



EARTH DAY 2020 CELEBRATION: HABITAT RESTORATION STORY MAP AND CRITTER QUIZ

Stakeholder Awareness, Education & Involvement
AAPA Environmental Improvement Awards

June 2020



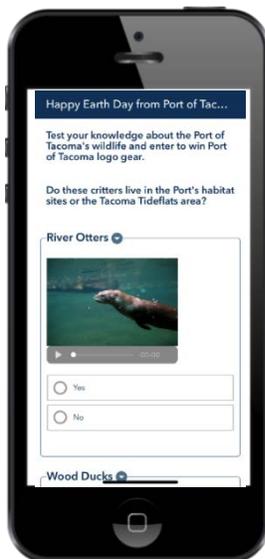
I. SUMMARY

The Port of Tacoma (Port) had big plans in store for the 50th anniversary of Earth Day in 2020, including several exciting hands-on community activities and events at the Port’s habitat sites. As with seemingly everything else in 2020, things didn’t go according to plan. Due to the COVID-19 pandemic, all in-person, hands-on activities the Port organized for Earth Day 2020 had to be cancelled. Not wanting such a big anniversary to go unnoticed, the Port had to think of an alternative way to celebrate Earth Day 2020 and find a way to share that celebration with the public. The Port’s Permitting and Habitat Development, Geographic Information Systems (GIS), and Public Affairs teams combined forces (remotely) and quickly pivoted to go digital for Earth Day 2020.

The Port created an interactive web application (or story map) that links narratives, photos, videos, and maps to entertain and educate the



Port of Tacoma Habitat Restoration story map landing page



Screen view of the Port’s Critter Quiz

community about the Port’s habitat restoration efforts. The [Port of Tacoma Habitat Restoration Story Map](#) demonstrates how the Port’s investments in habitat development and restoration are making a positive impact on the health of fish and wildlife in and around the Tacoma Tideflats. The Port also created an interactive [Critter Quiz](#) specifically for Earth Day 2020 to engage people and test their knowledge of the wildlife living within the Port’s habitat sites and around the Tacoma Tideflats. The quiz included photos, fun facts, and animal sounds, and offered a chance to win Port merchandise.

II. GOALS AND OBJECTIVES

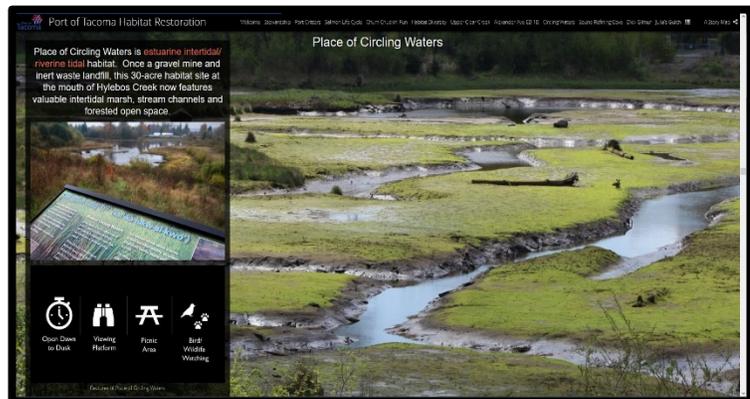
The goal of the Critter Quiz was to give the community a way to digitally celebrate Earth Day 2020 with the Port.

Objectives of the Critter Quiz include:

- Increasing awareness of wildlife diversity that live within the Port’s vicinity that might not otherwise have been known; and
- Providing a platform to introduce the Habitat Restoration story map and [Diary of a Port Biologist](#) blog.

The goal of the Habitat Restoration story map is to share the Port’s habitat development and stewardship program with community stakeholders and the public in an interactive and engaging way. There are several objectives of the Habitat Restoration story map, including:

- Providing a comprehensive look at the Port’s habitat development and stewardship program in a format that is easily digestible;
- Identifying Port-owned and/or managed natural areas within the region that the community can access, and the amenities they provide;
- Educating people about the lifecycle of salmon, the importance of restoring salmon habitat, and the Port’s role in salmon recovery; and
- Notifying the community of how they can get involved in volunteer events and stewardship opportunities for the Port’s habitat sites.



Users can view habitat restoration sites with easy interactive icons and images

III. DISCUSSION

The Port of Tacoma was created by Pierce County citizens in 1918 and is now one of the largest container ports in North America and one of the top 50 in the world. The Port's marine terminal operations is situated on approximately 2,400 acres, predominantly in the city of Tacoma, on Commencement Bay, located on the southern end of Puget Sound. This area of industrial and marine cargo operations is known locally as the Tacoma Tideflats. The Port is committed to responsible, sustainable growth that protects public health and the environment. As good environmental stewards on the Tacoma Tideflats, the Port restores habitat for salmon and wildlife.

A. BACKGROUND

Wetlands and aquatic habitats are unique and complex ecosystems that can improve water quality, offer natural flood control, provide fish and wildlife habitat, and stabilize shorelines. To protect these valuable ecological functions, the Port operates under a "no net loss" policy, as guided by federal, state, and local regulatory agencies. This policy means that wetlands and aquatic resources should be conserved whenever possible, and that any impacts to wetlands or aquatic resources must be offset through compensatory mitigation. Compensatory mitigation is the creation, restoration, enhancement, and/or preservation of other wetlands to offset unavoidable impacts, and to provide the same functions and values as those that have been lost.

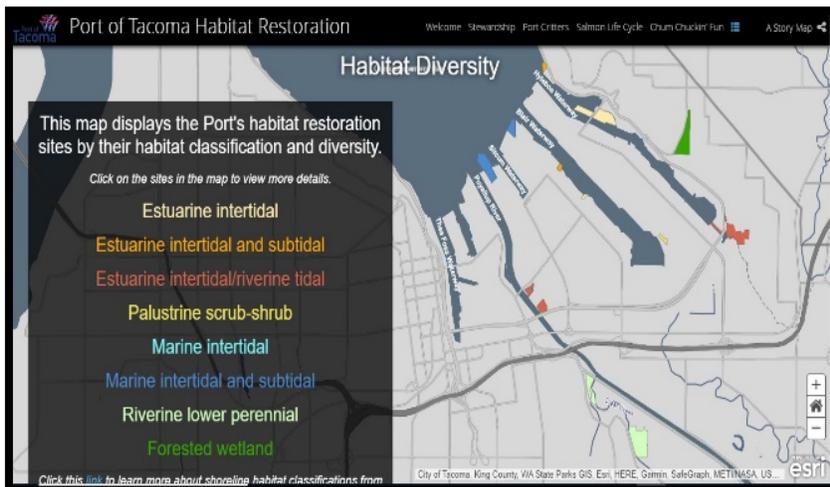
Due to the nature of its location, the Port often encounters aquatic resources and terrestrial sensitive areas. Port development projects can directly or indirectly alter or impact these aquatic resources and sensitive areas. Project activities that are very common for the Port – such as dredging, filling, or construction of in-water structures – can directly alter, reduce, or eliminate a particular habitat, which in turn impacts the species that use that habitat. As a result, the Port has a great deal of experience in designing and developing compensatory mitigation as part of a development project.

The Port has over 30 years of habitat restoration experience within Commencement Bay and the lower Puyallup River watershed, which feeds the bay. Since the creation of its first habitat mitigation site in the mid-1980s, the

Port has developed, participated in, or preserved 21 different sites, totaling over 213 acres of habitat restoration. These habitat sites are a result of either compensatory mitigation requirements due to unavoidable development or remediation impacts, Natural Resource Damage Assessments (NRDA) as part of the Superfund program, or preservation of open space provided as a public benefit.

The Port, with relatively good access to land suitable for mitigation, focuses on sites that aid in salmon recovery. Several Puget Sound species are listed as threatened or endangered, and they serve as critical food stock for endangered Southern Resident Orca Whales. These sites are large, expandable and are constructed out of the way of future development. The Port’s habitat sites provide migrating salmon access to important freshwater, estuarine, and marine habitats with vital resources for rearing and foraging.

Historically, the Port has not done a very good job of sharing the success story of its habitat restoration program. Many community members, even those familiar with Port operations, do not realize the investments the Port has made in the natural resources that surround it. The Habitat Restoration story map describes the major milestones that have helped shape habitat restoration within Commencement Bay and the lower Puyallup River watershed. It offers a digital tour of the Port’s habitat restoration sites, insight into the Port’s habitat strategy, and how the



Interactive map showing different types of habitat created by the Port of Tacoma

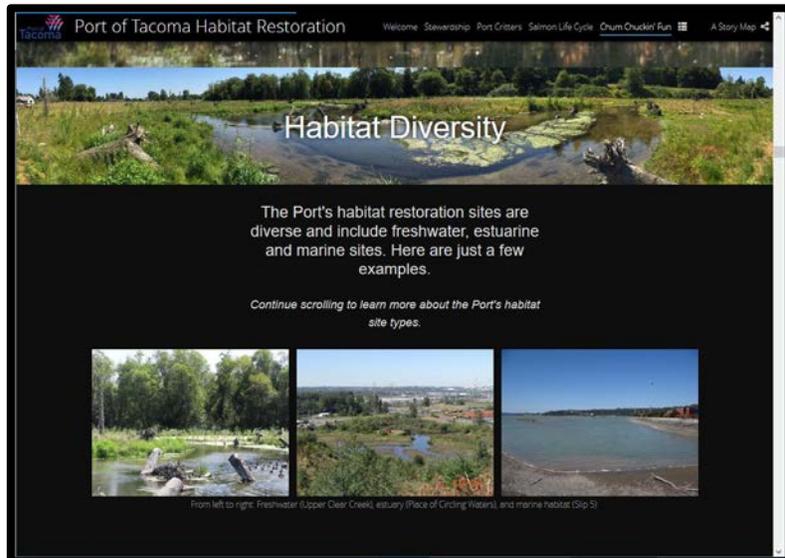
Port stewards the land to ensure its ongoing success.

B. METHODOLOGY

When it became clear the Port was going to be unable to move forward with its original plans for Earth Day 2020, the challenge became how to creatively summarize over 30 years of habitat restoration – and celebrate the 50th anniversary of Earth Day – in a memorable way. A story map was the perfect way to integrate information (narrative, photos, videos, etc.) and interactive maps into an easily shareable online platform.

The Habitat Restoration story map incorporates photos, videos, and animation as well as interactive maps to immerse the user. The story map is organized by topics and by habitat sites in sequential order (newest to oldest).

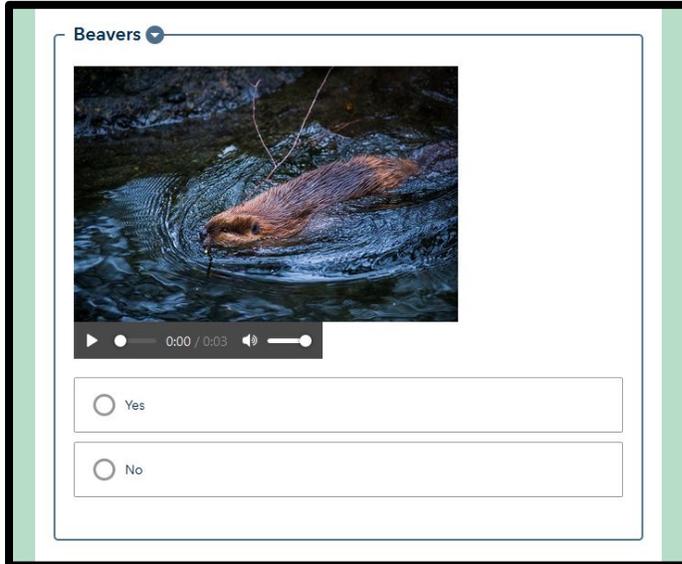
The user can click on the map data displayed for additional information, click on the bookmark bar to navigate to a specific topic or habitat site, or simply scroll through the story map to view the entire Habitat Restoration program. This allows the user to create their own unique experience and spend as much or as little time as they want



Example of story map page showing bookmark and scrolling options

exploring. The Port’s GIS Program Manager and Biologist worked together to ensure the story map content was accurate, informative, and interesting. The site is also expandable, allowing the Port to add additional content over time as it is produced, keeping the tool fresh and updated.

The Critter Quiz was created to generate public interest for a virtual Earth Day celebration with the Port, and to help launch the Habitat Restoration story map. The Critter Quiz listed several different species of fish and wildlife,



Example of Critter Quiz question configured for desktop device

and the user had to decide whether each “critter” had been observed within the Tacoma Tideflats and/or the Port’s habitat sites. At the end of the quiz, the user was offered the chance to enter a drawing to win Port merchandise and to rate the quiz.

The Habitat Restoration story map and the Critter Quiz were created with internal Port staff, using existing technology (Esri), on short notice

(less than one month), and without a budget.

C. HOW THE PROJECT MEETS THE AWARD CRITERIA

1. The level and nature of benefits to environmental quality, beautification, or community involvement:

The Habitat Restoration story map and Critter Quiz allowed the Port to interact with the community to celebrate the 50th anniversary of Earth Day, despite the COVID-19 global pandemic. The Habitat Restoration story map is configured to the user’s preferences so the user can consume as much or as little as they choose and on the device of their choice. It will be updated as new habitat restoration projects are added to the Port’s portfolio. It has the flexibility to be used for all public outreach opportunities, both virtually and in-person. The Habitat Restoration story map will be a long-lasting tool in the Port’s educational toolbox.

2. The level of independent involvement and effort by the Port:

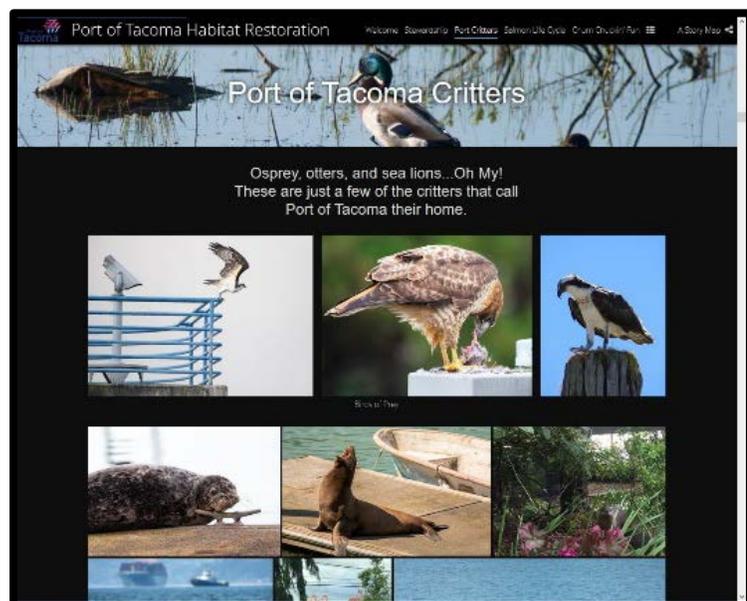
The Habitat Restoration story map and Critter Quiz were created, developed, and launched entirely in-house by Port staff from the Environmental, GIS, and Public Affairs departments. There was no dedicated budget to this effort and no funds were used to pay outside vendors. Some of the photos for the Critter Quiz were provided by other local organizations on a volunteer basis. All graphics, animation, video production and narrative for the Habitat Restoration story map were completed solely by Port staff.

3. The creativity of the solution or programs:

The Habitat Restoration story map and the Critter Quiz are just two examples of the Port’s innovative approach to adapt to rapidly changing conditions. Once it became clear that all Earth Day 2020 events were going to be cancelled, Port staff had to come up with a creative and engaging solution to provide public outreach on extremely short notice, with no dedicated budget. The Port used many different approaches (photos, videos, animation, etc.) to engross the user and send them on a virtual tour of the Port’s habitat sites to help celebrate the 50th anniversary of Earth Day. It provides the community the opportunity to still feel connected to their Port during uncertain times.

4. Whether the project or program results are apparent:

The Habitat Restoration story map and Critter Quiz were distributed through social media, on the Port’s external website, internal Sharepoint site, and through internal and external communications announcements. In addition, the Port’s Community Relations Manager distributed the story map and quiz to all 15 Pierce County School Districts, over 50 home schools and scouting troops,



Habitat Restoration story map "Port of Tacoma Critters" page (updated periodically)

approximately 50 different community groups within Pierce County, and to the Tacoma Library System for their use. The Washington Public Ports Association (WPPA) also highlighted the Habitat Restoration story map on their blog.

Since its official launch on Earth Day (April 22, 2020), metrics for the Habitat Restoration story map and the Critter Quiz include the following:

- Habitat Restoration story map
 - The story map reached over 10,100 people via social media (Facebook, Twitter, Instagram, Linked-In)
 - 372 people reacted to the social media posts
 - 574 people clicked the link from the social media post
 - The story map has been viewed 556 times (an average of 9 views per day to-date)
- Critter Quiz
 - The quiz reached over 4,000 people via social media (Facebook, Twitter, Instagram, Linked-In) in one month (April 22 – May 22)
 - 210 people reacted to the social media posts
 - 167 people clicked the link from the social media post
 - 179 people responded to the Critter Quiz (the Port did not keep track of the number of correct/incorrect answers)
 - Approximately 93% of the quiz respondents rated the quiz 4 or 5 stars (out of 5 stars possible)

5. The cost effectiveness of the activity or program:

The Habitat Restoration story map and Critter Quiz were extremely cost effective. From conception to completion, the story map and quiz were developed entirely in-house with no dedicated budget. Port staff were solely responsible for all the narrative, video production, design, animation, and media placement. All photography was provided by Port staff or given to the Port by local organizations on a volunteer basis (no compensation).

6. The transferability of the technology or idea to the port industry:

The story map and quiz were both created using existing technology. Since new technology was not purchased, ongoing maintenance and support beyond internal staff is not needed. The technology is easily transferable to other ports that have GIS capabilities and staff dedicated to making and maintaining a quality product. Survey 123 (provided by Esri) is an easy way to get public feedback (or quiz them on local wildlife). The Esri story map platform is a dynamic informational tool that ports can use for a variety of subjects, not just habitat restoration, and not only today, but also into the future to update, refine, and build upon the port's story.



I am a coho, and I approve this message.