On November 20, 2017, Congressman Bergman, representing Michigan's first district, proposed a resolution to reissue two Depredation Orders that allow for broad take (i.e. killing) of Double-crested Cormorants in Michigan to protect sport fish. House Resolution 4429 is in response to the release of a court-ordered Environmental Assessment of Double-crested Cormorant management by the U.S. Fish and Wildlife Service (USFWS) in early November. The Environmental Assessment was a result of a suit filed by a group of concerned scientists against the USFWS, citing the lack of due diligence by the USFWS to assess the scientific evidence before renewing the broad Depredation Orders in 2014. In the Environmental Assessment, the USFWS proposes localized depredation permits only and states that to reissue the Depredation Orders would require "an entirely new rulemaking and NEPA review process." To reissue the Depredation Orders without the proper review process and consideration of scientific evidence would be unwise and likely not address the complex threats to the Great Lakes, including sport fish. The health of the Great Lakes and its fisheries is threatened by an influx of invasive mussels, fish, and plants; aquatic habitat loss; chemical pollutants; and changing water temperatures. Michigan Audubon does not support HR 4429 and encourages the legislature to seek a multifaceted, scientifically-based approach to address the many factors influencing the health of the Great Lakes.

Background

Recovering from dangerously low numbers in the 1960s, Double-crested Cormorants (hereafter, cormorants) are now a thriving part of the Great Lakes ecosystem. Much like the proverbial canary in a coal mine, top predators like cormorants can provide a warning of environmental contaminants such as DDT, which devastated the cormorant population by the 1970s. Cormorants began to rebound following stronger pollution restrictions and federal protection under the Migratory Bird Treaty Act in 1972. After rapid population growth starting in the 1980s, the Mississippi/Central Flyway population is now estimated at over 200,000 and appears to be stabilizing.

As a fish-eating species, cormorants have long been perceived as a threat to the sport fishing industry, despite many scientific studies concluding that cormorants have little impact on recreational or commercial fishing (Dorr et al. 2016). Diet studies suggest cormorant diets are highly variable in terms of species consumed; however cormorants are fairly consistent in the size of prey they consume (typically under 6" in length) and can have localized impacts on certain size classes of fish. Cormorants feed on what is most abundant and easy to catch which may include desirable, recently-stocked species or undesirable species like invasive alewife and round goby. Cormorant diets reflect what is abundant and available in the environment around them; there is no clear evidence that as a species, cormorants have a negative impact on sport fish and instead cormorants have varied diets that often include invasive fish species, which are known to have negative impacts on the Great Lakes.

Originally created in 1998 and amended in 2003, the Aquaculture Depredation Order and Public Resource Depredation Order (PRDO) allowed for the broad take of cormorants through annual egg-oiling (to prevent hatching) and lethal culls of adult cormorants, in order to protect aquaculture and recreational fishing industries. Under the Public Resource Depredation Order, state fish and wildlife agencies, tribes, and the U.S. Department of Agriculture could control cormorants "committing or about to commit depredations on the public resources of fish, wildlife, plants and their habitats on public and private lands and freshwater" in 13 states. This Depredation Order encouraged the persecution of fish-eating cormorants for consuming, or about to consume, fish. The intent of the PRDO was to "protect" recreational sport fishing, even though the impacts of cormorants on recreational fishing remain unclear. Both of the aforementioned Depredation Orders were renewed in 2014 without a full review of the environmental impacts and scientific evidence; the USFWS was later found to be in violation of NEPA and in 2016 these Depredation Orders were suspended until a complete Environmental Assessment could be conducted.

On November 7, 2017 the USFWS released an Environmental Assessment for Issuing Depredation Permits for Double-crested Cormorant Management. In this Assessment, the USFWS proposes individual depredation permits as the control method for alleviating issues with Double-crested Cormorants when proven necessary. The proposal limits the scope of depredation permits for "managing cormorants at or near aquaculture facilities, alleviating human health and safety concerns, protecting threatened and endangered species [...], and reducing damage to property." Any actions related to recreational sport fishing were excluded. The EA goes on to recommend a maximum annual take of 51,571 Double-crested Cormorants (39,726 in Mississippi/Central Flyway) across 37 states.

Congressman Bergman's resolution is a response to the exclusion of sport fishing "protections" in this new Environmental Assessment, and is attempting to revert back to the Depredation Orders to encourage take of Double-crested Cormorants for perceived impacts on sport fish, despite mixed scientific evidence for the efficacy of these practices. It should also be noted that cormorants in the Great Lakes often nest in close proximity to other colonial nesting waterbirds including Common and Caspian Terns (species of conservation concern) and any practices to control cormorants cause disturbance to these and other species nesting nearby. The Public Resource Depredation Order was encouraging the persecution of a visually-obvious target, when the reasons for dwindling sportfish populations are complex and lack a silver bullet. As stated above, the USFWS is still proposing individual damage permits to manage cormorant populations where there is a demonstrated need.

The collapse of the Great Lakes ecosystems has resulted from decades of abuse, exploitation, and neglect. Pollutants like DDT were a major cause of decline of the Double-crested Cormorant and other top avian predators. Although chemical inputs are more restricted in some cases, nonpoint source pollution remains a significant problem for the Great Lakes. Over 185 aquatic invasive species are impacting the Great Lakes and new species will continue

colonizing our lakes unless strict protections on ballast water are upheld and strengthened. Invasive quagga and zebra mussels (both likely arrived from ballast water) have cleared the waters of zooplankton, an essential food source for many hatchling sport and nongame fish. Many diet studies have shown invasive fish species (alewife and round goby) constitute a substantial part of Great Lakes' cormorants' diets.

Now a familiar story for several nongame species in Michigan, the Double-crested Cormorant was once nearly extirpated from the state and is now being unjustly persecuted by those seeking a quick solution with poor scientific evidence. Scientists have attempted to quantify the impacts of cormorants on the sport fishing industry and the impact of cormorant management for decades, but studies have only shown the issue to be complex and variable. Among other things, the Great Lakes are suffering from pollution; invasive fish, plants, and mussels; habitat loss; and changing water temperatures. It is likely that each of these problems has had a negative impact on the health of the Great Lakes and the sport and nongame fish that depend on them. Efforts to reinstate broad Depredation Orders will not solve the complex degradation of the Great Lakes and will instead unjustly persecute a native bird species.

Continued Reading

Dorr, B. S., K. L. Sullivan, P. D. Curtis, R. B. Chipman, R. D. McCullough. Double-crested Cormorants. U.S. Department of Agriculture. Wildlife Damage Management Technical Series. August 2016.

https://www.aphis.usda.gov/wildlife_damage/reports/Wildlife%20Damage%20Management% 20Technical%20Series/FINAL Cormorants WDM%20Technical%20Series Aug2016.pdf

Environmental Assessment for Issuing Depredation Permits for Double-crested Cormorant Management. U.S. Fish and Wildlife Service. November 7 2017.

https://www.fws.gov/migratorybirds/pdf/management/double-crested-cormorants/Cormorant EA.pdf

Payette, Peter. "No Lethal Control for Cormorants in the Great Lakes this Spring." The Environment Report – Michigan Radio. February 23 2017.

http://michiganradio.org/post/no-lethal-control-cormorants-great-lakes-spring

Williams, Rebecca. "Judge Rules Federal Agency Overstepped its Bounds on Cormorant Control." The Environment Report - Michigan Radio. June 2 2016.

 $\underline{http://michigan radio.org/post/judge-rules-federal-agency-overstepped-its-bounds-cormorant-control}\\$

Wires, Linda R. *The Double-crested Cormorant: Plight of a feathered Pariah*. Yale University Press, 2014.