

Case Study

Maritime Exchange for the Delaware River and Bay

ECOSYSTEM DATA GATHERING INITIATIVE (DGI)



MARITIME EXCHANGE
for the Delaware River and Bay
Leading the Way to Port Progress



Imagine delivering a project, that involves a major United States waterway spanning three states, with little opposition. It is no understatement to say that this concept is almost unheard of. Yet that is exactly what the Maritime Exchange for the Delaware Bay and River has done.

A BOLD INITIATIVE

With the support of Delaware Senators Tom Carper and Chris Coons, the Maritime Exchange was successful in obtaining funding to launch the Delaware River and Estuary Ecosystem Data Gathering Initiative, known as DGI for short.

While there is a shared understanding for development activities to take place, moving through the permitting process in an area that is regulated by the federal government and three state governments is not an easy task and involves using a lot of data that is dispersed in many different places. To aid this process and help developers, regulators, and other stakeholders, data needs to be consolidated.

THE CHALLENGE:

"We want a healthy river. Yet as applicants, we experience numerous challenges when pursuing permits for dredging, construction, and rehabilitation," said David Monk, Director of Marine Operations for Energy Transfer.

"The most pressing issue is uncertainty over expected response dates and delays that extend into environmental windows when these activities are prohibited. The delays can jeopardize navigational safety and dramatically impede commerce if we can't clear dangerous shoals."

A SMART – LOW COST – HIGH VALUE SOLUTION :

Despite its academic-sounding name, the primary purpose of the DGI is to collect empirical information that can inform decisions about when and/or where maintenance dredging, berth construction, pile driving, and other waterside development activities can take place. The members of the Exchange Private Berth Dredging Committee, who initially hatched the idea in early-2019, hope the project lengthens today's extremely tight dredging windows in some areas. The DGI project also seeks to reduce the time needed for permit application, review, and approval as well as a reduction in the costs to prepare applications.



George E. McCarthy
– Maritime Exchange President

The screenshot displays the MCA Data Dashboard interface. The main map area shows a geographical view of the Chesapeake Bay region, with a red overlay highlighting a specific area of interest. The right sidebar contains a list of data layers and regulatory information, including:

- Basemap Options**
 - DOI Repository
 - Gages and Stations
 - Physical Environment
 - Water Quality / Quantity
 - Geopolitical
- Regulatory**
 - ESA Region 1 / 2002 Critical Life Historical Boundary Area
 - ESA Region 2 / 2002 Critical Life Historical Boundary Area
 - ESA Critical Habitat
 - Rivers and Harbors Act Section 405
 - Clean Water Act Section 404 and Related
 - Magnuson Stevens Act
 - Coastal Zone Management Act
 - National Wetlands Protection Act
 - National Wetlands Preservation Act
- Endangered Species Act**
 - Sea Turtle Important Habitat
 - Sturgeon Important Habitat
 - Atlantic Sturgeon Important Habitat
 - Atlantic Sturgeon Critical Habitat
- Tools**
 - Tools
 - Data Sources
 - Data Sources

An example DGI dataset showing critical habitat for Atlantic Sturgeon.



“This is a very high value project, at a low cost. The committee members are confident that this data gathering initiative will provide a lot of value for the regulated community, consultants, and regulators.”

John Deemer

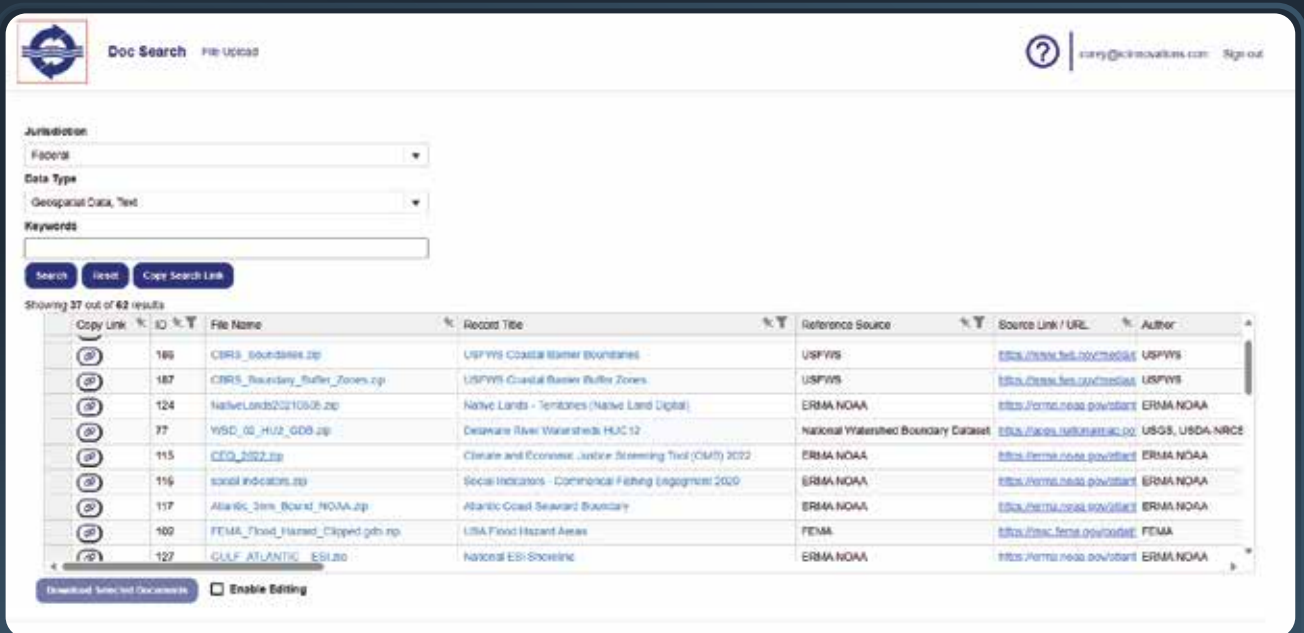
– HSE Manager at the PBF Energy Delaware City Refining Complex

PROJECT GOALS:

- **Enable scientists to more fully understand the river ecosystem.**
- **Provide a centralized repository for access of data and information for the Delaware River.**
- **Reduce time and cost for permit applications from developers.**
- **Help regulators base permit decisions on the most current, best science available.**
- **Aid in understanding the impacts of climate change by creating a living document that allows for monitoring of changes in water temperature, salinity, turbidity, species, habitat, etc.**
- **Access to ecosystem data for residents of industrial areas.**
- **Support infrastructure investment by facilitating permits for waterside improvements while providing appropriate protections for species and habitats.**

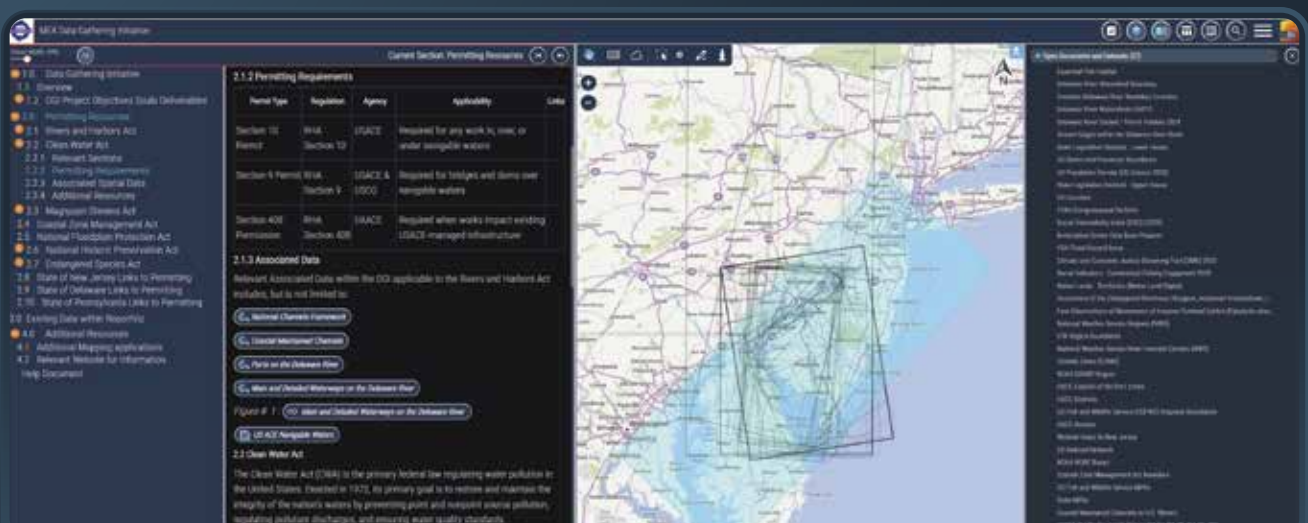
TECHNICAL PARTNERSHIP SOLUTION

The Exchange contracted Mott & MacDonald to lead the collection of data due to its intimate knowledge of the area and experience with the permitting process. ICI Innovations (ICI) provides the Automated Identification System (AIS) as part of Maritime Online; contracting ICI to incorporate DGI functionality was efficient and cost-effective. RIVAS from ICI provided the platform for creating, managing, searching and visualizing the contents of the DGI database. ICI quickly deployed and configured its Document Manager module to meet the database design requirements provided by Mott & MacDonald and trained the project team in its use so they could upload collected documents or datasets and add data from the database. Following data upload, DGI users are able to access data within the ReportViz module for visual exploration in context with other datasets.



DGI contents are uploaded and searchable from Document Manager

Knowledge increase via data gathering and access is an ongoing concern for the Exchange and stakeholders. The RIVAS system motivates members, academics and consultants alike to upload and share disparate data formats since it is easy. Likewise, users of Maritime Online will have easy access to pertinent DGI information by visual navigation associated with topic, time range and location.



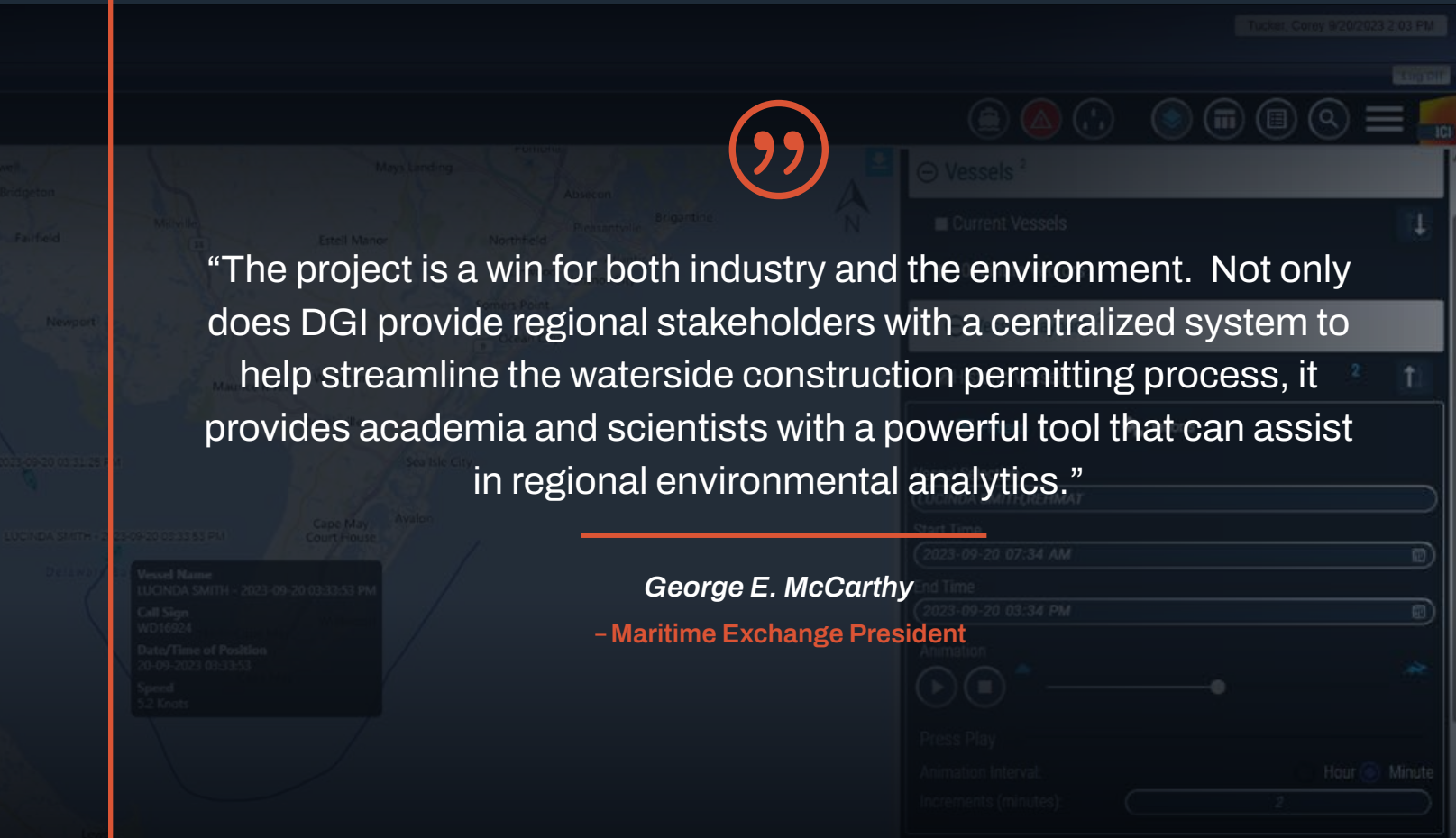
The DGI provides access to data and guidance on its applicability to permitting processes. ReportViz - the extent of each dataset enables access to data and documents.

ICI Innovations

BETTER INFORMATION FLOW SO CUSTOMERS ACHIEVE GOALS FASTER

It's ReportViz and Document Manager modules are part of the larger RIVAS solution for project information management. It provides access to sophisticated data and reports so project information can be managed and communicated more effectively.

RIVAS is a complete digital EIA and interactive data visualization solution that is tightly integrated with Microsoft 365's SharePoint Online platform. ICI Innovations has a solid reputation for providing easy to use, yet powerful solutions that support various natural resource-based industries, including energy.



“The project is a win for both industry and the environment. Not only does DGI provide regional stakeholders with a centralized system to help streamline the waterside construction permitting process, it provides academia and scientists with a powerful tool that can assist in regional environmental analytics.”

George E. McCarthy

– Maritime Exchange President



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