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DETROIT RIVER
INTERNATIONAL WILDLIFE REFUGE
2015 Annual Report



DETROIT RIVER INTERNATIONAL WILDLIFE REFUGE

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Dear Friends,

This annual report celebrates the continued progress of the Detroit River International Wildlife Refuge and the community developing and building it. The Refuge serves a vital mission and more work remains to ensure we meet its goals. We must continue to expand the Refuge to provide world-class conservation efforts that improve the quality of life in this region, enhance community pride, help attract and retain employees for our businesses, and inspire a sense of wonder in our children.

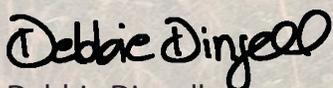
This year witnessed great progress in the building of the Visitor Center, as well as the school ship dock and fishing pier at the Refuge Gateway. The dedication and official opening in the spring of 2017 is something we all look forward to. It is also good to witness the Refuge staff in preparation for the operation of these new facilities with the addition of a Visitor Services Manager, Park Ranger, and Refuge maintenance person.

This Refuge demonstrates the power of public/private partnerships with over 300 organizations working together to leverage more than \$48.2 million since 2001. The most recent activities included the acquisition of the 35-acre Port of Monroe Marsh Tract, the treatment of 700 acres of *Phragmites* through the Detroit River-Western Lake Erie Cooperative Weed Management Area, and the completion of the Ford Marsh Unit restoration. Individuals are also critical to the progress being made, with 2015 witnessing 330 volunteers donating a total of 8,434 hours of their time to Refuge projects, resulting in \$186,644 of in-kind labor.

In this annual report you will learn about how almost 12,000 people attended 14 Refuge special events and over 2,600 people came away from 41 interpretative programs with more insight into the wildlife that call the Refuge home, the types of recreational opportunities available in their own backyard, and how the Refuge is stewarded.

It is impressive and commendable that so many are helping make nature part of everyday urban life. Please take the time to read the entire annual report as it will increase your understanding and appreciation of all that is happening here. Together, we are working to change the perception of this region from that of the Rust Belt to one that is proudly building North America's only international wildlife refuge while inspiring the next generation of urban conservationists. With all of us continuing to work together, we will build off the incredible progress already made to achieve even greater success.

Sincerely,



Debbie Dingell
Member of Congress



Photo by the Office of Congresswoman Dingell

INTRODUCTION

*Sunrise on the Trenton Channel of the Detroit River
Photo by US Fish and Wildlife Service*

The Detroit River International Wildlife Refuge (DRIWR) extends along the shoreline of the Detroit River and western Lake Erie, and focuses on conserving, protecting, and restoring habitats for 30 species of waterfowl, 117 kinds of fish, and over 300 species of birds. The Detroit River and western Lake Erie contain extensive feeding and resting habitats for waterfowl, including over 300,000 diving ducks that stop each year to feed on beds of wild celery. The North American Waterfowl Management Plan has identified the Detroit River as part of one of 34 Waterfowl Habitat Areas of Major Concern in the U.S. and Canada. In addition, marshes along the lower Detroit River and western Lake Erie have been declared part of a Regional Shorebird Reserve by the Western Hemispheric Shorebird Reserve Network. The Detroit River and western Lake Erie have one of the highest diversities of fish and wildlife in the Great Lakes. This biodiversity led Environment Canada and U.S. Environmental Protection Agency to identify the Detroit River-Lake St. Clair ecosystem as one of 20 Biodiversity Investment Areas in the Great Lakes. The lower Detroit River has also been identified as an Important Bird Area by National Audubon Society. Outdoor recreation in these natural resources contribute tens of millions of dollars to the local economy through public uses like fishing, hunting, wildlife observation, environmental education, kayaking, photography, interpretation, and more.

The DRIWR is also very proud to be designated one of the 14 priority urban refuges throughout the nation charged with bringing conservation to cities and helping make nature part of everyday urban life. This annual report celebrates refuge accomplishments in 2015 and is intended to inspire more citizens, students, businesses, and communities to become partners in our 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 Refuge.



Boat dock and fishing pier construction began in late-2015 with the installation of a stone breakwater in the Detroit River (foreground). The year saw significant progress at the Visitor Center (background).

Creating a Unique Destination of Choice That Will Help Develop the Next Generation of Conservationists

Significant progress is being made in the construction of our 12,000 square foot Gold Leadership in Energy and Environmental Design (LEED) - certified Visitor Center at the Refuge Gateway, with a grand opening planned for spring 2017. In addition, construction of our school ship dock and fishing pier at the Refuge Gateway will be completed in December 2016 and opened with the Visitor Center. This will offer shore fishing for walleye and other game fishes, and environmental education through a school ship operated by Michigan Sea Grant's Great Lakes Education Program. A northern extension of the greenway trail is being designed by the City of Trenton that, once opened, will help connect over 100 miles of greenway trails to the Refuge Gateway. All of this is being done to help ensure that our urban population values natural resources and that a priority is placed on developing the next generation of conservationists in urban areas where 80% of all U.S. citizens live. This will also help improve quality of life, enhance community pride, and help attract and retain employees for local businesses.

STEWARDSHIP AND HABITAT MANAGEMENT

Our refuge is like a tapestry. A tapestry is a form of textile art, traditionally woven on a vertical loom and most often proudly displayed in a prominent location of a home. Individual colored threads, each unique and beautiful in their own right, are woven together to produce an exceptional piece of art more beautiful and much stronger than imagined with just the individual threads. The DRIWR is like an ecological tapestry made up of numerous species and habitats that when woven together are more beautiful and much stronger than imagined with just the individual species and habitats. Much like a textile tapestry is a source of pride in the home, the DRIWR tapestry has become a source of pride in southeast Michigan and southwest Ontario.

In the last year, we prioritized first the protection of special freshwater coastal wetlands. We also developed a Habitat Management Plan that guides our work and ensures we are protecting the conservation values that have been prioritized. The Refuge and volunteers have worked together, often with a range of partners, to integrate prescribed fire, silviculture, and carefully considered invasive species management projects, where necessary, to reach goals within the Plan. Importantly, this intervention works with the natural features of the land and promotes them, although most often we rely on passively allowing natural ecosystems to develop on their own – our default action. Good examples include the Detroit River–Western Lake Erie Cooperative Weed Management Area, our Stewardship Crew, the Detroit Zoo, and others.



Photo by Mike Grosso

An Osprey nest erected courtesy of DTE Energy has successfully hosted birds since 2013. The picture above is of its 2015 occupants: a breeding pair and two offspring.



Photo by US Fish and Wildlife Service

A field of Nodding Smartweed that emerged from the ground following restoration work at the Brancheau Unit. This prodigious annual grows to a height of 8 feet and is an excellent food source for waterfowl.



Photo by US Fish and Wildlife Service

A Marsh Wren's nest in the Brancheau Unit. They require large areas of cattails to survive and while common in the Refuge, are largely absent from the surrounding landscape.



*The Oak-Hickory Understory of the Humbug Marsh Unit
Photo by Mike Grosso*

Highlights of stewardship and habitat management from 2015 include:

- Acquisition of the 35-acre Port of Monroe Marsh Tract located near the River Raisin National Battlefield Park, Sterling State Park, and the refuge's Ford Marsh Unit in Monroe County
- \$211,000 was awarded from the Michigan Invasive Species Grant, resulting in surveys of priority invasive plants and treatment of 700 acres of *Phragmites* within the Detroit River-Western Lake Erie Cooperative Weed Management Area
- Completion of a pump station and water control structures at Ford Marsh that will allow for better marsh management for ecological resilience
- Re-vegetation of the Humbug Marsh Unit Orange Trail understory after removal of invasive shrubs
- Discovery of a high quality wet meadow zone of coastal marsh at Humbug Marsh Unit and removal of shrubs to rehabilitate the natural community
- Elimination of invasive shrubs throughout Humbug Marsh Unit and replanting with native species
- Management of 70 acres of "surrogate" prairies by mowing and seeding at the Blanchette Unit
- Completion of wetland restoration plans for the Fix Unit
- Management of vegetation at common tern habitat on Belle Isle
- Seeded native plants for pollinators at Gibraltar Bay Unit, including over 2,000 plugs



Photo by US Fish and Wildlife Service

Dr. Eugene Jaworski examines a piece of invasive Phragmites at the Plum Creek Unit as part of Cooperative Weed Management Agreement monitoring activities.



Photo by US Fish and Wildlife Service

A wet meadow of Tussock Sedge and bulrushes in the Humbug Marsh Unit. A common habitat type prior to Europeans settlement, this type of wet meadow is now quite rare in the landscape.

SURVEILLANCE, MONITORING AND RESEARCH

The U.S. Fish and Wildlife Service prides itself in using sound science in natural resource management. We recognize that science-based information is an enabler of prompt and resource-effective decision-making. Highlights from 2015 include:

- 7,860 acres of coastal wetlands were surveyed, gathering a total of 3,361 data points for the Michigan Invasive Species Information Network (MISIN)(misin.msu.edu/browse)
- *Phragmites* monitoring report was completed for Humbug Marsh, Strong, and Plum Creek Bay Units (driwr.emich.edu)
- Ecological interpretation of the Humbug Marsh Unit was completed (www.fws.gov/uploadedFiles/An%20Ecological%20Interpretation%20of%20the%20Humbug%20Marsh%20Unit,%20Detroit%20River.pdf)
- 33rd consecutive year of raptor migration monitoring completed (drhawkwatch.org)
- Completion of the Refuge's Habitat Management Plan and Inventory and Monitoring Plan



Photo by US Fish and Wildlife Service

As part of ongoing Lake Sturgeon monitoring activities, USFWS scientists Jess Loughner and Jessie McCarter measure, sex, and tag a specimen, then release it back into the Detroit River.



Photo by US Fish and Wildlife Service

A crane prepares to deposit stone into the Detroit River near Grassy Island to create reef habitat for fish spawning.



Photo by US Fish and Wildlife Service

USFWS survey of Sugar Island for invasive plants for later eradication as part of the Cooperative Weed Management Agreement.



The Wetlands of the Brancheau Unit in Summer
Photo by Mike Grosso



Photo by US Fish and Wildlife Service
A sampling net is deployed just prior to daybreak to monitor for invasive species in Maumee Bay.



Photo by US Fish and Wildlife Service
A juvenile Lake Sturgeon collected and released during monitoring activities



Photo by US Fish and Wildlife Service
A pair of adult invasive Tube-nosed Gobies (*Proterohinus marmoratus*) collected during monitoring activities

In addition, the USFWS's Alpena Fish and Wildlife Conservation Office – Waterford Substation Fisheries Program annually conducts research and monitoring in the St. Clair-Detroit River ecosystem. Major highlights from 2015 include:

- Fisheries staff continues to partner with agencies in the Detroit and St. Clair rivers to restore fish habitat (a four-acre fish spawning reef was constructed near Grassy Island to increase fish production and help restore impaired beneficial uses in the Detroit River)
- Fish species assessments were conducted to monitor success of reef restoration projects in the Detroit River and to document status of Lake Sturgeon (an indicator of ecosystem health)
- Staff searched for new non-native fishes, crustaceans, and mollusks as part of an early detection program in the Detroit River and western Lake Erie
- Water samples were collected and tested for the presence of environmental DNA (eDNA) from Silver and Bighead Carp (i.e., Asian Carps)
- Fishery biologists collaborated with U.S. Environmental Protection Agency scientists to identify which species of larval fish are found at sites around the Great Lakes using microscopic analyses and molecular genetic techniques

Peer-reviewed publications from 2015 include:

Craig, J. M., D. A. Mifsud, A. S. Briggs, J. Boase, and G. Kennedy. 2015. Mudpuppy (*Necturus maculosus maculosus*) spatial distribution, breeding water depth, and use of artificial spawning habitat in the Detroit River. *Herpetological Conservation and Biology* 10:926-934.

Hartig, J.H. and M.C. Wallace. 2015. Creating World-Class Gathering Places for People and Wildlife along the Detroit Riverfront, Michigan, USA. *Sustainability* 7:15073-15098.

Manny, B., E. Roseman, G. Kennedy, J.C. Boase, J. Craig, D. Bennion, J. Read, L. Vaccaro, J. Chiotti, R. Drouin, R. Ellison. 2015. A Scientific Basis for Restoring Fish Spawning Habitat in the St. Clair and Detroit Rivers of the Laurentian Great Lakes. *Restoration Ecology* 23(2):149-156.

COMMUNITY ENGAGEMENT

The Urban Wildlife Refuge Program seeks to engage local communities as partners in wildlife conservation in an effort to cultivate a connected conservation constituency of people who care about wildlife. DRIWR is one of 14 priority urban refuges that will serve as a proving ground for excellence in community engagement. Presented below are highlights from 2015:

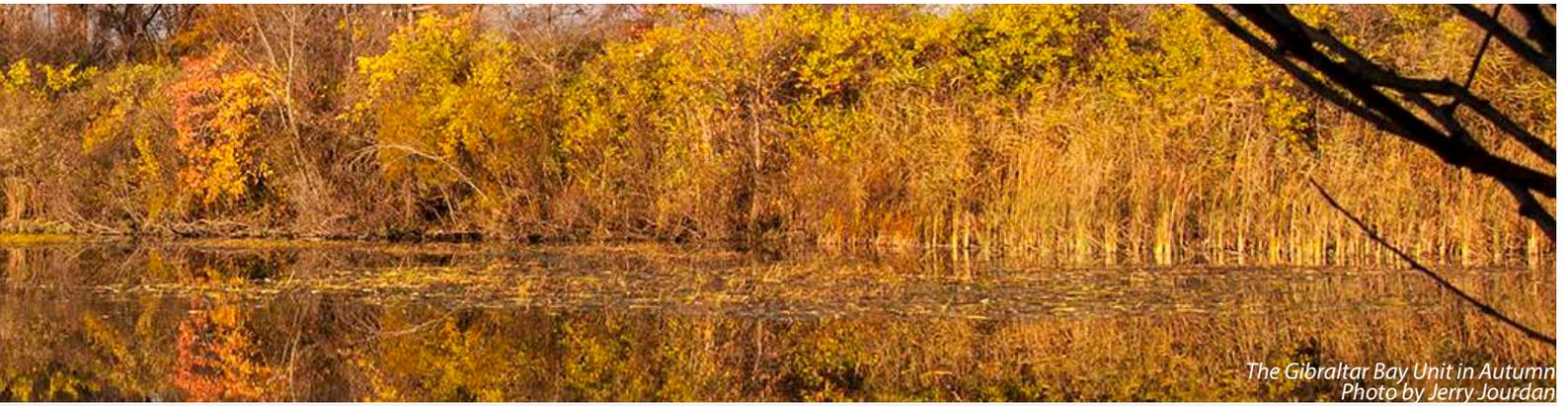
- A total of 330 volunteers gave a total of 8,434 hours of their time to refuge projects, resulting in \$186,644 of in-kind labor
- Almost 12,000 people attended 14 refuge special events, including Eagle Tours at the Monroe Power Plant, World Wetlands Day at Carlton High School, Grosse Ile Island Fest, film screenings at the Trenton Theater, Monroe County Earth Day Expo, Hawk Fest and the Point Mouillee Waterfowl Festival
- Over 2,600 people came away from 41 interpretative programs with more insight into the wildlife that call the refuge home, the types of recreational opportunities available, and how the refuge is managed
- Over 200 students from University Prep Science and Math in Detroit attended the 1st Annual Sturgeon Day on the Detroit RiverWalk at Milliken State Park to learn about lake sturgeon that thrived when dinosaurs were at the height of their development [partners in the event were U.S Fish and Wildlife Service, U.S. Geological Survey, Michigan Sea Grant, Detroit Riverfront Conservancy, and Michigan Department of Natural Resources]
- Over 400 kids participated in the 5th annual Kids Fishing Fest at Milliken State Park and the Detroit RiverWalk
- Visitor Services refuge staff traveled to Point Pelee Provincial Park in Ontario and Ottawa National Wildlife Refuge in Ohio for International Wildlife Refuge events
- The Refuge Facebook page was resurrected (search on Facebook for DRIWR and like the page)
- Visitor Services refuge staff met with partners from the Prairie Wetlands Learning Center, Minnesota Valley National Wildlife Refuge and Detroit's Outdoor Adventure Center for tours and networking (many ideas were shared and grant proposals developed)



Photo by US Fish and Wildlife Service
A Eaglet at Humbug Unit is banded for future study.



Photo by US Fish and Wildlife Service
Visitors pose for a photograph during an Eagle tour, a series of guided walks offered in January focused on viewing Bald Eagles



The Gibraltar Bay Unit in Autumn
Photo by Jerry Jourdan



Photo by US Fish and Wildlife Service
Volunteers from DTE Energy pose after constructing a new observation platform at the Gibraltar Bay Unit.



Photo by US Fish and Wildlife Service
Students get up close with a Lake Sturgeon at the Detroit Riverwalk.

- In June, Dave Best, a retired Service biologist, banded two eaglets from the nest on the Humbug Island platform – be on the lookout for any additional sightings of these birds
- Refuge Staff began a process to allow a lottery, archery deer hunt at the Humbug Marsh Unit in the fall of 2016 and to add the Fix Unit's newly acquired 30 acres into the Refuge hunting program
- Visitor Services Manager Jody DeMeyere joined the national Urban Refuge Evaluation team to develop an overarching plan for all refuges across the country to evaluate their success in reaching urban audiences
- A stained glass art contest was held in conjunction with the Downriver Council for the Arts to choose a winning design for the entry window in the new visitor center – local resident Ester Aikey's "Life on the River" won (look for it in the new visitor center)
- Refuge staff worked with the Detroit Riverfront Conservancy, Detroit Audubon Society, and Detroit Parks and Recreation to create a unique birding spot along the Detroit RiverWalk in Downtown Detroit, complete with four spotting scopes, an interpretive panel, and educational programming four times per year
- Two babies joined the Detroit River International Wildlife Refuge family – Baby Wren on June 14th to parents Casey and Anna Cook, and Baby Miles was born June 30th to Greg and Terry Norwood



Photo by US Fish and Wildlife Service
Refuge staff teach children how to fish for their first time at Kids Fishing Fest in Detroit.



Photo by US Fish and Wildlife Service
The birding spot at Gabriel Richard Park.



Photo by Anna Cook

Photo by Greg Norwood
Wren and Miles arrive at the Refuge

MAINTENANCE

Maintenance is a critical part of refuge operations and stewardship. In 2015, the refuge hired its first dedicated maintenance person, John Nicely. John hit the ground running in August with cleanup and organization of the maintenance yard and pole barn, complete with a loft, storage area, and office in the maintenance shop. In addition to the accomplishments at the shop, John assisted Visitor Services with rehabilitation of the orange trail in Humbug Marsh. Visitor Services Manager Jody DeMeyere and John worked closely to haul and spread over 300 tons of a gravel mix specially formulated for the trail compliant with the Americans with Disabilities Act.

In November, the refuge held a staff and volunteer work day to clear the orange trail area of downed trees and other woody debris. Twenty-five staff and volunteers contributed over 150 hours of labor in one day saving the refuge nearly \$13,000. Once the trail is compacted and the unit is opened, it will be ready for the enjoyment of thousands of people annually. In addition, this year the refuge completed all of our policy mandated safety plans, inspections, and other OSHA related obligations. Equipment acquired and/or rehabilitated for the refuge in 2015 included a grader attachment for our new Bobcat compact track loader and rehabilitated a 20-ton Holden equipment trailer to use for hauling heavy equipment.



Photo by Robert Primeau
Refuge maintenance mechanic John Nicely poses with the Bobcat track loader after completing construction work at the Refuge Gateway.



Photo by US Fish and Wildlife Service
In preparation for the Orange Trail's spring 2017 opening, John Nicely (bottom right) and volunteers clear and break down excess woody debris with manual labor and a pair of wood chippers.



Photo by US Fish and Wildlife Service

CAPACITY BUILDING

*The Humbug Marsh Unit in November
Photo by Mike Grosso*

Why I Volunteer:

I volunteer because I feel that I am contributing to our community's natural resource development now and for the future.

- Mike Weatherhead

I was in high school during the proposed development of Humbug, and supported the effort to keep it the last undeveloped mile of the Detroit River. I wanted this gift Downriver was given to be unwrapped for generations to come. Now, that hope is materializing as a member of the DRIWR Stewardship Crew. I get to share with my young sons the beauty that is in our own backyard, while instilling a sense of environmental responsibility they can foster for their kids.

- Dannielle Calder

The work is rewarding and the friendships made are priceless.

- Al Jurczyk

I volunteer at the Refuge not only because the Humbug Marsh was one of my childhood haunts that I would explore in my 6 foot dinghy, but I get a great workout being outside and preserving the last existing mile of natural shoreline on the U.S. side of the Detroit River with some pretty awesome people!

- Linda McMath

I'm helping to provide a close-by area of us city folk to walk, hunt, and fish.

- Mike Williams

It gives me something to do in my retirement that is enjoyable, beneficial to current and future generations as well as providing interaction with a great group of people and much personal satisfaction with all that is accomplished.

- Dick Skoglund

IWRA is the Friends Organization of the DRIWR. Its goals are to foster conservation, increase refuge visibility, encourage support, enhance quality of life, and build the capacity of the U.S. Fish and Wildlife Service to deliver its mission for the Refuge. IWRA continues to actively recruit partners, increase public awareness, and help secure financial support for Refuge projects. One highlight from 2015 was when IWRA was a Beer Vendor at the Trenton Mid-Summer Festival that both increased refuge awareness and brought in financial support for the refuge. To help acknowledge important contributions, IWRA gives out annual "John D. Dingell Friend of the Refuge Awards" in recognition of leadership and dedication to conservation for the Refuge. In 2015, Dr. Bruce Manny was recognized in the individual category, Michigan Ducks Unlimited Great Lakes Atlantic/Regional Office was recognized in the non-profit category, and Consumers Energy was recognized in the business category.

The refuge is shared with Canada and the U.S. Fish and Wildlife Service is working on trans-boundary conservation and outdoor recreational initiatives through a Memorandum of Understanding with Essex Region Conservation Authority, who in turn works with federal, provincial, and local partners through the Western Lake Erie Watersheds Priority Natural Area. One major highlight of 2015 was the convening of the U.S.-Canada State of the Strait Conference on December 9th at Eastern Michigan University. Nearly 200 people came together to discuss coordinating conservation in the St. Clair-Detroit River System.



Photo by Shauna Nietubiec

IWRA volunteers operating a beer tent at the Trenton Summer Festival.

WHAT'S NEXT

The Humbug Marsh Unit at Sunset
Photo by Jerry Jourdan

In 2016, the DRIWR will place a high priority on completion of the refuge's Visitor Center, while continuing with strategic land acquisitions and habitat restorations. A list of 2016 refuge priorities is presented below:

- Constructing the Visitor Center at the Refuge Gateway
- Finishing construction of the school ship dock and fishing pier at the Refuge Gateway
- Adding at least two tracts to the refuge through purchase, donation, or cooperative management agreements
- Working with Canadian partners to continue to add high quality habitat lands to the Canadian Registry of Lands
- Beginning to open refuge units, with the Visitor Services Plan now approved
- Implementing the Refuge's Habitat Management Plan and Inventory and Monitoring Plan
- Continuing to participate and provide leadership in Detroit River–Western Lake Erie Cooperative Weed Management Area
- Improving the Refuge's hunting program based on feedback from the 2015 hunting season and beginning a new lottery, archery deer hunt at the Humbug Marsh Unit
- Continuing invasive species management at specific Refuge units, including undertaking prescribed burns
- Undertaking habitat projects at Fix Unit, in partnership with Ducks Unlimited and others
- Continuing monitoring of the fish community response to habitat enhancement projects by Fisheries staff
- Enhancing monitoring for aquatic invasive species, and threatened and endangered species, by Fisheries staff
- Continuing to support established events such as International Migratory Bird Day, World Wetlands Day, Kids Free Fishing Fest, HawkFest, Pointe Mouille Waterfowl Festival, and Eagle Tours, and convening Sturgeon Day on the Detroit RiverWalk
- Supporting another IWRA fund raiser in May 2016
- Increasing the number of volunteers in the Refuge
- Sustaining Detroit River Hawk Watch
- Collaborating on necessary research with Eastern Michigan University, University of Windsor, U.S. Geological Survey, and others

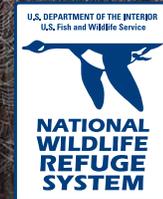


Photo by Jake Bonello

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