess of the Surfrider Foundation – Galveston Chapter.

Student Scholarships

As an incentive to attract students to attend the annual TPPS in person and present their research, we gave a \$500 student scholarship again this year to help cover costs for travel and expenses. Twenty students submitted abstracts, with 10 oral presentations and 10 poster presentations. Of these, 15 students will receive scholarship funds for traveling over 50 miles to present their research. Also, student presentation awards were given again this year, sponsored by the Coastal Bend Bays & Estuaries Program. They gave \$300 for oral presentations (\$150 1st place, \$100 2nd place, \$50 3rd place) and \$200 for poster presentations (\$100 1st place, \$75 2nd place, \$25 3rd place).

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 monitoring program (Figure 1). As of May 31, 2025, 506 partners have received the starter kits.

The Nurdle Patrol Teacher Kits were also developed during the first year of Nurdle Patrol. These kits were developed based on the many requests from teachers across the United States, wanting 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 they can have, and what solutions are out there to prevent nurdles from getting into the waterways. These interactive teacher kits include six jars of nurdles, an information card about how to conduct a nurdle survey, a presentation about nurdles, and articles describing the problem (Figure 1). An updated

version of the teacher kit curriculum was completed during the third quarter of Year 2 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. We are excited to announce that new lesson plans will be created during year 5 and will be linked to our webpage. As of May 31, 2025, there were 2,511 teacher kits shipped to educators in the USA, Canada, Mexico, Puerto Rico, Costa Rica, Columbia, Cuba, UK, Spain, Africa, South Africa, Australia, Turkey, Italy, and Thailand. We estimate that each teacher would have 60 students, which means these kits could reach close to 150,660 students, making this an effective tool for educating students about plastics along the Gulf of Mexico and beyond.



Figure 1. Nurdle Patrol Startup Kit (left) and Teacher Nurdle Kit (right)

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 wins a Plastic Free Life starter kit, containing 42 single-use plastic alternatives (Figure 2).

and other related material are also shared with the more than 3,000+ followers on the closed group Nurdle Patrol Facebook page. Virtual and in-person presentations and meetings were given to promote Nurdle Patrol to new organizations, including the following since June 1, 2024:

- June 4 – June 25, 2024 – Eight Nurdle Patrol presentations and trainings were given to the Summer Science Sea Stars (Grades 3 – 4) and Tidal Waves (Grades 5-6) at UTMSI in Port Aransas, Texas.
- June 10, 2024 - Nurdle Patrol and Beachcombing booth at Our Lady of Mt Carmel Church in Portland, Texas.
- June 11, 2024 – Nurdle Patrol and Beachcombing the Coastal Bend presentation to the Billabong Surf Camp at Horace Caldwell Pier in Port Aransas, Texas.
- June 17- June 18, 2024 – Four Nurdle Patrol presentations and beach trainings workshops were given to the GWET group from Kansas at UTMSI in Port Aransas, Texas.
- June 17, 2024 – Nurdle Patrol presentation in the classroom at Flour Bluff High School in Corpus Christi, Texas.
- June 24, 2024 – Nurdle Patrol and Beachcombing presentation to the Wildlife Preserve Conservation Job Corps at the Harte Research Institute (HRI) in Corpus Christi, Texas.
- July 2, 2024 –Nurdle Patrol Zoom presentation to the Golden Triangle Sierra Club.
- July 11, 2024 – Nurdle Patrol and Beachcombing the Coastal Bend presentation to the Billabong Surf Camp at Bob Hall Pier on North Padre Island in Corpus Christi, Texas.
- July 15, 2024 – Nurdle Patrol and Beachcombing Zoom presentation to the TAMUCC STEM Program.
- July 20, 2024 – Nurdle Patrol Presentation to the Gulf Youth Climate Summit in Corpus Christi, Texas.
- July 26, 2024 – Nurdle Patrol and Beachcombing Presentation to the Marine Biologist for a Day participants at HRI in Corpus Christi, Texas.
- August 7, 2024 – Nurdle Patrol and Beachcombing in the Coastal Bend Presentation to the Pleasanton Lions Club in Pleasanton, Texas.
- August 8, 2024 – Nurdle Patrol training and Live Beachcombing to the Texas Children in Nature Network at Bob Hall Pier in Corpus Christi, Texas.
- August 24, 2024 – San Jose Nurdle Patrol training and Beachcombing event with the Gulf Coast Growth Ventures on San Jose Island, Aransas County, Texas.
- September 6, 2024 – Nurdle Patrol presentation at Kaffie Middle School in Corpus Christi, Texas.
- September 10, 2024 – Nurdle Policy presentation at TAMUCC in Corpus Christ, Texas.
- September 14, 2024 – Nurdle Patrol and Beachcombing booth at KEDT Station in Corpus Christi, Texas.
- September 16, 2024 – Nurdle Patrol and Beachcombing in the Coastal Bend presentation for the Monday Forums Women’s Group in Corpus Christi, Texas.

- September 18, 2024 – Nurdle Patrol and Beachcombing presentation to the HRI's Gulf Scholars Program in Corpus Christi, Texas.
- September 21, 2024 – Nurdle Patrol and Beachcombing booth at the 3rd Annual Friends of Padre Fall Fiesta event located on Padre Island in Corpus Christi, Texas.
- October 1, 2024 – Nurdle Patrol presentation to the Coastal Cadet Club at Kolda Elementary in Corpus Christi, Texas.
- October 3, 2024 – Nurdle Patrol in the Gulf of Mexico presentation to MarCuba in Havana, Cuba.
- October 9, 2024- Nurdle Patrol training at McGee Beach in Corpus Christi, Texas for the TCEQ employees attending the Surface Water Quality Monitoring workshop.
- October 12, 2024 – Five Nurdle Patrol and Marine Debris demonstrations were given to the public during the Island Science Day event at UTMSI in Port Aransas, Texas.
- October 18, 2024 – Nurdle Patrol and Beachcombing presentation at the International Sea Bean Symposium in Galveston, Texas.
- October 28, 2024 – Nurdle Patrol presentation at the 3rd Annual Mexico Plastic Pollution Symposium in Merida, Yucatan, Mexico.
- October 31, 2024 – Nurdle Patrol Workshop at the 3rd Annual Mexico Plastic Pollution Symposium in Progreso, Yucatan, Mexico.
- November 7, 2024 – Nurdle Patrol and Beachcombing booth for STEM Night at Kolda Elementary School in Corpus Christi, Texas.
- November 8, 2024 – Nurdle Patrol and Beachcombing presentation for the South Padre Shell Group in Corpus Christi, Texas.
- November 14, 2024 - Nurdle Patrol and Beachcombing the Gulf of Mexico presentation at the Conference for the Advancement of Science Teaching (CAST) in San Antonio, Texas.
- November 15, 2024 - Nurdle Patrol and Beachcombing Panel for the screening of *Chasing the Tide* [documentary] at HRI in Corpus Christi, Texas.
- November 16, 2024 - Nurdle Patrol and Beachcombing presentation to the Texas Bayside Historical Society in Bayside, Texas.
- November 19, 2024 - Nurdle Patrol and Beachcombing presentation at Baker Middle School in Corpus Christi, Texas.
- November 26, 2024 - Nurdle Patrol and Beachcombing training for the Texas Sea Grant RJ Shelly group and the South Jetty in Port Aransas, Texas.
- December 03, 2024 – Nurdle Surveys at Newport beach with Flour Bluff Junior High School students on Mustang Island in Corpus Christi, Texas.
- December 09, 2024 – Nurdle Patrol Zoom presentation to St. Peter School in Ohio.
- December 09, 2024 – Nurdle Patrol Zoom presentation to the First Lego League Team in St. Louis, Missouri.
- January 09, 2025 – Beachcombing and Nurdle Patrol presentation to the Jenette Hammer Guild at the Church of Good Shepherd in Corpus Christi, Texas.

- January 10, 2025 – Beachcombing and Nurdle Patrol presentation to the Country Club Women’s Association at the Corpus Christi Country Club in Corpus Christi, Texas.
- January 11, 2025 – Beachcombing and Nurdle Patrol presentation at the Corpus Christi Science Museum in Corpus Christi, Texas.
- January 15, 2025 – Beachcombing and Nurdle Patrol presentation at the Mission-Aransas NERR Bay Education Center in Rockport, Texas.
- January 24, 2025 – Beachcombing and Nurdle Patrol presentation for the GLO Adopt a Beach at the Omni Hotel in Corpus Christi, Texas.
- February 05, 2025 – Beachcombing and Nurdle Patrol Zoom presentation for the NOAA Flower Garden Banks Sanctuary.
- February 06, 2025 – Beachcombing and Nurdle Patrol presentation at the Ellis Memorial Public Library in Port Aransas, Texas.
- February 11, 2025 – Beachcombing and Nurdle Patrol presentation for the Port Aransas Garden club at the Island Retreat Event Center in Port Aransas, Texas.
- February 13, 2025 – Beachcombing and Nurdle Patrol Booth at Flour Bluff Elementary School in Corpus Christi, Texas
- February 18, 2025 – Beachcombing and Nurdle Patrol presentation for the Kiwanis Club of Corpus Christ at Tower II in downtown Corpus Christi, Texas.
- February 18, 2025 – Beachcombing and Nurdle Patrol Coastal Bend Environmental Issues presentation at the Brookdale Trinity Towers in Corpus Christi, Texas.
- February 24, 2025 – All day Beachcombing and Nurdle Patrol Presentations for the Flour Bluff High School students in Corpus Christi, Texas.
- March 01, 2025 – Microplastics Impacts presentation for the Sierra Club Dallas in Dallas, Texas.
- March 04, 2025 – Nurdle Patrol and Beachcombing presentations to the TAMUCC Surfrider Foundation Student Chapter at TAMUCC in Corpus Christi, Texas.
- March 06, 2025 - Nurdle Patrol and Beachcombing presentation to the IA TAMUCC Leadership at TAMUCC in Corpus Christi, Texas.
- March 26, 2025 – Nurdle Patrol and Beachcombing Booth at the TAMUCC Student Health Day event at TAMUCC in Corpus Christi, Texas.
- March 27, 2025 – Nurdle Patrol and Beachcombing Panel discussion about plastics in the ocean to ExxonMobil in Gregory, Texas.
- April 03, 2025 – Plastics Policy Panel for the 7th Annual Texas Plastic Pollution Symposium at the Houston Zoo in Houston, Texas.
- April 09, 2025 – Nurdle Patrol and Beachcombing Booth at West Oso Bay School in Corpus Christi, Tx.
- 04/10/2025 – Beachcombing and nurdles discussion on Blake’s Morning Radio Show in Corpus Christi, Tx.
- 04/15/2025 – How to conduct a nurdle beach survey Zoom presentation for PIRG.

- 04/17/2025 – Plastics in the environment and Nurdle Patrol Panel discussion for the University of Houston-Energy Institute in Houston, Texas.
- 05/12/2025 – Beachcombing and Nurdle Patrol the Coastal Bend Beaches presentation for the Port Aransas ISD in Port Aransas, Texas.
- 05/13/2025 – Beachcombing and Nurdle Patrol training on San Jose Island with the Aquilla High School Aquatic Class on San Jose Island, Aransas County, Texas.
- 05/16/2025 – Beachcombing the Gulf of Mexico presentation for the Corpus Christi Chapter of the daughters of the American Revolution at the First Christian Church of Santa Fe in Santa Fe, Texas.
- 05/20/2025 – Science Communication and Engagement presentation for the CCME Paul Montagna Group at the Harte Research Institute in Corpus Christi, Texas.
- 05/22/2025 – Nurdle Patrol Zoom presentation for the Master Naturalist Sabine Chapter.
- 05/31/2025 – Beachcombing and Nurdle Patrol training for the Coastal Bend Bays Foundation at Newport Pass in Corpus Christi, Texas.

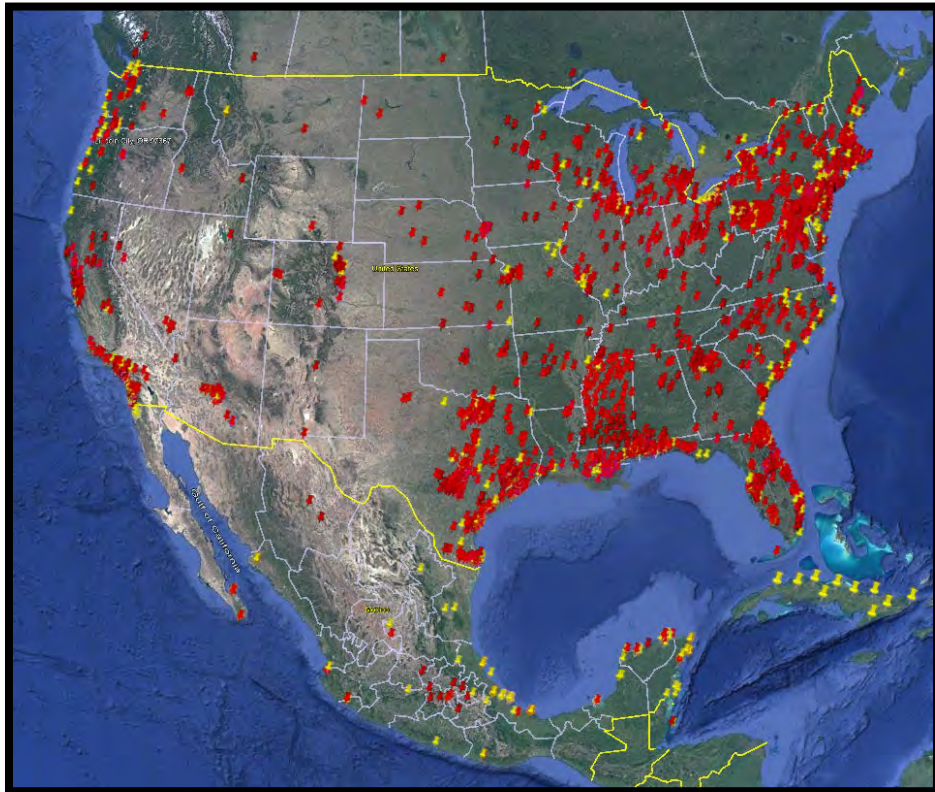


Figure 4. Nurdle Patrol Partners (yellow) and Teacher Kits (red) shipped in the continental United States, Canada, Cuba and Mexico.

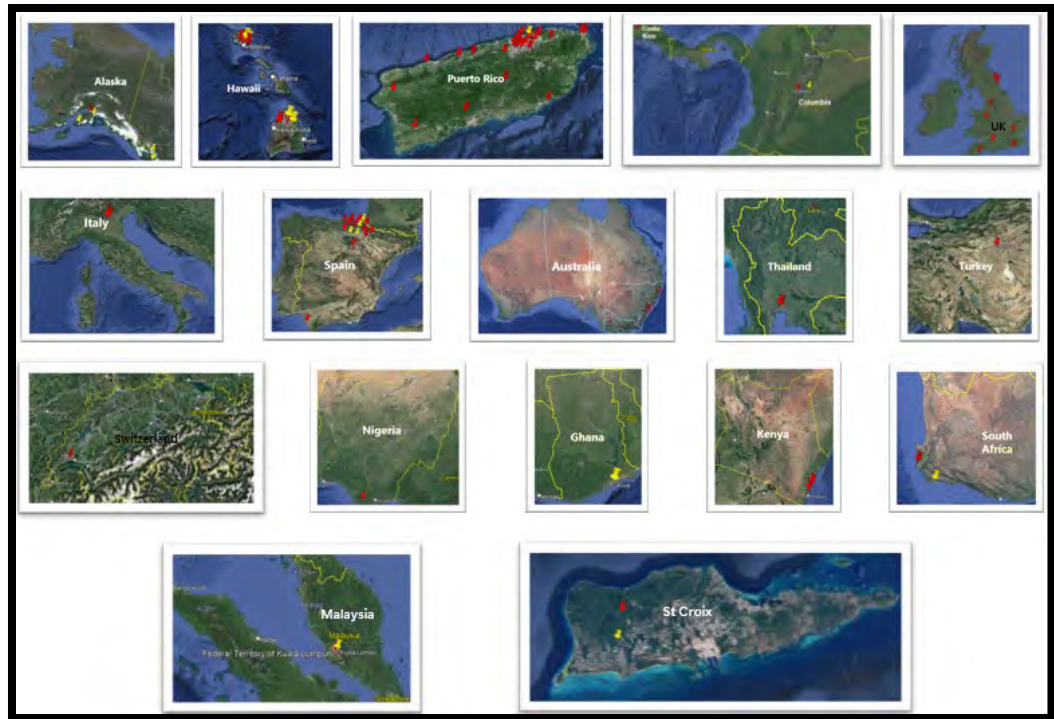


Figure 5. Nurdle Patrol Partners (yellow) and Teacher Kits (red) shipped to Alaska, Hawaii and worldwide.

| Number | Year 5 Quarter 4 New Partners | Group Type | Location |
|--------|--|-------------------|----------|
| 1 | Kitten Rescue LLC | NonProfit | WI |
| 2 | Crenshaw Environmental Science Magnet | Middle School | TX |
| 3 | Siena College Student Research | College | NY |
| 4 | Island Prep School | Private School | FL |
| 5 | University of Colima Faculty of Marine Sciences | University | MX |
| 6 | Ad Astra | Business | TX |
| 7 | Middletown ES | Elementary School | MD |
| 8 | Texas State University - BIO3371 | University | TX |
| 9 | Haddonfield Memorial High School | High School | NJ |
| 10 | Matanzas Riverkeeper | NonProfit | FL |
| 11 | Blue Theology Mission Station | NonProfit | CA |
| 12 | Marbletown Environmental Conservation Commission | Governmental | NY |
| 13 | Magnolia Beach Volunteer Fire Department | NonProfit | TX |
| 14 | Cuyahoga County Department of Sustainability | Governmental | OH |
| 15 | Selma First Christian Church | Church | CA |
| 16 | Local Environmental Action Demanded Agency, Inc. | NonProfit | OK |
| 17 | Panama Central School District | School District | NY |
| 18 | Oregon Shores Conservation Coalition | NonProfit | OR |
| 19 | GPX | NonProfit | TX |
| 20 | Beyond Plastics | NonProfit | OH |
| 21 | RePlastic Recycle | Recycle System | USVI |
| 22 | Universiti Malaya | University | MY |

Table 1: Nurdle Patrol Partners who received startup kits during Year 5 Quarter 4.

Phone App Maintenance and update website

The subaward agreement between TAMU-CC Conrad Blucher Institute (CBI) and UTMSI for year five was fully funded on September 26, 2024. 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 original phone app, Android, and iOS, were released in May 2021.

Overview:

During the first quarter of year five the CBI Nurdle Patrol team initiated the design phase for a new user interface to enhance the website's functionality. Efforts focused on modernizing the layout and improving user interaction to foster greater engagement.

In the second quarter of year five the CBI team marked significant progress in the development and maintenance of the Nurdle Patrol software ecosystem, focusing on both the mobile app and website interfaces. A significant portion of our resources was spent on upgrading the mobile app to comply with the latest security policies mandated by Apple and Google.

During the third quarter of year 5, the CBI Nurdle Patrol team continued to make progress in the implementation of the new website's user experience and functionality. Significant efforts were made in developing essential components of the website, including the About Page, News section, Solutions Page, and integrating statistical charts on the home page.

In the fourth quarter of year 5, the CBI Nurdle Patrol team continued making significant progress on the development of the new Nurdle Patrol website. Key accomplishments include the creation and enhancement of the Resources Page, Nurdle Report Page, and Admin Page, along with improvements to the overall design, functionality, and consistency of the website.

New Website Development:

Resource Page: The updated Resource Page now features a tabbed interface, allowing users to easily navigate and access all available resources. It includes content in both English and Spanish.

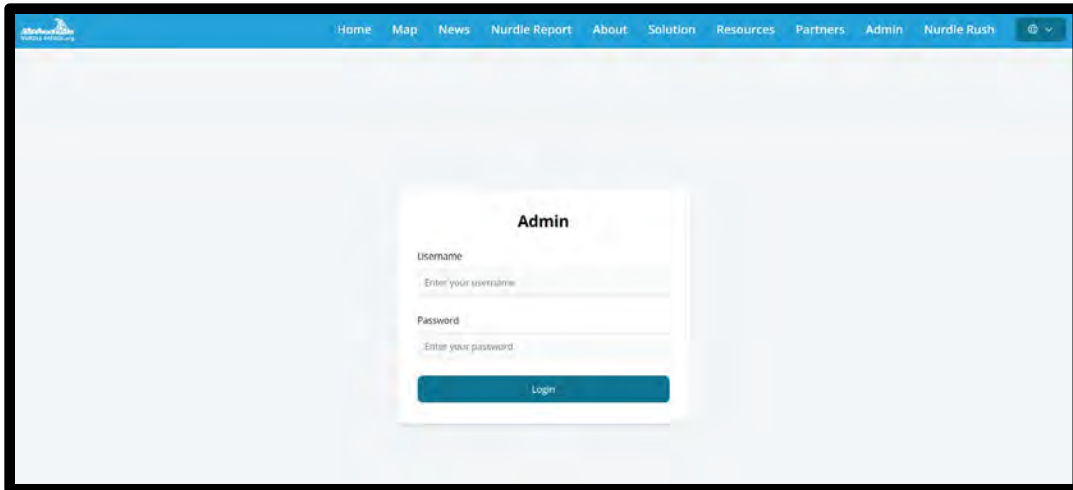


Image 3. Admin Login Page View.

Admin – Article Management Page: Implemented the Article Management Page to provide administrators with an organized interface and a sortable table displaying key information such as titles, content, and date of publication. Administrators can easily use the Edit and Delete buttons to manage existing entries.

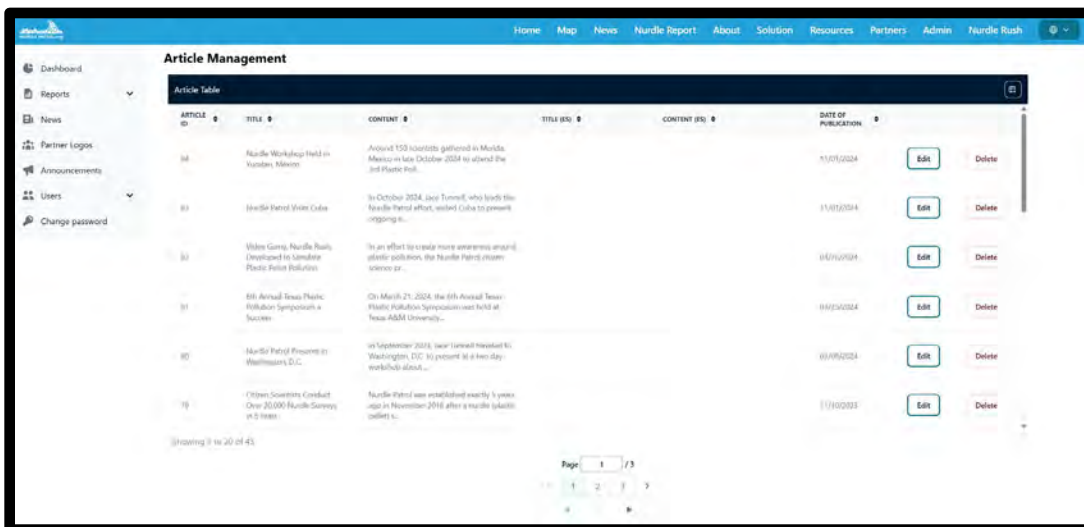


Image 4. Admin – Article Management Page View

Admin – Announcement Management Page: Implemented the Announcement Management Page within the admin panel, enabling administrators to create, edit, and delete Home Page announcements.

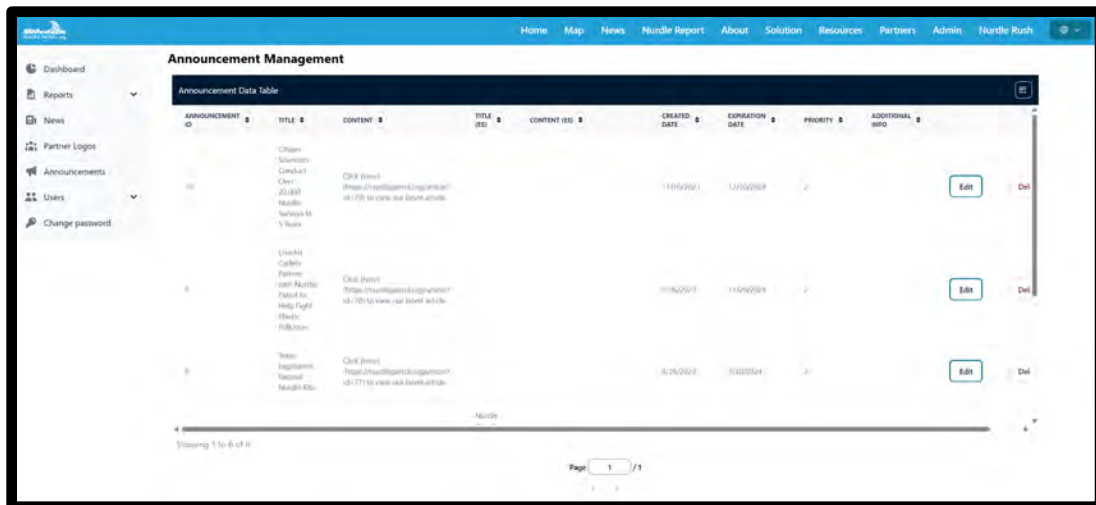


Image 5. Admin – Announcement Management Page View

Home Page Enhancements: YouTube videos were embedded into a carousel on the Home Page to highlight featured content and improve visual.

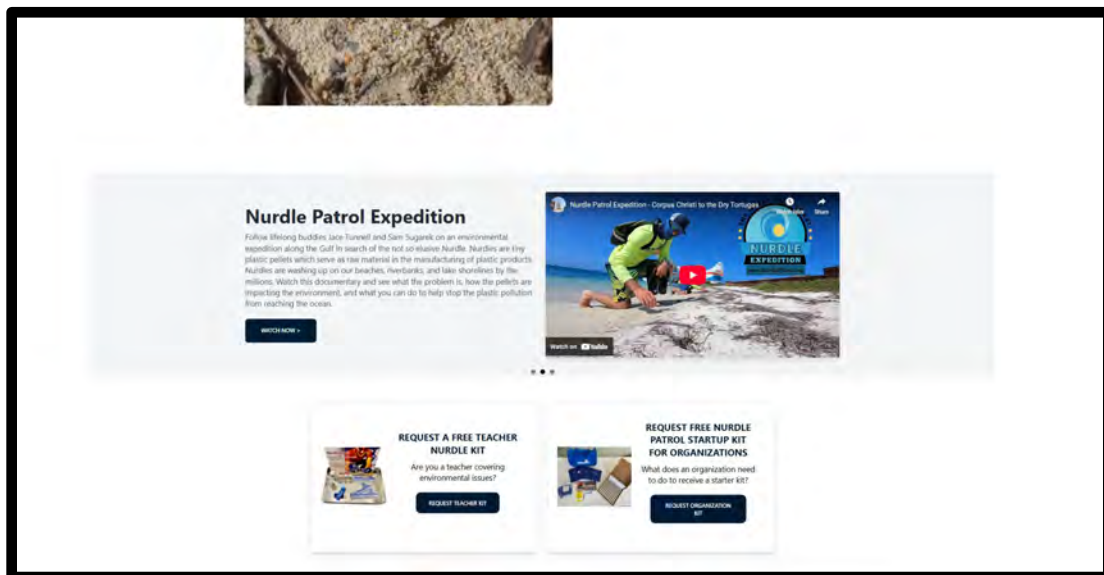


Image 6. Carousel in Home Page

Typography Update: We updated the font across the entire website to match the Nurdle Patrol logo. This change helps unify the site's overall design.

Website Maintenance

Moving forward, we'll remain attentive to the overall upkeep of the website and will make adjustments as needed to ensure everything continues to run smoothly.

Coordinate Nurdle Patrol Program

- **Data Management and Quality Assurance:**
HRI has been actively involved in monitoring and ensuring the quality of data entered into the NurdlePatrol.org portal. Key issues include incorrect survey locations, inaccurate survey durations, and duplicate entries. To address these issues, HRI has implemented a rigorous daily monitoring process. When errors are identified, volunteers are contacted via email and guided on proper data entry procedures. This proactive approach aims to maintain high data integrity and improve overall quality.
- **Public Engagement and Presentations:**
HRI gave 16 presentations during the fourth quarter of year five about Nurdle Patrol at various venues, including at festivals, schools, community groups, and via Zoom. These presentations are designed to educate the public and researchers, promote the citizen science project, and attract new partners. The consistent outreach efforts contribute significantly to raising awareness and support for the Nurdle Patrol initiative.
- **Partnership Expansion:**
HRI's efforts to enhance partnerships include working closely with UTMSI on the distribution of 22 new startup kits and 220 teacher kits, which are crucial for expanding the program's reach. By leveraging the program's growing visibility, HRI aims to further increase the number of partners and strengthen collaborative efforts in the citizen science project.

Public Awareness

The Nurdle Patrol rack card continues to be printed and 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 6 & 7).



Figure 6. Nurdle Patrol outreach flyer front and back.



Figure 7. Spanish version of the Nurdle Patrol outreach flyer front and back.

The Nurdle Patrol billboard campaign was a huge success that was created during the first year (2020) and extended through 2025 (Figure 8).



Figure 8. Nurdle Patrol billboard in Point Comfort, Tx (site 355751) .

The Port Aransas Wildlife magazine highlights the diverse wildlife that can be found in Port Aransas and surrounding areas. A large portion of the earnings from the advertisers is donated to organizations that benefit wildlife in Port Aransas such as the Amos Rehabilitation Keep (ARK) for their dedication to helping sick and injured wildlife and the Carolyn Grosse Conservation Fund which supports the Port Aransas Nature Preserve. Nurdle Patrol has a full-page ad (pg. 25) in the new 2024-2025 edition (Figure 9).



Figure 9. Nurdle Patrol advertisement in the Port Aransas Wildlife Magazine.

Nurdle Patrol is proud to have a permanent outreach installation at the Texas State Aquarium (Figure 10). 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.



Figure 10. Nurdle Patrol outreach installation at the Texas State Aquarium.

Summary

A total of 2,297 surveys were conducted during Y5Q4 and 102,438 nurdles were removed from the beaches, riverbanks, and lake shorelines across the United States, Mexico and additional countries worldwide. Nurdlepatrol.org acquired 22 new partners and shipped 220 teacher kits to educators in the USA, Canada, Mexico, Puerto Rico, Costa Rica, Columbia, UK, Spain, Africa, Australia, Turkey, Italy, Spain and Thailand. Two hundred fifty-two individual kits were handed out during this quarter (Table 2).

| Y5Q4 | Number of Surveys | Nurdles Removed | New Partners | Teacher Kits | Individual Kits |
|--------------|----------------------------------|----------------------------|-------------------------|---------------------|----------------------------|
| March | 425 | 16,483 | 5 | 137 | 0 |
| April | 657 | 17,820 | 11 | 58 | 252 |
| May | 1,215 | 68,135 | 6 | 25 | 0 |
| Total | 2,297 | 102,438 | 22 | 220 | 252 |

Table 2. Y5Q4 Summary.

Obstacles

- None