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DETROIT RIVER  
INTERNATIONAL WILDLIFE REFUGE

2019  
ANNUAL  
REPORT



*Honoring The Conservation Legacy of John D. Dingell Jr.*

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Tree swallow (*Tachycineta bicolor*). Photo: Tom Kachelmeyer, USFWS Volunteer

## HONORING THE LEGACY

*From the office of U.S. Representative Debbie Dingell*

*"Many years ago, we all came together to set aside this pristine land for future generations to enjoy, and soon people throughout the state will be able to come to a state-of-the-art visitor center to learn more about the natural beauty that surrounds them here in Southeast Michigan."  
-John D. Dingell Jr.*



**Photo: The Office of Congresswoman Debbie Dingell**

Dear Friends,

2019 was a difficult year after losing John in February. As the weeks and months went by, the year evolved and I kept abreast of the continuing construction progress made at the John D. Dingell Jr. Visitor Center and Refuge Gateway. Through the year, the Refuge team and volunteers also worked hard clearing trails, treating the invasive plants that choke healthy ecosystems, and connecting young people with the generous nature that surrounds us. I am grateful and proud of all that has been accomplished and trust you'll enjoy reading about some of it here.

In October, I was very happy to finally announce a firm date for opening this place that John loved so dearly. As 2020 began, members of Team Dingell were excited to work with the Refuge team and partners like Wayne County, the City of Trenton, and IWRA in developing the plan for the Grand Opening. We all looked forward to joining thousands of neighbors in the celebration. Now, five months into 2020, as the global Coronavirus pandemic has put people at risk when gathering, work on the site has been halted since March and the opening is rightly postponed. As we all do our part to stay safe, we are focusing on the health and economic well-being of our loved ones and communities. When it is safe for contractors to work again, the Fish and Wildlife Service will restart the final construction touches and work will resume until complete. Then, when it is safe for visitors, staff, and volunteers, the beautiful Refuge Gateway will open. I will join you there and we can raise a glass to the realization of an amazing vision.

The theme of this annual report is about the conservation legacy John left for the American people, and how his vision for connecting all people to nature is being realized at the Detroit River International Wildlife Refuge. I'm pleased to introduce this 2019 annual report that highlights some of the progress made this past year on that vision, and I'm grateful to the Refuge community for ensuring this lasting legacy endures.

Stay safe everyone. We'll see you soon!

*Debbie Dingell*

## CONSTRUCTION UPDATE

*A building worthy of its name!*

Construction on the John D. Dingell Jr. Visitor Center gained momentum throughout 2019 and was full steam ahead as the year closed out. Steady progress was made throughout the year to ensure its major systems were completely operational. The building is equipped as a high-energy efficiency facility for all systems. Most of these systems are controlled with different computer programs that didn't always 'talk' to each other well. Balancing multiple mechanical systems' operations and many digital systems' languages created challenges on the components that were installed years earlier by previous contractors. HVAC and water were particularly vexing. The building's heating and cooling is maintained by in-floor radiant heating with a series of pumps and in-slab tubing, as well as forced air systems in each room. When functioning as designed, these two systems create ideal temperatures with high energy efficiency. When not functional, they can compete with each other.

Similarly, the water system utilizes grey water collected from the building for flushing toilets throughout the building. Inoperable sensors and pumps in the grey water system defeated its purpose. With dogged determination from the FWS contract team working through the bonding company and its contractors, inoperable components were identified and replaced (sometimes multiple times!) and progress prevailed. In the spring of 2019, FWS inspections then revealed that the sanitary sewer system for the building was not functioning properly. It is a gravity system, where everything is meant to flow continuously downhill from the building before meeting up with the city's main sewer line running along West Jefferson. Inspections found it had a few peaks and valleys- and we all know that sewage doesn't flow uphill. Most of the sewer line had to be dug up and much of it re-set for the correct slope and new manholes installed. A section near the road was the most problematic, but after a new contractor was hired a new remedy fixed the issue. Fixing the sanitary system problems was the significant milestone we needed to have confidence in completion and set a date for our grand opening!

*"The refuge started as just an idea, and to see the hundreds and now thousands of acres of preserved land and wetlands is amazing. It's such an important part of the ecology for migratory birds and other species, and it is right here in our backyard."  
- John D. Dingell Jr.*



The sign at the Refuge Gateway was installed in the winter and looks great! Photo: USFWS



Contractors worked on the sewer lines throughout 2019 and finally fixed the "crap job". Photo: USFWS

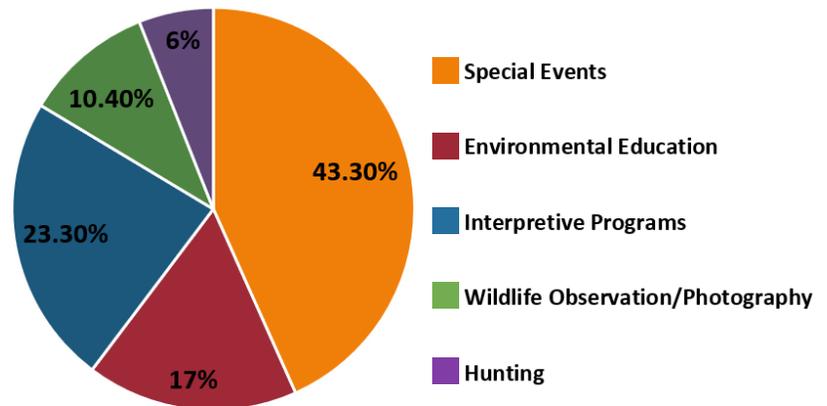
## VISITOR SERVICES: OUTREACH AND VOLUNTEERS

**10,341**  
Visitors

**289**  
Volunteers

**5,947**  
Volunteer Hours  
Contributing labor  
value \$151,232

### Who is Visiting the Refuge? *2019 DRIWR Visitor Breakdown*



Pie chart illustrating percentages of visitor activities at DRIWR. 43.3% of visitors attended special events, 17% participated in environmental education, 23.3% with interpretive programs, 10.4% engaging in wildlife observation or photography, and 6% were hunting.

## 2019 Volunteer Program Highlights

The past year was characterized by retooling and revitalizing the Volunteer Program to meet the changing needs of the Refuge while providing a positive and meaningful experience to volunteers. Preparations continued for the highly anticipated opening of the John D. Dingell Jr. Visitor Center and developing a cohesive group of Refuge volunteers to fulfill an increasing number of roles that will be needed by the USFWS and IWRA once this exciting chapter commences. To support the purposeful restructuring and strategic development of the Volunteer Program, we finalized written standard operating procedures and completed a comprehensive “DRIWR Volunteer Handbook” to serve as a guide and reference tool for all volunteers and staff.

Recruitment efforts were enhanced for volunteer “Nature Navigators” who will help connect people with nature and be integral to the success of future programming at the Refuge Gateway and Visitor Center. Our industrious Stewardship Crew focused on projects to advance the goals of the Refuge Biology and Visitor Services programs, and was the inaugural group to attend a half day volunteer “Foundations” training where the new Volunteer Handbook was introduced. The dedicated Detroit River Hawk Watch team concluded another successful raptor counting season, and our numerous Community Outreach, Events, Greeters, Photography, and other devoted volunteers were always there to lend a hand when we needed them! We are enormously grateful to our wonderful community of Refuge volunteers and look forward to a productive and rewarding year ahead.



Detroit River Hawkwatch volunteers were on site at Lake Erie Metropark every day from September through November. Photo: USFWS.



Volunteers perform trail maintenance at the Gibraltar Bay Unit.

Photo: USFWS

*"Work hard, listen before you speak, and always keep your word."  
-John D. Dingell Jr.*



The Humbug Marsh Stewardship Crew stands on a bridge they built on the Green Trail.

Photo: USFWS

## TRANSPORTATION UPDATE

Connecting urban neighborhoods to nature and recreation opportunities is a national priority!

DRIWR Transportation Fellow, Vince Ziols, provided helpful contributions to significant community projects throughout the year.



The nearly-completed boardwalk on the Orange Trail at Humbug Marsh. Photo: USFWS

- Friends of the Detroit River and the Downriver Linked Greenways initiative awarded a local engineering and transportation planning firm the contract to create construction designs for 17 major intersection crossing and gap infill projects along the Downriver Linked Greenways Trail.
- SEMCOG adopted their first Bike and Pedestrian Mobility Plan for Southeast Michigan. This plan will help lead the way to expand transportation facilities and assets to our recreational trail system. Visit <https://semcog.org/bicycle-and-pedestrian-mobility> for more information.
- Construction of the phase 1 of the Fort Street Bridge Interpretive Park, on the north side of Fort St., south of the Rouge River, began Nov 2019, with expected completion by summer 2020. For more information: <https://www.motorcities.org/fortstreet>.
- The new bike lanes on W. Jefferson in the Cities of Ecorse and River Rouge are scheduled for installation after road resurfacing scheduled this summer.

## BIOLOGY PROGRAM

### Hawk Watch Summary

Another busy, biological year “flew” by for the Detroit River IWR biology team! The Detroit River Hawk Watch completed its 37th year of counting migrating raptors as they cross the Detroit River and travel south for the winter. Volunteer hawk counters spent 562 hours counting 16 different species and 128,131 individual migrating raptors! This successful citizen science program would not be possible without the Huron-Clinton Metropolitan Authority at Lake Erie Metropark who hosts the Detroit River Hawk Watch every year and the dedicated volunteers who spend so many hours with their eyes on the sky.

Photo: Tom Kachelmeyer, USFWS Volunteer

Following the installation of numbered staff gauges last year, 2019 was the first full year of water level monitoring using this system in Refuge wetland impoundments. Recording these numbers allows the biological team to establish a water level baseline and better understand changes over time. These data help plan water level management within Refuge wetland impoundments as the biology team manipulates water levels to create ideal habitat for native fish and wildlife and protect the integrity of critical infrastructure. As part of the Refuge’s wetland management this year, one of our moist soil units was treated and mowed to perform a “reset” of the unit. This reset removed woody vegetation such as cottonwood trees to encourage the growth of seed-producing annual plants that provide crucial habitat for residential and migrating shorebirds, wading birds, and waterfowl.

Refuge biologist Jessie Fletcher spent her second year at the Refuge taking on new and exciting responsibilities! This year, Jessie served as co-chair for the Detroit River-Western Lake Erie Cooperative Weed Management Area and led the Refuge’s Humbug Marsh Unit stewardship crew. This team of volunteers, along with the Gibraltar Bay Unit stewardship crew, dedicated hours of work, week after week conducting invasive species control, maintaining visitor access to important Refuge properties, and keeping Refuge units in tip-top shape. Both stewardship crews participated in the Stewardship Network’s Spring Invasive Species Challenge and together, removed 450 pounds of invasive plant species from the Refuge! An incredible accomplishment, made possible only through their hard work!

**562 Hours**

**16 Species**

**128,131 Raptors**

**1 Awesome Year!**



**9,600 acres  
Surveyed**

**585 acres  
Phragmites treated**

**450 lbs  
Invasive plants removed**



Stewardship Crew volunteers pose with bagged invasive plants that they removed from Refuge habitat. Photo: USFWS

## INVASIVE SPECIES CONTROL EFFORTS

The Detroit River-Western Lake Erie Cooperative Weed Management Area (CWMA) had another successful year of invasive plant management. In 2019, the CWMA continued a two-year project funded by the Sustain Our Great Lakes program to conduct early detection and rapid response (EDRR) surveys and invasive species treatment. In June, the strike team welcomed a new technician who joined the veteran crew to survey over 9,600 acres of coastal wetland, marsh, prairie, and forest habitats by mapping populations of both invasive and rare native plants. Technicians are trained to use specialized equipment including backpack sprayers and amphibious vehicles to access and treat invasive species in delicate wetland ecosystems along the Detroit River and Lake Erie. The strike team technicians and contractors treated nearly 585 acres of invasive *Phragmites* (*Phragmites australis*) this year using herbicidal and mechanical methods. Additionally, 3.12 acres of invasive European black alder (*Alnus glutinosa*) trees were treated using hacking, drilling, and herbicide application into the trunk of the trees. Black alder grows so densely on beaches and shoreline that several hundred trees can grow in less than an acre, squeezing out vital native species.

*"Living wild species are like a library of books still unread..."*  
-John D. Dingell Jr.

The crew visited the Refuge's Calf Island for the first time in several years. Identifying and treating invasive species helps managers control the spread of these problematic plants across the landscape and provides room for native plants and the wildlife that depend on them to grow. Keeping scientifically current on emerging threats and effective invasive species treatments helps protect Refuge habitats too. Biologists received updates on the status of *Phragmites* biological control, and were trained on preparation for the potential invasion of Japanese stiltgrass (*Microstegium vimineum*), Great Lakes water level outlooks, advanced wetland plant identification, and tools for identifying and prioritizing range shifting plants. They also attended the biannual State of the Strait conference in Windsor, Canada, where the CWMA work was reported out as an indicator project of the Detroit River. The strike team is looking forward to another year of "making lists and taking names" of the invasive plant species invading our important natural habitats.



Technician Andrew Newton washes the Marsh Master after a day in the field. Washing equipment between sites is important to prevent spread of invasive species.

Photo: USFWS



Top: Technicians spray herbicide from the ATV wearing proper PPE.  
Photo: USFWS



Left: Technician Tyler Dolin takes a closer look to identify a plant on the Refuge.  
Photo: USFWS

## FACILITIES AND MAINTENANCE



The new wall and lift in the maintenance shop. Photo: USFWS

In 2019, much of Refuge Maintenance Mechanic John Nicely's focus shifted to the new Visitor Center. In August, the Refuge took possession of the facility and even though it is new there was no shortage of maintenance items that needed to be addressed. With the advanced technology in the facility, John spent a fair amount of his time working with construction contractors to learn the operations and maintenance requirements for those systems. John was able to troubleshoot problems with building systems that the contractors had trouble with.

Maintenance backlog on critical habitat infrastructure is increasingly difficult to address due to the second year of record high Lake Erie water levels. Several minor dike repairs and maintenance projects were completed despite the conditions. Repairs were made to dikes at Brancheau and Fix, and the Brancheau Unit is expected to have additional repairs in 2020. Work continued on the maintenance shop with the addition of a new insulated wall sectioning of the east bay to heat the bay, allowing equipment work to proceed through the cold winter months. The thermostat operated heater was installed shortly after. In addition, a new vehicle lift was installed to facilitate the maintenance of refuge vehicles and equipment.

## THANK YOU, EPA!

DRIWR will always remember and appreciate our first home at the U.S. EPA Large Lakes Research Station

As a newly established Refuge, many partners stepped up to help the Refuge succeed. One of the most tangible contributions came from one of our sister federal agencies, the U.S. Environmental Protection Agency (EPA). Roughly a year after the Refuge was established, the EPA Large Lakes Research Station (LLRS) Director, Dr. Russell Kreis, made sure the Refuge had a home, giving the first acting Refuge Manager an office in the LLRS. For the next 17 years the Refuge and, later, FWS Fisheries staff called the LLRS home – growing to more than 25 FWS employees and support staff at its peak. Our contributions to each other helped further each other's mission. The FWS and DRIWR owe EPA and Dr. Kreis a huge 'Thank You' for the years of dedication and service to our mission.



The exterior of the LLRS. Photo: U.S. EPA

The LLRS began operating in 1970, even before the existence of the EPA. The station served the Great Lakes and southeast Michigan for nearly five decades before the facility was closed in August of 2019. Many great chemists, botanists, and biologists spent large portions of their careers (some over 40 years!) in the LLRS making significant contributions to the Great Lakes' ecological health and welfare of our communities. The impacts of the LLRS during the environmental era in southeast Michigan will not be forgotten; and we are grateful for the hospitality and time we spent working alongside our EPA partners in Grosse Ile.

# SHORELINE STABILIZATION AT HUMBUG MARSH

## High water increased erosion



Humbug Marsh, one of the cornerstone parcels of the Refuge and Michigan's only Wetland of International Importance, contains the last mile of undeveloped shoreline on the U.S. side of the Detroit River. It is also a gem for introducing our communities to the wonders of the great outdoors. Over the years, many partnerships added amenities to Humbug to make it easier for the public to enjoy the marsh, including kiosks, observation decks, boardwalks, and an education shelter. For the last few years, Lake Erie water levels reached record high levels not seen since the mid 1980's. The U.S. Army Corps of Engineers predict high water will remain for at least the next few years. These sustained water levels, combined with wind driven tides called seiches (which are very common on Lake Erie and the lower Detroit River) impacted natural shorelines, beach ridges, and diked wetlands, including the Humbug Marsh shoreline.



Prior to 2016/2017, the shoreline withstood decades of fluctuating water levels with extreme highs, extreme lows and major seiche events with little to no erosion occurring. Beginning in 2018, the shoreline eroded inland 6-12 feet in places, threatening the public amenities put in place. To address the shoreline loss, FWS contracted for emergency shoreline stabilization. The project needed to protect the amenities from being lost and halt additional habitat loss and shoreline erosion at those sites that would make much of this area unusable. With permits from USACE and Michigan EGLE, crews went to work to shore-up the area around the observation deck and educational 'eagles nest' using natural materials for soft shoreline engineering. Boulders that may have naturally been found here were specifically sought out and used to mimic natural features and provide habitat. Native plants provide stability. The Humbug boardwalk was also reinforced to stabilize its footers for high water levels. The crews worked quickly and efficiently to secure the site and were proud to be a part of protecting this beautiful piece of the Refuge. The end result is wonderful and the Humbug amenities are again safe and secure to be enjoyed by visitors for years to come.



From top: Progress of the shoreline stabilization project at the Humbug observation deck before, during, and after completion. Photos: USFWS

*"The hardest hammer can only strike the nail squarely when guided by the softer hand"*  
*-John D. Dingell Jr.*

## DELIVERING IWRA'S MISSION THROUGH ADVOCACY AND FUNDRAISING

Building capacity and being a voice through advocacy, speaking on the behalf of or in support of the Refuge and the National Wildlife Refuge System, are key roles for the International Wildlife Refuge Alliance (IWRA) as a Friends Organization.

IWRA Chairman, Richard Micka, took the message to Washington, D.C. to express how valuable the DRIWR is as an investment in our communities. Today, 80% of all U.S. citizens now live in an urban area, and the investment in the DRIWR was expressed as being significant offering increased access to public lands with a variety of outdoor recreational opportunities, including kayaking, hunting, fishing, and education.

IWRA continues the mission of working through partnerships to protect and conserve, helping to create exceptional conservation, recreational and educational experiences that make nature a part of everyday life. An effort to continue building capacity and developing the next generation of conservation stewards.



**IWRA Chairman Richard Micka.**  
Photo: IWRA

## PREPARING FOR THE NATURE STORE



**Traveling Nature Store at the Monroe Earth Day Expo in April 2019. Photo: IWRA**

2019 was a busy year for the "Canvasback Corner" Nature Store as we prepared for daily operations of a brick and mortar store. In February, IWRA staff traveled to Denver, Colorado to attend the Public Lands Alliance Convention and Trade Show, where they participated in retail training courses and met with conservation-focused vendors to feature in the store.

The Traveling Nature Store continued to provide outreach and product previews throughout the year, and hosted a successful Holiday Shop at "TV's Grand Event" for the fourth year in a row.

Product development was one of the most exciting tasks of 2019: Canvasback Corner will feature custom designed items including apparel, pins, magnets, and beautiful handmade ceramic mugs. Creating this merchandise was really fun and we cannot wait for visitors to see it on the shelves, and then hopefully wear and use the items with pride for Detroit River International Wildlife Refuge!



**Custom DRIWR mugs from Deneen Pottery.**  
Photo: IWRA



**Nature Store Manager Nicole LaFleur finds DRIWR sample merchandise at the Public Lands Alliance Trade Show. Photo: IWRA**

## EXCITING GRANT-FUNDED PROJECTS

### Accessible Kayak Launch

Thanks to generous funding from the National Fish and Wildlife Foundation, DTE Energy Foundation, and Ralph C. Wilson Jr. Foundation, the Refuge Gateway will soon be equipped with a handicap accessible kayak launch. This will be an asset for all, from experienced paddlers looking to access the Detroit River to novices enjoying the calm waters and habitats of Humbug Marsh. The stability of the preferred Architectural Barriers Act (ABA) "EZ Dock" launch benefits not just those with disabilities, but provides a safe and secure water entry and exit to all.



The accessible kayak launch will provide safe entry into Humbug Marsh for all visitors of the Refuge. Photo: EZ-Dock.com

### Nature Outreach Trailer

The DRIWR Nature Trailer will give staff and interns opportunities to bring outdoor recreation directly to communities off site. Archery, fishing, and other activities can now be easily transported to connect our neighboring communities to nature. The full color custom wrap is eye catching and will help attract participants during outreach events, hopefully introducing them to new outdoor recreation activities and learning about the Refuge. We are grateful to the DTE Energy Foundation and Community Foundation of Monroe County for their support of this project!



The recreation trailer is ready to bring outdoor recreation to community events. Photo: USFWS

### Inland Seas Education Association Sails

In July, IWRA had the pleasure of partnering with the DTE Energy Foundation and Colina Foundation to bring the Inland Seas Education Association schooner to Elizabeth Park for two fundraising sails. The family-focused educational sail focused on micro-plastics in the Great Lakes, and children were able to participate in hands-on sampling methods. Later that evening, adult guests enjoyed a catered dinner at the Chateau on the River before setting sail toward Humbug Marsh. As a special bonus, the afternoon sail was featured on the Downriver episode of the PBS show 'Under the Radar'.



Families, ISEA crew, UTR crew, and IWRA staff had a great time on the afternoon sail! Photo: IWRA

# LOOKING AHEAD

*2020 will bring our biggest changes and growth yet!*

- Grand opening of the Refuge Gateway and John D. Dingell Jr. Visitor Center
- DRIWR's first Directorate Fellowship Program participant
- Return of the Humbug Lottery Archery Hunt
- Implementing the water level management plan



**The 2019 DRIWR Staff looks forward to 2020!**



The 2019 DRIWR Annual Report is  
dedicated to John D. Dingell Jr.  
July 8, 1926 - February 7, 2019

*"You're not done with me just yet!"  
-John D. Dingell Jr.*