

# **Door County Environmental Impacts Caused by Cormorants and Pelicans**

Wisconsin Natural Resources Board

Presented by

Washington Island Sportsman and Conservation Club

September 25, 2024

[www.savepilotisland.com](http://www.savepilotisland.com)

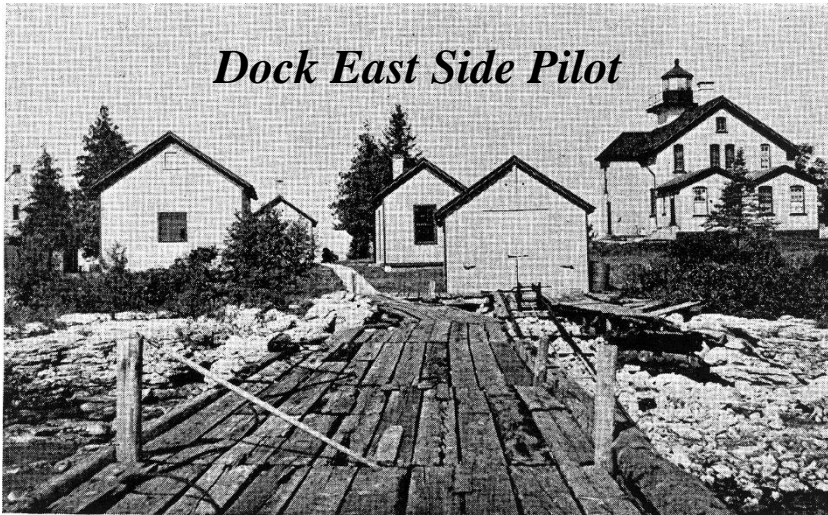
# Pilot Island Before the 1990's



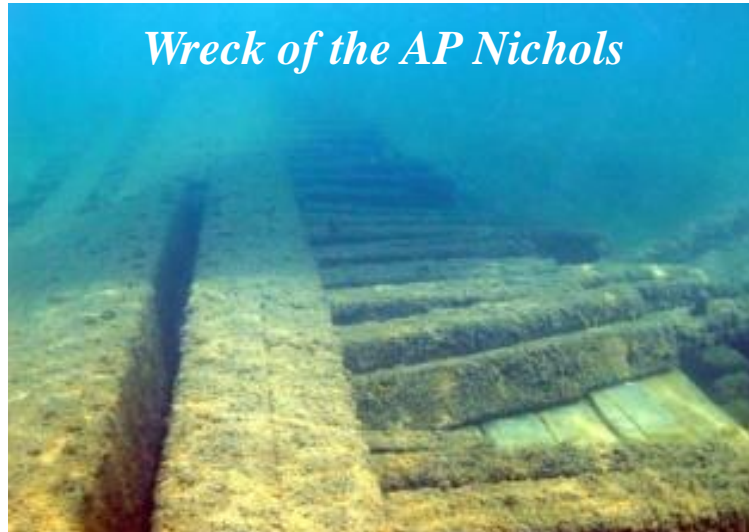
Figure 1.14. Pilot Island, Wisconsin, understory, 2000.

- Pilot Island's lush and green 3.5 acres acted as a stepping stone for varieties of migratory birds such as: mergansers, bald eagles, herons, egrets, warblers and even monarch butterflies.
- It was home to the U. S. Life Saving Service (USLSS) lighthouse keepers and assistants tasked with manning the light and saving people in all weather conditions.

# Pilot Island Before the 1990's



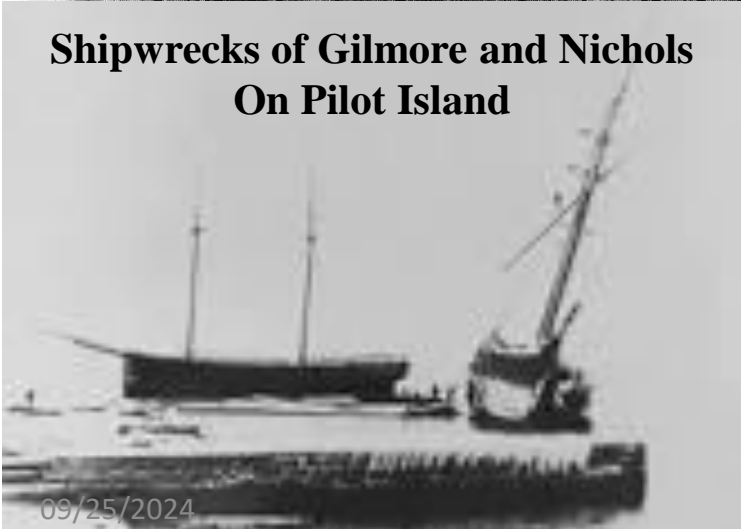
*Dock East Side Pilot*



*Wreck of the AP Nichols*

16 known shipwrecks occurred around and near Pilot Island as vessels tried to navigate the Door Passage.

The JE Gilmore and the AP Nichols met their fate on the shoals of Pilot Island within a week of each other.



**Shipwrecks of Gilmore and Nichols  
On Pilot Island**



*Fog Signal Bldg. Pilot Island*

09/25/2024

# Pilot Island Before the 1990's



# Need for Environmental Protection

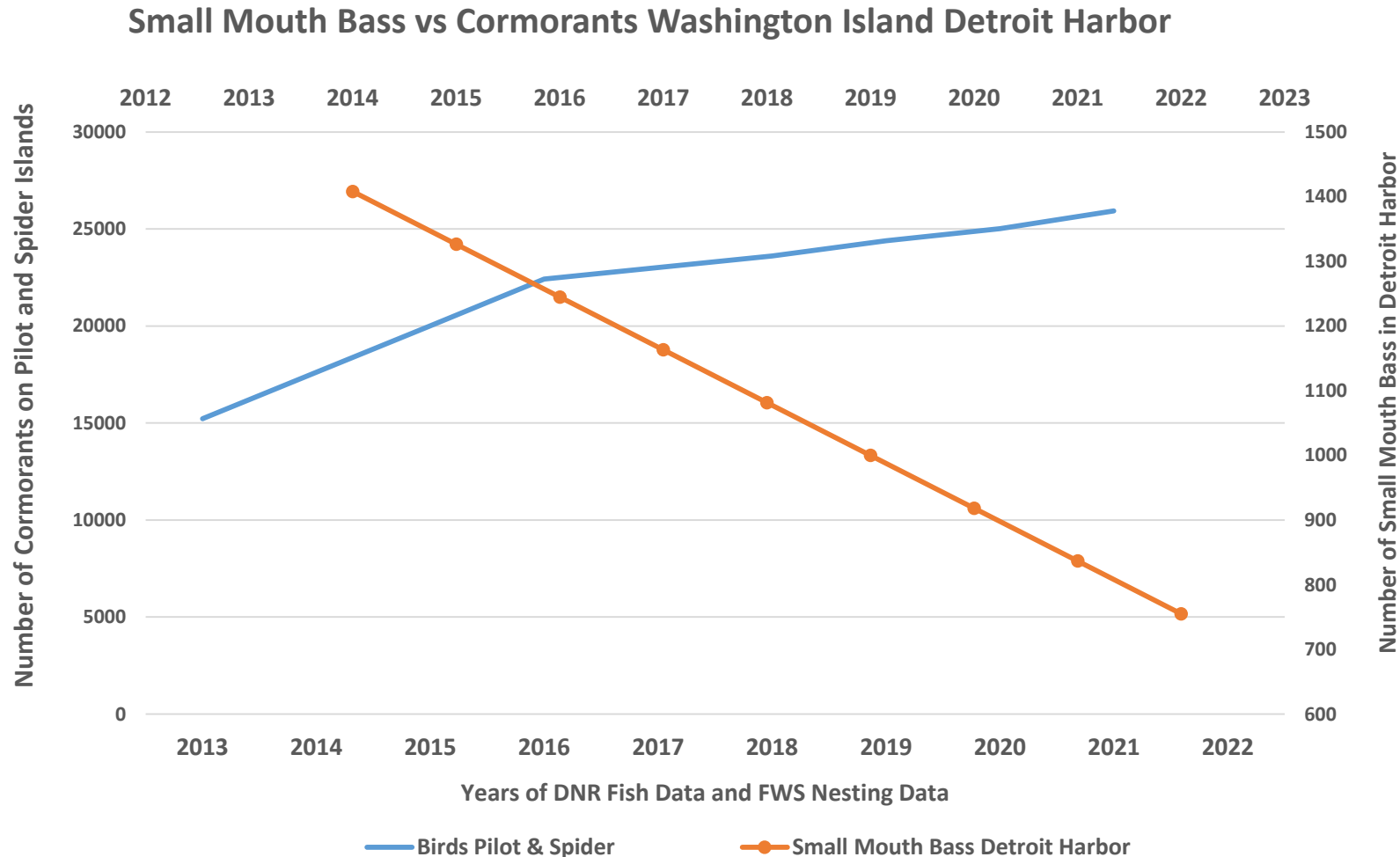
- Wisconsin Department of Natural Resources (WDNR)
  - Clean air, clean water and healthy landscapes. These are foundations of Wisconsin's economy, environment and quality of life. They are the assets that separate us from the rest of the pack.
- A significant number of cormorants and pelicans migrate each year to Door County
  - 63% of all cormorants in Wisconsin live on two unmanaged Fish and Wildlife Service (FWS) refuge islands, Pilot and Spider (~82% if lower Green Bay were included).
  - This equates to over 20,431 cormorants (number of birds calculated using FWS nest count data) Pelicans and Gulls are not counted in the 20,431 fish eating birds.
  - Pelican nest count data or population numbers are not recorded by the WDNR or FWS. Pelicans numbers will compete with those of cormorants, if left unmanaged.

# Environmental Protection



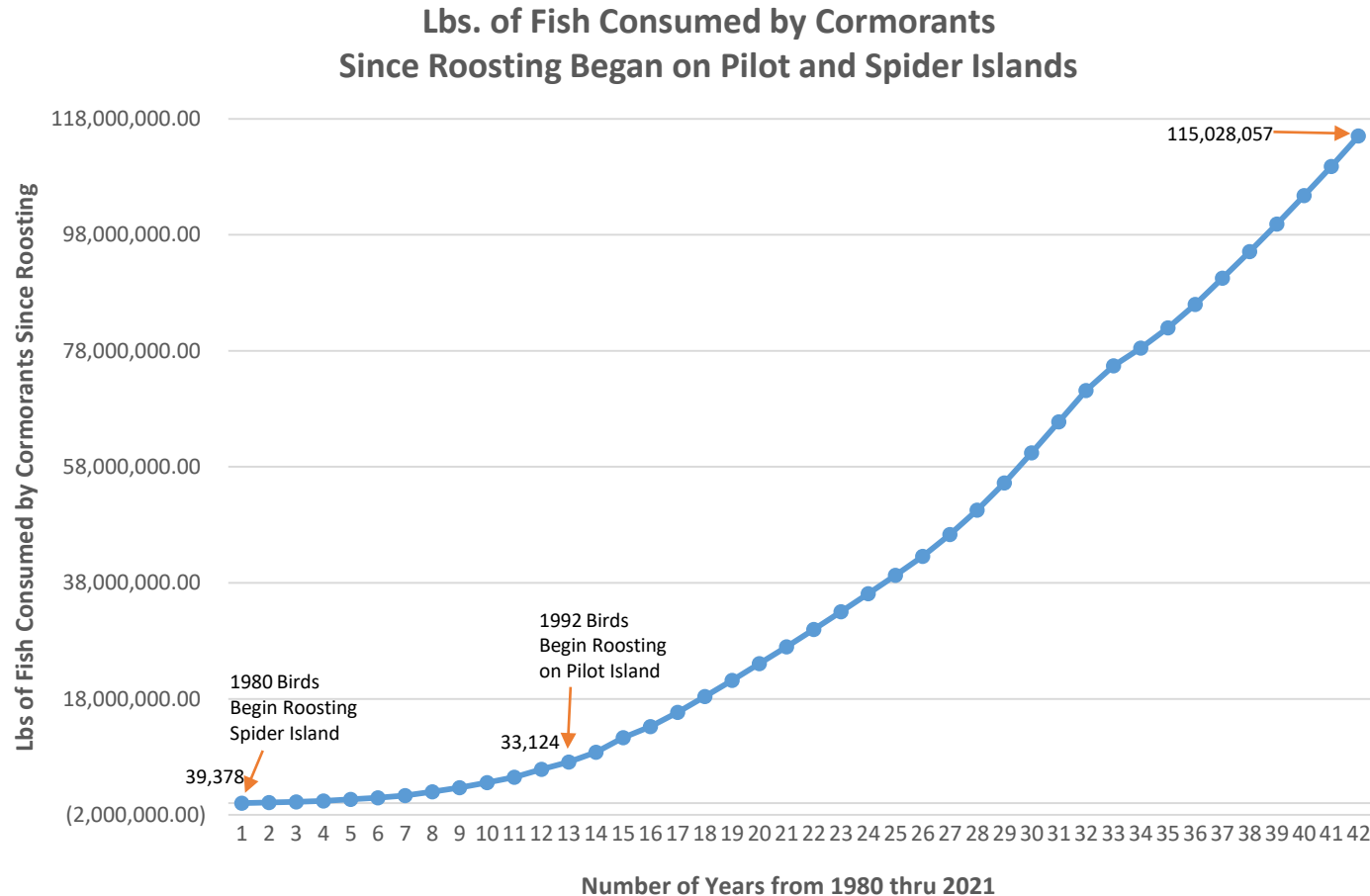
- Pilot Island with its historic landmarks has been devastated by Cormorant & Pelican guano.
- It is the only location in Wisconsin that has a historic lighthouse listed on the NLHP being used as a rookery.
- Water, land and air surrounding Pilot Island is polluted and unsafe to be near.
- The concentration of birds are a significant factor in the decline of Door Counties fisheries.

# Collapse of Fisheries Throughout Door County Area



- FWS does not believe the cormorants are having an impact on the environment and the fisheries in Door County
- WDNR has hard data that shows a 46% decline in small mouth bass in the Washington Island's Detroit Harbor Spawning Grounds from 2014 to 2022
- FWS has Cormorant nesting data showing a 70% increase in cormorants from 2012 to 2021
- The Michigan Les Cheneaux Islands study and other studies verify there is a direct correlation between the increase of cormorants and the decrease of fish.

# Collapse of Fisheries Throughout Door County Area

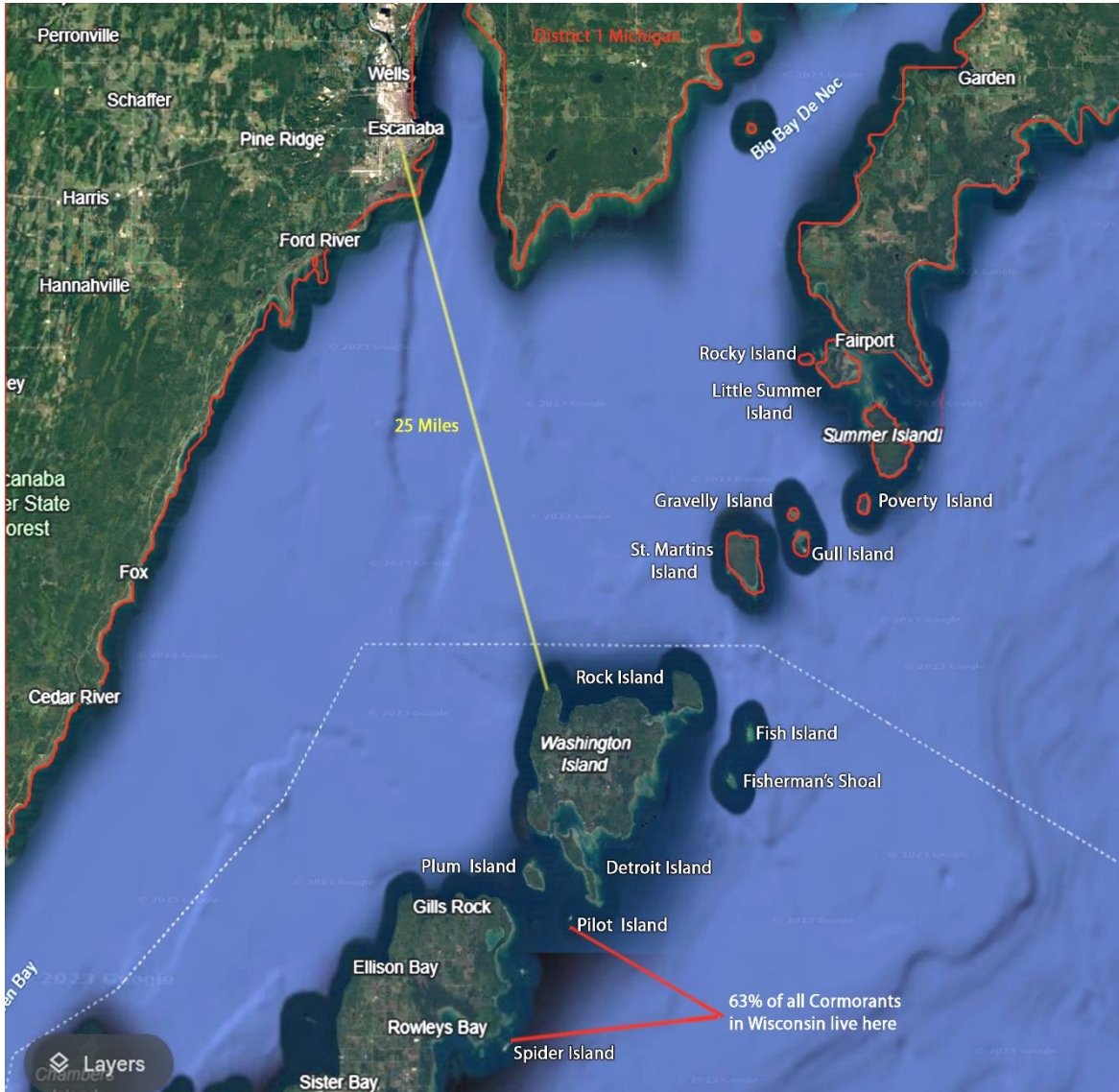


- Cormorants and Pelicans not only eat sportfish, but they eat the feeder fish that sustain the sportfish like the Round Goby
- Fish currently facing significant declines in Door County, Yellow Perch, Rock Bass, Smallmouth Bass, Brown Trout, Salmon, Whitefish, Sturgeon, Northern Pike, & Walleye
- Cormorants and Pelicans need to be managed by FWS and the WDNR.
- A cormorant eats 1.4 lbs. of fish per day.
- A pelican eats 4 lbs. of fish per day.
- Between 2012 and 2021 (9 years) Cormorants have eaten 50,252,293 lbs. of fish.
- Since roosting began in 1980 Cormorants have eaten, 115,028,057 lbs. of fish

# Who's Responsibility is Environmental Protection

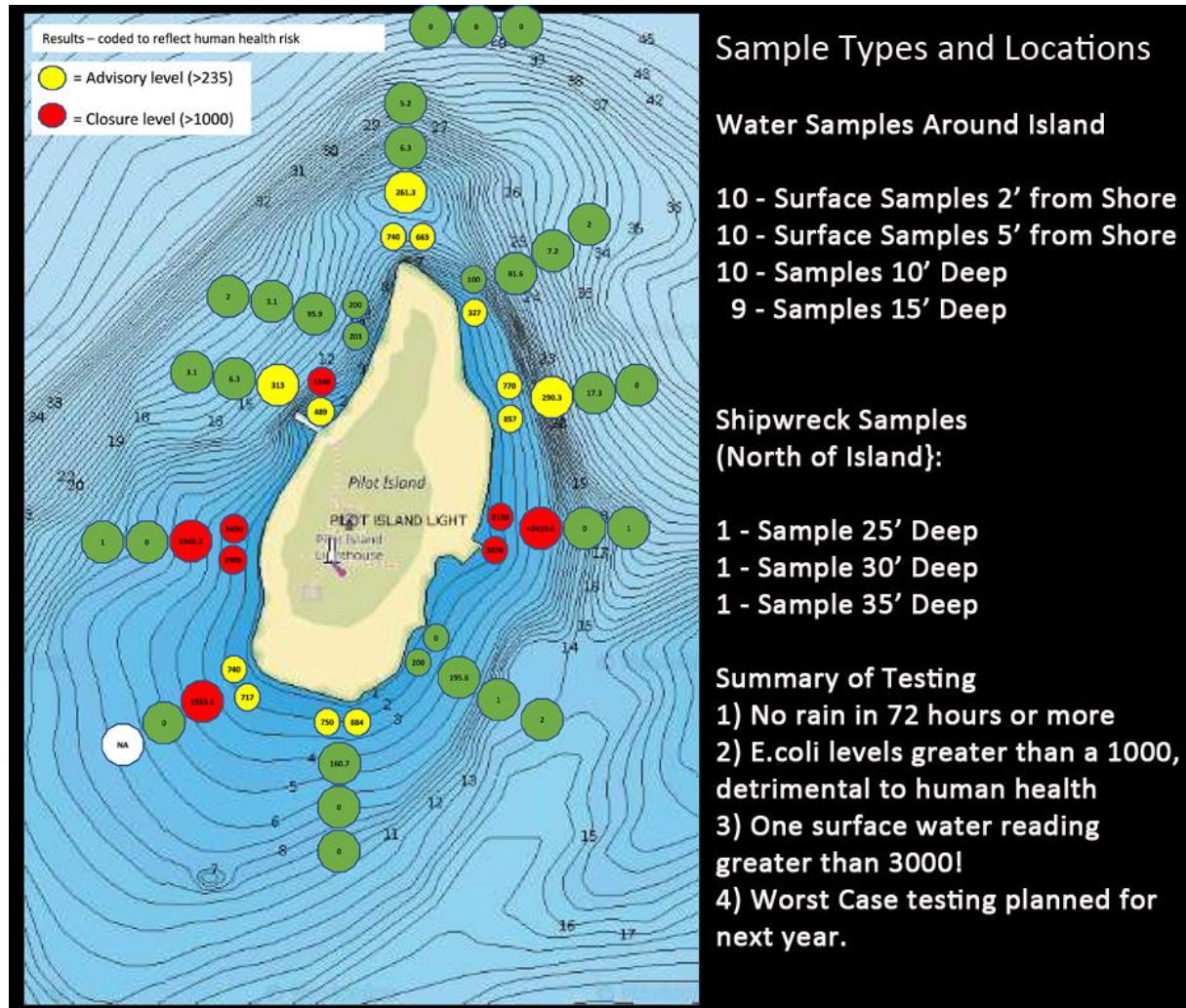
- The Wisconsin Department of Natural Resources (WDNR) has taken a “hands off approach” because they say the birds are “a Federal issue.” The impact of the birds has been so destructive, this has now become a State issue that can no longer be ignored.
- The Door County Board of Supervisors signed Resolution 2023-20 last year requesting FWS remove the birds from Pilot Island. A copy of the Resolution was sent to Martha Williams, Director of FWS in Washington, D.C. Over 30,000 residents in Door County are unhappy with the concentration of cormorants and pelicans on Pilot Island.
- Commercial and Sport fisherman have been complaining for years about the cormorant and pelican impacts on the causing a fish decline in Door County.
- FWS Division 3's position on the declining fisheries is “it's a State issue!”
- Why do the two responsible organizations, WDNR and FWS refuse to put any blame for these environmental impacts on the birds! Especially during spawning season.

# Lack of Bird Management on Refuge Islands



- Lack of bird management has created an Environmental imbalance due to the high concentration of birds
  - Cormorants began roosting on Spider Island in 1980.
  - Cormorants began roosting on Pilot Island in 1992.
  - Sixty-three percent of all cormorants in Wisconsin nest on Spider and Pilot Islands.
- Since 1992, cormorants have polluted the land, water and air.
- Cormorants destroy the flora and fauna and make their roost areas uninhabitable for all other wildlife, except fish eating birds.
- Pelican numbers will compete with those of the cormorants if left unmanaged. FWS and WDNR do not believe pelicans are an impact to the fisheries.
- Despite numerous meetings with FWS to discuss our issues with cormorants and pelicans, the birds remain unmanaged on Pilot and Spider Islands.

# Pollution of the Water, Land, and Air Caused by the Birds



- At the request of the Sportsman's Club, in August of 2022 the University of Wisconsin Oshkosh (UW-O) and the Environmental and Innovation Research Center (ERIC) took water samples from around Pilot Island and analyzed for E.coli.
- Water testing was done during very dry conditions.
- The UW-O team found that water around the Island was contaminated with E.coli with some readings in the 3,000 range, some of the highest levels they had seen.
- High levels of E. coli present an issue for swimmers, scuba divers, and snorkelers.
- The putrid odor wafting on the wind adversely impacts people on Plum Island, Detroit Island, Washington Island, and Northern Door County, people riding on the ferry, and fisherman.
- E. coli appears to dilute in deeper water and longer distances away from the Island.

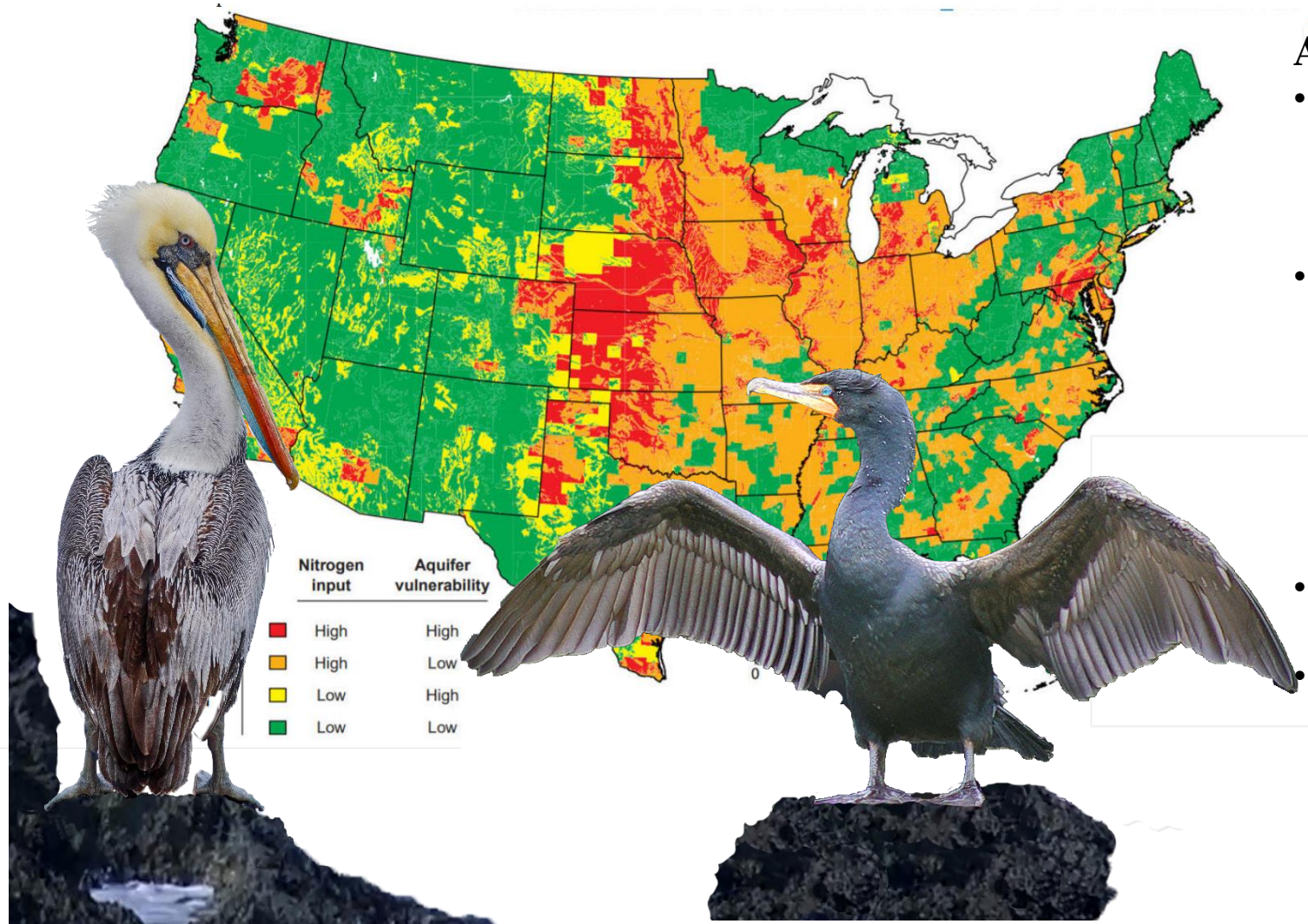
# Pollution of the Water (E. coli), Land, and Air Caused by the Birds



## Annual Cormorant Water Impact

- While phosphorus is an essential element for both plants and animals, too much of it can cause problems. Concern over phosphorus released by birds can be compared to other human activities, such as industrial waste and sewage misconnects, which are considered environmental pollutants.
- A single cormorant can defecate approximately 4 grams of nitrogen and 2.5 grams of phosphorus daily.
- In 2021 there were 20,431 cormorants on Pilot and Spider Island.
- 20,431 Cormorants Annual Nitrogen and Phosphorus output on Spider and Pilot Islands
  - 16.40 tons of Nitrogen
  - 10.25 tons of Phosphorus
- Since the birds began roosting on Spider Island in 1980 and Pilot Island in 1992 there have been a total of 360 tons of Nitrogen and 225 tons of Phosphorus from defecating.<sup>12</sup>

# Pollution of the Water (E. coli), Land, and Air Caused by the Birds



## Algae Blooms

- The Blue-Green algal blooms form in bodies of water due to excess nutrient levels. The primary nutrients that cause the blooms are Nitrogen and Phosphorus.
- Significant increases in algae harm water quality, food resources and habitats, and decrease the oxygen that fish and other aquatic life need to survive. Large growths of algae are called algal blooms and they can severely reduce or eliminate oxygen in the water, leading to illnesses in fish and the death of large numbers of fish.
- Algae blooms are a much more common occurrence in Door County today.
- Some studies suggested that intensive algal blooms in coastal waters can be attributed to those regions where cormorants, primarily the great cormorant *Phalacrocorax carbo* (L.), spend the summer months during the breeding and post-fledging seasons ([Van Eerden et al., 2012](#)).

# Pollution of the Water (E. coli), Land, and Air Caused by the Birds

Friday, August 16 - Thursday, August 22, 2024

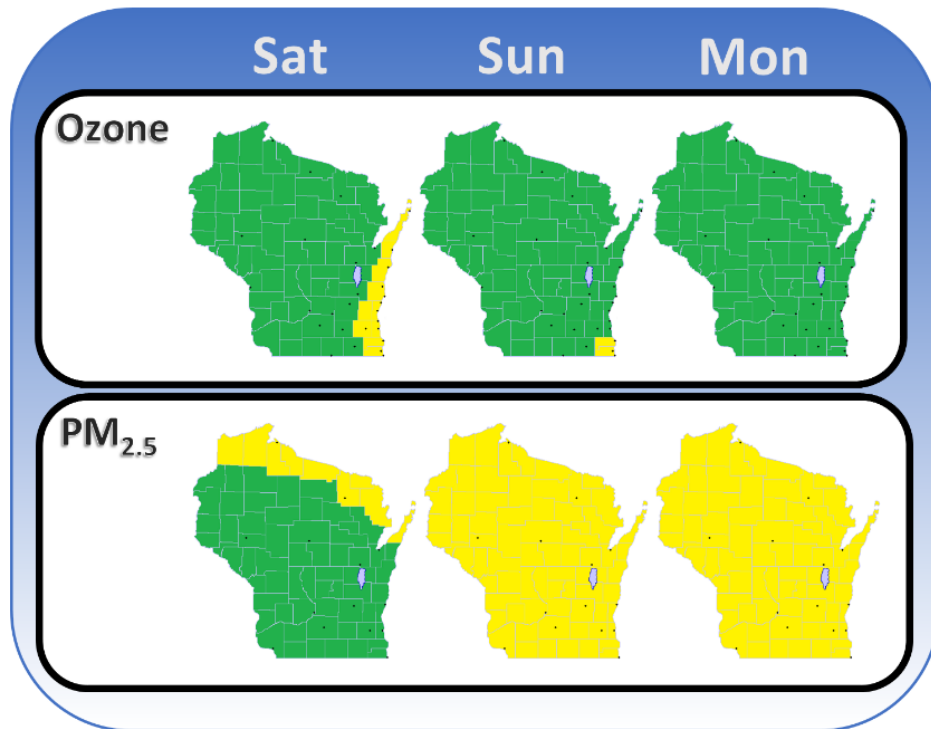
## Ozone

Good to USG levels.

## Particle pollution (PM<sub>2.5</sub>)

Good to Unhealthy levels.

### Short-Term Forecast Maps:



## Air Quality

- The Clean Air Act calls for states and EPA to solve multiple air pollution problems through programs based on the latest science and technology information. The Act calls for state, local, tribal and federal governments to work in partnership to clean the air.
- Poor air quality is another issue caused by bird defecation. The guano stench from Pilot Island can be smelled over 3 miles away on Washington Island and in Liberty Grove.
- The guano stench from Spider Island also penetrates Rowley's Bay and northern portions of Liberty Grove.
- Tourists can smell the guano on the ferry between Northport and the Washington Island.
- Boaters shy away from Pilot Island just because of the smell.
- Gills Rock fisherman always check prevailing winds before they go to fish to make sure they are upwind of the guano stench.

# Loss of Trees and Vegetation Where Birds Roost

- The bird guano is so toxic the trees on Pilot Island died within 2 years after the cormorants began roosting
- Pilot Island was surveyed in the 1970's, at that time the vegetation was made up of red-osier dogwood, lilacs, Canadian yew (now listed as a plant of special concern), white cedar, willow, and white birch.
- In addition to the loss of trees and vegetation to where birds roost, the bird guano damages the historic lighthouse.



# Bird Concentrations are a Potential Health Threat to Door County

- **Histoplasmosis Disease: (from Mayo Clinic research)**
  - Is an infection caused by breathing in spores of a fungus often found in bird and bat droppings
  - People usually get it from breathing in these spores when they become airborne during cleanup.
- **Example of Histoplasmosis Disease: (from a discussion by Rip Koken and Dan Nilsson with the father of the twin girls)**
  - It had been contracted on Hat Island by twin girls.
  - Eventually detected by CDC. Their recovery has been long and involved with one twin still on antibiotics.

# Highly Pathogenic Avian Influenza (HPAI)

## Highly Pathogenic Avian Influenza (HPAI) – From FWS Website:

- Highly pathogenic avian influenza (HPAI) viruses can severely affect domestic animal, wildlife, and sometimes human health.
- Outbreaks of Eurasian lineage highly pathogenic avian influenza viruses have been impacting domestic poultry and wild bird populations in Europe and Asia since August 2020. Introduction of the Eurasian lineage HPAI to North America occurred in late 2021, at least two additional virus introductions have occurred since then.
- HPAI cases have now been confirmed in both domestic and wild birds in numerous locations throughout Canada and the United States. The strain of HPAI now present in North America has caused extensive morbidity and mortality events in a range of wild bird species, similar to that seen in Europe and Asia.

## What's being done?

- Because both trade in HPAI-infected poultry products and wild bird migration likely contribute to the local and long-distance spread of HPAI viruses, proactive measures to detect and limit the potential for virus introduction and spread in all sectors are imperative.
- The Interagency Steering Committee for Avian Influenza Surveillance in Wild Migratory Birds, currently chaired by the U.S. Fish and Wildlife Service, has increased avian influenza surveillance of wild birds across the country.
- Key elements in effective surveillance include early detection, rapid communications, quick and accurate laboratory diagnosis, relay of diagnostic findings back to the field, to decision makers, and the public, as well as implementation of prevention and management actions where necessary.

# Highly Pathogenic Avian Influenza (HPAI)

## U.S. Fish and Wildlife Service responsibilities

Since HPAI can be so prevalent and with such a devastating impact to Door County citizens, we urge FWS to provide the Door County Board of Supervisors a quarterly update starting by the end of 2024.

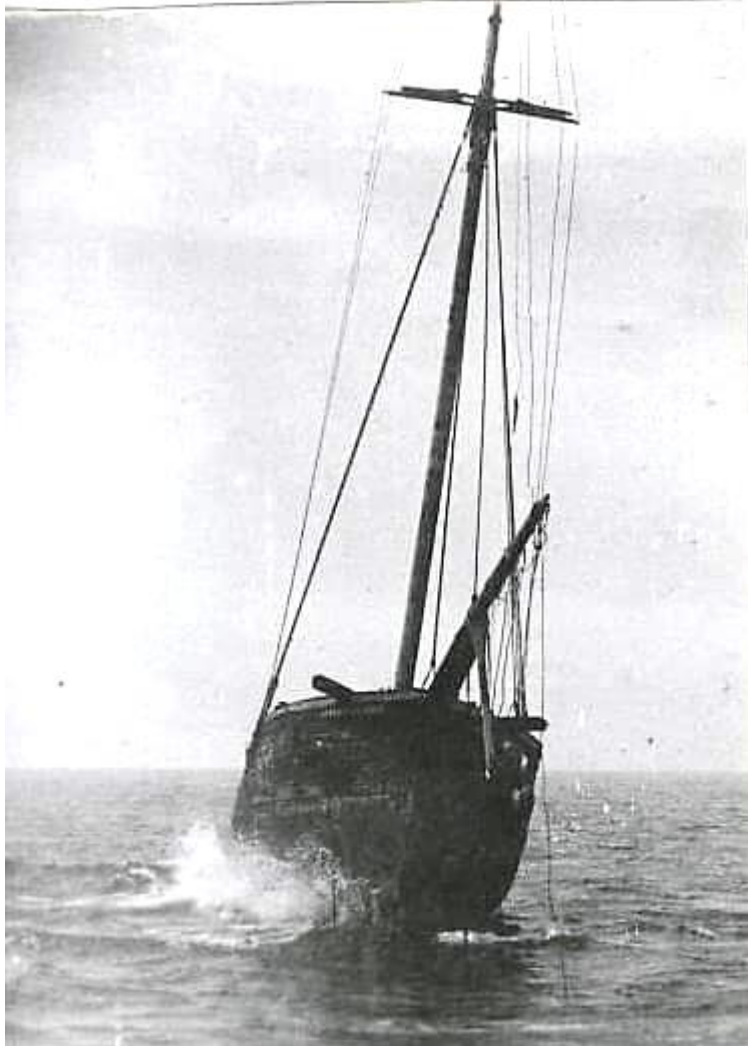
- The Service is responsible for the following efforts on Service-managed lands and waters:
- Monitoring wild bird populations for the earliest possible detection of HPAI by conducting morbidity and mortality investigations and submitting specimens for laboratory testing.
- Ensuring biosecurity and biosafety on the Service-managed lands and waters to limit spread of the virus.
- At the request of our partners, assisting with the collection of biological samples for testing live and hunter-harvested birds for HPAI.
- In certain situations, refuge managers may choose to limit public access to areas where sick or dead birds are present to protect human and domestic animal health. Please [contact the refuge](#) for the latest information.

# Historical Resources Are Not Being Maintained or Restored



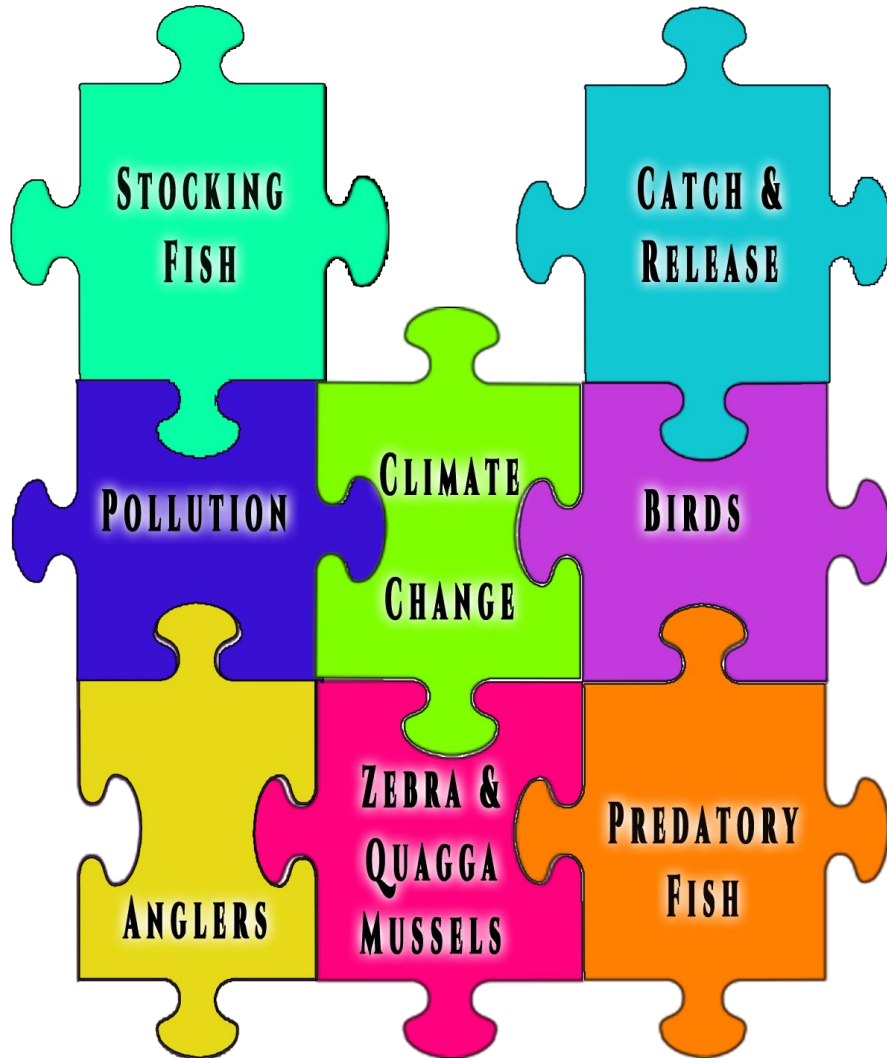
- Pilot Island Lighthouse has been an active navigational aid to marine traffic since 1858.
- It is listed in the National Register of Historic Places (Reference #83004279),
- It is a State Historical Asset that needs to be protected and restored.
- The United States Government through FWS is responsible to keep the lighthouse safe and usable by the USCG.
- The USCG is responsible to keep the lighthouse lamp lite for marine use.
- It would be a shame if the State Historical Preservation Office did not protect the lighthouse's integrity and the USCG decided to build a skeletal tower to replace it due to poor maintenance by FWS. Just like what happened to Rock Islands light.
- Pilot Island is the only historic site in Wisconsin being used as a rookery. It needs to be restored so it provides value to the public, something the current use does not do!

# Shipwrecks Remind Us of the Ships' Role in Our Countries Development



- The Pilot Island shipwrecks are a 'national treasure' because of their roles in the development of our nation and their location on a historically significant transportation corridor - Deaths Door.
- Three shipwrecks, AP Nichols, JC Gilmore and the Forrest reside on the National Register of Historic Places as of March 19, 1992. (Reference # 92000103)
- The wreck site currently falls under Wisconsin's jurisdiction.
- These three shipwrecks, and maybe more, are in one location in 20 to 50 feet of water just off Pilot Island to the Northwest.
- The shipwrecks were a very popular place for local divers, until they started to experience ear infections. Now, no diving takes place. The site has extensive amounts of guano resting on its bones.

# Factors Affecting the Door County Fisheries



- There are many factors that contribute to the decline in fisheries in Door County.
- Some factors can be readily controlled while others cannot. These factors are controllable:
  - Birds
  - Anglers
  - Catch and Release Regulations
  - Stocking Fish
- The factors much more difficult to control are:
  - Pollution
  - Climate Change
  - Zebra and Quagga Mussels
  - Predatory Fish
- Implementing a plan on those factors that can be controlled will help eliminate or slow down the decline and give the fisheries time to recover.

# Lack of Support for Door County Tourism Industry

Our Concerns are simple:

- Lack of cormorant and pelican management on refuge islands impacts Door County.
- FWS protects the cormorants & pelicans at the expense of the fisheries, environment, lighthouse, land, and birds that used to reside on Pilot island.
- Door County is known for its fisheries, and they are collapsing:
  - WDNR does not understand the impact of the ecological forces involved
  - FWS has not paid enough attention to our fisheries in favor of protecting cormorants
- The cormorants and pelicans have polluted the water (E.coli), land, and air on and around Pilot Island.
- There has been total decimation of native trees and vegetation where cormorants & pelicans roost.
- The ever present health threats to Door County are avian diseases.
- Historical Resources are not being maintained or restored for public benefit (educational and economic uses).
- Shipwrecks polluted by bird guano are no longer a safe dive site. Clearly Wisconsin history takes a backseat to the birds.
- Aesthetics of Pilot Island and the surrounding area have been greatly compromised

# Support for Washington Island Sportsman and Conservation Club Requests to FWS

- The Door County Board of Supervisors adopted Resolution 2023-20, in February of 2023, requesting FWS remove the cormorants and pelicans from Pilot Island. The Resolution was sent to FWS Director Martha Williams to notify her of the Board's decision.
- 628 electronically-signed petitions requested FWS to make the following changes:
  - Remove the cormorants from Pilot Island.
  - Remove the cormorant guano, and replace with fertile soil, flora, and trees and return it to its original state by restoring and maintaining the fisheries, wildlife and environment that once existed.
  - Preserve and restore the Lighthouse Keepers Building to its original state.
  - Reconstruct the Fog Signal Building to its original state.
  - Build a dock and boat channel so visitors can safely access and enjoy the complete experience Pilot island has to offer.

# How Can NRB Help

We have targeted three areas where you might have influence in effecting change. We are uncertain about how the Assembly works and look forward to gaining insight from your experience.

- Ask the State Historic Preservation Officer (SHPO) to take an active interest in the conditions and use of the historic structures on Plum and Pilot Islands.
- Ask the NRB, the WDNR, and local governments to task the FWS to use their federal assets, in a manner that enhances Wisconsin's District 1 fisheries, wildlife, flora, air and water for future generations.
- We would like the NRB to request FWS and the WDNR to perform a study similar to the Les Cheneaux Islands study in Lake Huron, Michigan. When a significant number of birds were removed, the environment rebalanced itself. It also provided solid evidence that the birds directly affected the yellow perch population. There was, also, a direct correlation between the removal of the birds and an increase in fish.