

DETROIT RIVER INTERNATIONAL WILDLIFE REFUGE

Building an urban wildlife refuge
that inspires the next
generation of conservationists



WELCOME!

Detroit River International Wildlife Refuge 2013 Annual Report

Dear Friends,

You will be pleased to know that 2013 was another amazing year for the Detroit River International Wildlife Refuge. We continue to realize our dream of creating a refuge that further provides for the conservation of continentally-significant natural resources, enhances quality of life for urban residents, and increases community pride and competitive advantage. Specifically, our community and supporters celebrated the addition of 4,778 acres of unique conservation lands to the Canadian Registry of Lands. In addition, the Michigan Department of Natural Resources and U.S. Fish and Wildlife Service are now collaborating on managing 13,684 acres of unique lands for a U.S. Registry of Lands through a Memorandum of Understanding. So, between Canada and the United States, 18,462 acres of land in southwest Ontario and southeast Michigan are being managed for conservation and outdoor recreation. This falls in line with the spirit and intent of the 2001 Conservation Vision and the Detroit River International Wildlife Refuge and is something we all ought to be proud of. Not only did the refuge acquire more land in 2013, but also included a ground breaking ceremony for the Refuge Visitor Center. This Visitor Center is projected to attract tens of thousands of annual visitors to the refuge and will be open to the public in the fall of 2015.



The 2013 annual report highlights our leadership in fostering public-private partnerships for conservation. Over 300 public and private partners have been involved in building our refuge and have leveraged over \$43 million for conservation work since refuge establishment in 2001. This is quite an amazing accomplishment and undoubtedly a model for bringing conservation to urban areas in the 21st Century.

I encourage each of you to share our story of how we are inspiring the next generation of conservationists by building an urban wildlife refuge in America's industrial heartland. It is truly a remarkable achievement that significant conservation results are being seen in the automobile capitals of both Canada and the United States, all while improving quality of life for nearly seven million people in the watershed. It is our goal to be the premier urban refuge in North America in order to continue to bring conservation to cities under the U.S. Fish and Wildlife Service's Urban Refuge Initiative.

I can't thank you enough for all your hard work and dedication in making this possible. I look forward to seeing you at refuge events, celebrating continued growth of the refuge, and watching the construction of our Refuge Visitor Center that will become a destination of choice in Southeast Michigan and Southwest Ontario.

With every good wish,

A handwritten signature in black ink, appearing to read 'John D. Dingell'.

John D. Dingell
Member of Congress

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Front cover: Lionel Grant (U.S. Fish & Wildlife Service), U.S. Fish & Wildlife Service, IWRA
This page: Dave Brenner (U of Michigan SNRE), Lionel Grant (U.S. Fish & Wildlife Service)



Introduction

The lower Detroit River and western Lake Erie, located in the heart of the Great Lakes basin, support a great diversity of wildlife and habitats they depend upon. This ecosystem also links Canada and the U.S. who share a long history of cooperation, including many cooperative conservation initiatives. Out of this international cooperation, the 48 miles of shoreline along the lower Detroit River and western Lake Erie have been designated North America's only international wildlife refuge – the Detroit River International Wildlife Refuge (IWR).

This annual report is intended to document and celebrate refuge accomplishments in 2013, and to inspire more citizens, students, businesses, and communities to become partners in this work. It represents a collaborative effort between the U.S. Fish and Wildlife Service (USFWS) and the International Wildlife Refuge Alliance (IWRA), the nonprofit Friends Organization that builds the capacity of the USFWS to deliver its mission for the Detroit River IWR.



Construction Begins on Refuge Visitor Center!

Our refuge includes an incredible diversity of species, habitats, and geographies that, when woven together, form an ecological and cultural tapestry more beautiful and much stronger than any individual thread. This DRIWR tapestry is becoming a source of pride for southeast Michigan and southwest Ontario, and the latest phase of work has all of us at the refuge very, very excited!

The Visitor Center, currently under construction at the Refuge Gateway, will become a "waterfront porch" for the refuge - an entry-point to the refuge's units and all they have to offer for the nearly seven million people living nearby and many others. The groundbreaking took place in November 2013 and its construction marks another stage in a 10-year effort to transform this site into a cultural and ecological amenity. During these years we have worked to clean up the former industrial brownfield, restore habitats to expand the ecological buffer of Humbug Marsh, Michigan's only "Wetland of International Importance" as designated under the Ramsar Convention, and provide meaningful public access to the last mile of natural Detroit River shoreline on the U.S. mainland. These remarkable achievements are changing the perception of Metropolitan Detroit from that of the Rust Belt to a region that promotes sustainable redevelopment to enhance quality of life, economic competitive advantage, and community pride.

Our Visitor Center will become a destination of choice - a place where people can learn about the refuge and get up close and personal with the Detroit River by fishing, hunting, birding, canoeing, and kayaking. It will become a center of service learning and environmental education to inspire the next generation of conservationists, and will join and strengthen the tapestry of communities through greenway and water trail connections to the north and south.

Clearly, the Detroit River IWR is a unique and special place where urban development and conservation do not contradict one another, but thrive side by side – a place where wildlife habitat is created in the shadow of skyscrapers, where nature's colors are at their most vibrant and engaging and where community members visit to gather together and enjoy the outdoors. As our tapestry expands and evolves, it is up to all of us to do what we can to ensure these gifts remain protected and viable for future generations.



HABITAT CONSERVATION

Utilizing transboundary
partnerships under an
innovative model of truly
cooperative conservation

Habitat Management

One of the strengths of the Refuge, since its establishment, has been the strong coupling of science with policy and management. Good examples from 2013 include:

- A prescribed fire on 55 acres of wet prairie and emergent marsh at the Fix Unit through an agreement with nine adjacent private landowners (the burn eliminated extremely tall, dense *Phragmites* and set-back shrub growth in the wet prairie)
- Follow-up aerial or ground herbicide applications to control *Phragmites* and invasive cattail at Gibraltar Bay, Humbug Marsh, Gibraltar Wetlands, Strong, Fix, Brancheau, Plum Creek Bay, and Ford Marsh units, with most associated with fire, mowing, or flooding to re-establish important ecosystem processes and increase effectiveness
- Targeted mowing of herbicide-treated *Phragmites* thatch at Gibraltar Bay, Gibraltar Wetlands, and Fix units, and at wetlands owned by U.S. Silica at the lower Huron River (for Detroit River-Western Lake Erie Cooperative Weed Management Area)
 - Local seed stock of prairie cordgrass and other wet prairie species hand-collected in habitat remnants from the region that are being propagated by the Saginaw Correctional Facility for planting into former cropland at the Strong, Brancheau, and Fix units
 - Habitat enhancement through cattail mowing and water level control at the Brancheau Unit
 - Prairie plantings at the Refuge Gateway managed by mowing
 - Major forest enhancement by the Refuge stewardship crew conducted at Humbug Marsh and Gibraltar Bay units in preparation for evaluation and establishment of a deer control strategy to ensure improvement in wildlife habitat and existing natural communities
- Restoration of the 2,217-acre Erie Marsh Preserve owned by The Nature Conservancy (TNC) as part of a cooperatively managed unit of the refuge (a new water pump and fish passage structure was completed in the summer of 2013, reestablishing fish and other aquatic organism access to 258 acres of the marsh for breeding and spawning for the first time in over 60 years; this four-phase, \$5 million project will be completed in 2017)



Transboundary Conservation



Through memoranda of understanding and cooperative management agreements, both Canadian and U.S. registries of lands have been established in the spirit and intent of the 2001 Canada-U.S. Conservation Vision for the Lower Detroit River Ecosystem and the Detroit River IWR. In 2013, 3,797 acres of Essex Region Conservation Authority lands (e.g., Holiday Beach Conservation Area; Hillman Marsh) and 981 acres of City of Windsor lands (e.g., Peche Isle; Ojibway Prairie) were added to the Canadian registry of lands. In 2013, 7,897 acres of Michigan Department of Natural Resources lands (e.g., Pointe Mouillee and Erie State Game Areas; Sterling State Park) were added to the U.S. registry of lands that already had on it 5,787 acres of lands owned and/or cooperatively managed by U.S. Fish and Wildlife Service. When totaled between Canada and U.S. that means that 18,462 acres of land in southwest Ontario and southeast Michigan are now being managed collaboratively for conservation and outdoor recreation in the spirit and intent of the 2001 Conservation Vision and the Detroit River IWR.



RESEARCH & MONITORING

Rigorous measurement and tireless management efforts provide improved knowledge for better decision-making

Key research accomplishments during 2013 included:

- Monitoring of habitat conditions at eight units that have active habitat management occurring, which was integrated into the Refuge's GIS (Geographic Information System)
- Mapping of the Refuge's plant communities (online at: <http://driwr.emich.edu/driwr.map/>)
- Detroit River Hawk Watch monitoring, representing the 31st year of consecutive monitoring at the lower Detroit River (all reports available at: <http://www.drhawkwatch.org/publications>)
- Common Tern (a "threatened" bird species in Michigan) monitoring on habitat restored on the Grosse Ile Free Bridge and Belle Isle, in partnership with Detroit Zoological Society
- Marsh bird monitoring by the Michigan Natural Features Inventory at the Gibraltar Wetlands Unit, further adding to 2010 data collected from Refuge surveys
- Completion of a draft Refuge Habitat Management Plan

In addition, the USFWS's Alpena Fish and Wildlife Conservation Office – Waterford Substation Fisheries Program annually conducts fisheries assessments within the refuge boundary and is a collaborator on multiple projects in the St. Clair-Detroit River ecosystem. Over 20 partners participate in the St. Clair-Detroit River System Initiative - see website for more information and complete list of partners (www.huron-erie.org/partners.html).

Highlights from 2013 included:

- Collected 95 adult and subadult lake sturgeon during mark-recapture assessments in the Detroit and St. Clair rivers (52 of these fish received transmitters as part of a Great Lakes Fishery Trust funded project evaluating movement throughout the St. Clair-Detroit River System)
- Deployed 116 gill nets in order to monitor the adult fish community response to habitat enhancement projects occurring in the St. Clair-Detroit River System
- Deployed 129 gill nets in order to monitor juvenile lake sturgeon abundance in the St. Clair-Detroit River System
- Collected water samples for early eDNA analysis in support of early detection monitoring for potential new invasive fishes



Publications completed during 2013 include:

Francis, J., J. Chiotti, J. Boase, M. Thomas, B. Manny, and E. Roseman. In Press. 2013. A Description of the Nearshore Fish Communities in the Huron-Erie Corridor Using Multiple Gear Types. *Journal of Great Lakes Research*.

Hartig, J.H. M.A. Zarull, L.D. Corkum, N. Green, R. Ellison, A. Cook, E. Green, and G. Norwood. In Press. 2013. Habitat management lessons learned from the environs of the Detroit River International Wildlife Refuge. *Journal of Great Lakes Research*.

Jaworski, E. and G. Norwood. 3 September 2013. "Restoration of the Humbug Marsh, Centerpiece of the Detroit River International Wildlife Refuge." Field Note No. 7. Institute for Geospatial Research and Education, Eastern Michigan University, Ypsilanti, MI. 23 pp.

Jaworski, E., G. Norwood, and J. Merrell. Monitoring Inspections from May through November 2013, regarding partial regrowth of *Phragmites australis* from rhizomes in the Strong Unit, following 1st, 2nd, and 3rd herbicide treatments, Detroit River International Wildlife Refuge. Berlin Township, Monroe Co., MI. Field Note No. 8. Institute for Geospatial Research and Education (IGRE), Eastern Michigan University, Ypsilanti, MI. 25 pp.

Manny, B., B. Daley, J. Boase, A. Horne, and J. Chiotti. In Press. 2014. Occurrence and movements of the endangered Northern Madtom (*Noturus stigmosus*) in the Detroit River, 2003-2011. *Journal of Great Lake Research*.

Rice, K.N., A. Krueger, and J.H. Hartig. 2013. Transformation of an industrial brownfield into an ecological buffer for Michigan's only Ramsar Wetland of International Importance. *Land and Water* 7(5): 23-28.

Stein, J. and G. Norwood. 2014. Detroit River Hawk Watch 2013 season summary. U.S. Fish and Wildlife Service, Detroit River International Wildlife Refuge.

Weimer, E., C. Castiglione, J. Chiotti, C. Craig, A.M. Gorman, T. MacDougall, J. Boase, S. Ireland, G. Kennedy, C. Knight, P. Kocovsky, R. Kraus, S. Mackey, J. Markham, L. Mason, C. Mayer, S. Pandit, C. Riseng, E.F. Roseman, J. Ross, E.S. Rutherford, T. Wills, Y. Zhao. 2013. Lake Erie habitat task group report. Annual report to the Great Lakes Fishery Commission. U.S.G.S. Great Lakes Science Center, Ann Arbor, MI.



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PUBLIC USE & COMMUNITY ENGAGEMENT

- 697 volunteers worked 10,357 hours supporting the refuge, representing a value of over \$229,000
- 32 outreach events and 65 interpretive programs were held, including 27 open houses at Humbug Marsh and the Gibraltar Bay units
- Partnered in a career expo sponsored by the Steve Harvey Mentoring Program for Young Men alongside USFWS staff from the Shiawassee National Wildlife Refuge and Alpena Fish and Wildlife Conservation Office
- Over 4,000 people attended the Pointe Mouillee Waterfowl Festival where USFWS and IWRA helped make this event a major success
- Over 2,500 people attended Hawk Fest at Lake Erie Metropark where USFWS and IWRA were key partners
- Over 1,800 students participated in World Wetlands Day at Gibraltar Carlson High School that included a wetlands expo and educational program
- Other special events included International Migratory Bird Day, Earth Day, Eagle Tours at the Monroe Power Plant, Wyandot of Anderdon History, geology of Humbug Marsh, National Trails Day, nature tours, tree planting events, Spiders in the Refuge, an Owl Prowl, and more
- In June, Rivertown Business Association, Detroit Riverfront Conservancy, USFWS, and many other partners hosted the second annual River Days Kids Fishing Fest, a free family fishing festival at the Milliken State Park Detroit (more than 400 children and their families were treated to a day of free fishing and family fun, including food, entertainment, arts and crafts, face painting, fishing seminars, prizes and a raffle drawing)
- IWRA hosted the 8th Annual Benefit Dinner at the Edsel & Eleanor Ford House and attracted 300 guests
- DRIWR again hosted a successful summer Youth Conservation Corps crew
- A successful volunteer stewardship workshop was convened
- Weekly stewardship work at Humbug Marsh, the Refuge Gateway, and Gibraltar Bay units was led by Dick Skoglund from the Stewardship Committee and Art Payette of Grosse Ile Nature and Land Conservancy
- An American Hiking Society trail project was undertaken at Humbug Marsh
- Under the leadership of Dick Skoglund and IWRA, a DR Brush Cutter was purchased for refuge stewardship
- The Refuge Gateway benefited from the work of two restoration technicians (Sarah Hodges and Jake Bonello) and three summer university interns (Matthew Rowley, Lilja Strang, and Jeff Minch)
- DTE Energy craftsmen erected a 16-ft wildlife sculpture along the Refuge Gateway trail to welcome visitors
- In October, over 200 people attended the biennial State of the Strait Conference that was held at the University of Windsor and focused on "Setting Ecological Endpoints and Restoration Targets"
- Special outreach efforts focused on Healthy Downriver Family Expo, Growing Great Gardens, Monroe Ducks Unlimited Banquet, Trenton Exchange Club, Kiwanis of Southgate, Wyandotte Garden Club, DTE Future Farmers, Detroit Zoo, Monroe County Healthy Expo, Summit Academy, Trenton Garden Club, and more
- IWRA convened several fund raisers, including the annual benefit dinner, a Chili's Fundraiser Dinner, a Wine for Humanity Fundraiser, and a Beer Tent at the Trenton Summer Festival
- Ford Model Teams carried out a major beach cleanup at Ford Marsh Unit
- In 2013, a new major economic study, titled *Banking on Nature*, was released by the U.S. Fish and Wildlife Service documenting that the U.S. National Wildlife Refuge System, annually, generates \$2.4 billion in sales and economic output, welcomes 46.5 million visitors, returns on average \$4.87 to a local economy for every \$1 government investment, creates 35,000 jobs, produces \$792.7 million in job income for local communities, generates \$342.9 million in local, county, state and federal tax revenue, and brings tourists from around the nation and world





Jim Ridley

Increasing Public Access

In 2013, the west beach of Sugar Island was opened for general public use, including swimming, sun bathing, and volleyball, from Memorial Day through Labor Day with no major incidents or problems.

The vast majority of feedback was positive. Also in 2013, the USFWS continued to work in partnership with the Michigan Department of Natural Resources to provide quality hunting experiences in selected units of the Detroit River IWR. Feedback from citizens and law enforcement officials informed us that the hunts were successful and well received. Michigan Department of Natural Resources was instrumental in making the Brancheau Unit hunt a success.



IWRA

Visit www.iwralliance.org or www.fws.gov/refuge/detroit_river to find out how you can get involved at the Detroit River IWR. Volunteer stewardship and outreach opportunities are available!

CAPACITY BUILDING

Through public-private partnerships, the Refuge strengthens its resource pool and builds capacity

Full-time Refuge staff during 2013 included: John Hartig (Refuge Manager), Steve Dushane (Assistant Refuge Manager), Jamie Lanier (Visitor Services Manager), and Greg Norwood (Refuge Biologist). Part-time Refuge staff included Jeanette Bowles (Administrative Officer), Logan Cannon (Law Enforcement Officer), and Anna Cook (Pathways Intern). The Refuge was also fortunate to have the full-time support of Landscape Designer Allison Krueger.

The Refuge continued to be a leader in public-private partnerships for conservation, with over 300 public and private partners involved in building the Refuge since 2001. The Refuge is indeed fortunate to have IWRA as its Friends Organization. IWRA is ably served by Executive Director Joann Van Aken and a Board of Directors that in 2013 included: Mr. Dick Micka (chairperson), Mr. Ryan Werder (Vice Chairperson), Mr. Jack Liang (Secretary), Mr. Tim Bowman (Treasurer), Ms. Karen Boase, Mr. Richard Skoglund, Mr. Gary Dawson, Mr. Joe Hemming, Mr. Dick Whitwam, Mr. Fred DeLisle, Ms. Roberta Urbani, Mr. Gary R. Kirsh, Ms. Mary Bohling, and Mr. David Shefferly, Mr. Jon Peterson, and Ms. Anita Twardesky.

Other Fisheries staff working in the corridor included: Jim Boase (Supervisory Fish Biologist) and five fish biologists: Justin Chiotti, Stephen Hensler, Margaret Hutton, Andrew Briggs, and Eric Stadig. Ecological Services was represented by Stephanie Millsap (Contaminants Biologist).



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In 2014, the Detroit River IWR will place a high priority on construction of the Refuge's Visitor Center, while continuing with strategic land acquisitions and habitat restoration.

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What's Next :

- Complete a Refuge Visitor Services Plan
- Begin construction of the Visitor Center at the Refuge Gateway
- Secure full funding for the school ship dock and world-class fishing pier at the Refuge Gateway
- Acquire at least three new refuge tracts with \$1.8 million of funding from U.S. Department of Transportation or through donation
- Work with Canadian partners to continue to add high quality habitat lands to the Canadian portion of the Detroit River IWR
- Continue monitoring of the fish community response to habitat enhancement projects
- Complete an Inventory and Monitoring Plan
- Improve the Refuge's hunting program based on feedback from the 2013 hunting season
- Sustain Detroit River Hawk Watch

- Continue invasive species management at Refuge units, including undertaking prescribed burns
- Begin restorations of Ford Marsh, Fix, and Blanchett units, in partnership with Ducks Unlimited and others
- Expand the Fighting Island sturgeon reef
- Identify other suitable locations for fish habitat enhancement by Fisheries staff
- Enhance monitoring for aquatic invasive species by Fisheries staff
- Continue long-term monitoring of threatened and endangered fish species by Fisheries staff
- Collaborate on necessary research with Eastern Michigan University, University of Windsor, U.S. Geological Survey, and others
- Increase the number of volunteers involved in the Refuge's stewardship efforts
- Complete the remedial investigation study for Grassy Island and identify a proposed remedial option
- Support another IWRA fund raiser in May 2014
- Host another Youth Conservation Corps Crew in 2014, in partnership with the Steve Harvey Foundation
- Continue to support established events such as International Migratory Bird Day, World Wetlands Day, National Public Lands Day, Kids Free Fishing Fest, the annual HawkFest, Pointe Mouille Waterfowl Festival, Eagle Tours, and a Lotus Tour
- Complete the State of the Strait Conference Report and make it accessible via the web



Detroit River International Wildlife Refuge
9311 Groh Road
Grosse Ile, MI 48138

Jamie Lanier, Refuge Visitor Services Manager
Phone: 734-692-7649
jamie_lanier@fws.gov
DetroitRiver@fws.gov
<http://www.fws.gov/midwest/detroitriver>



Special thanks to DTE Energy for printing this report