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Docket ID: FWS-HQ-MB-2019-0103-1411; Migratory Bird Permits: Management of Conflicts Associated with Double-Crested Cormorants (Phalacrocorax auritus) Throughout the United States

I write in response to the U.S. Fish and Wildlife Service (FWS) proposed rule and draft environmental impact statement (DEIS) on double-crested cormorants. This letter serves as the official comments of Catfish Farmers of America on this subject. CFA strongly encourages FWS to reconsider Alternative "C" found in the DEIS and re-establish a national aquaculture depredation order along with a new permitting process for states and tribal entities to better manage this migratory bird population and lessen both economic and disease impacts.

Catfish Farmers of America (CFA) is a non-profit trade association formed in 1968 and is the United States' strongest aquaculture organization. CFA is an association of U.S. Farm-raised Catfish producers, suppliers, processors and marketers. The purpose is to develop, stimulate and encourage harmony, goodwill and understanding among catfish farmers and to promote the general welfare of the U.S. catfish industry.

Reconsider Aquacuture Depredation Order

FWS should strongly reconsider Alternative "C" contained in the DEIS. This approach would better accomplish the stated goals contained therein. By choosing only to move forward with a new state and tribal permitting process, FWS would forgo the opportunity to provide a coordinated approach to cormorant management. In addition, utilizing individual permits for aquaculture facilities creates administrative burdens that would be solved by reinstating a national depredation order for aquaculture.

As FWS states in the DEIS, "the purpose of the proposed action (a special state/tribal permit) is to establish a long-term, coordinated approach in order to minimize conflicts between cormorants and human interests, while maintaining sustainable populations of cormorants, complying with the MBTA, and minimizing the regulatory burden on federal, tribal, and state

agencies and individual citizens." The DEIS continues, "the need for this action is to address conflicts and economic damage associated with cormorants, while addressing possible impacts to the environment. (Pg. ii). By implementing Alternative "C," FWS can accomplish all of these goals. By placing all aquaculture facilities under a single depredation order, FWS would avoid managing these resources through hundreds, if not thousands, of individual permits with varying numbers of take. Through roughly 20 years, aquaculture facilities have proven they work effectively under a national depredation order. It is important to note that cormorant populations have increased during the above time frame as well. Aquaculture depredation orders (AQDO) have been good for the health of the national cormorant population.

In addition, the DEIS confirms that environmental consequences of alternatives "A" and "C" as reviewed by FWS are relatively the same and "negligible." (pg. 63). Utilizing an AQDO would result in no greater environmental harm. The opposite would likely be true in that cormorant population would continue to increase under the proven management tool of a national order.

The only negative of alternative "C" seems to be a perceived difficulty in accurately monitoring take, hinting at some phantom regulatory burden. The opposite is true. The DEIS does not recognize that an AQDO would eliminate the need for individual permits for aquaculture facilities throughout the states where the AQDO would be effective. Instead of managing hundreds, if not thousands of individual permits, by implementing an AQDO for aquaculture, FWS would reduce administrative burdens.

In summary, FWS should utilize Alternative "C" because it more effectively accomplishes FWS stated goals, has the same negligible impact on the environmental as the current preferred alternative, would better eliminate real administrative burdens, and Alternative "C" would be the most effective management tool for both the aquaculture industry and the double-crested cormorant.

Impact of Cormorants on Catfish Industry

While the DEIS does touch on damages caused by cormorants to aquaculture facilities and CFA previously provided much of the below information as a comment to the Advanced Notice of Intent, the impact cannot be overstated. This information further reinforces the need for an AQDO. Cormorants are a constant source of damage on catfish farms throughout the U.S. Whether by spreading disease or consuming fish, cormorants cost the U.S. farm-raised catfish industry millions in lost revenue every year.

Open pond farms are vulnerable to predation by cormorants, and the ability to protect those ponds from predation by federally protected birds can be limited. For example, during 2016 and 2017 a federal lawsuit against FWS caused the removal of the cormorant depredation orders for both aquaculture facilities and public resources. Because individual permits for cormorant take were based on the same flawed NEPA policy by FWS, the aquaculture industry endured massive fish losses resulting from cormorant predation. The inability to utilize lethal take for more than a year proved research showing that the best management method requires harassment plans and limited take under prescribed conditions on aquaculture farms. While all farmers first employ

non-lethal harassment techniques to control cormorant populations, without the ability to utilize limited take under prescribed situations, habituating cormorants do not respond to non-lethal harassment and act as live decoys for migrating cormorants.

The USDA-NIFA Southern Regional Aquaculture Center recently funded a study to estimate the impact of cormorants on the industry. Cormorant depredation can vary across months and years, individual farms, and production techniques, all of which are influenced by various environmental and human factors. Results show that the depredation impacts measured in this recent study were nearly double those reported in 1995, indicating increased consumption of catfish by cormorants as compared to previous years. The economic analysis showed the following:

- Catfish farmers were found to spend between $285/acre and $159/acre to scare cormorants from their ponds, making bird-scaring costs the fifth-greatest cost in catfish production. Industry-wide, catfish farmers spent an average of $17.5 million per year attempting to scare birds, a substantial increase from that reported in earlier years.

- In spite of intensive efforts to scare birds, cormorants continue to successfully feed on farmed catfish. The value of catfish lost to cormorants, as measured in the SRAC study, averaged $47.2 million annually.

- Combining the expenditures by farmers to scare cormorants from their farms with the value of catfish losses annually, the total direct economic effects on farms is a negative $64.7 million annually.

- The farm-level economic effects also multiply in the local, rural economies where catfish are raised. Accounting for the multiplier effects, the total negative economic effect from fish-eating birds on catfish farms, on average, is a negative $70.8 million for economic output and negative $85 million for economic value added.

Additional data from Mississippi State University showed that in the year that they were unable to obtain a depredation permit and did not scare cormorants from their commercial-scale research ponds, mortalities of 40% to 69% of all the catfish stocked in the ponds were measured after flocks of cormorants fed on research ponds (as compared to more typical mortalities of about 20%). The Mississippi State University researchers had to terminate the entire study due to the losses to cormorants and were not able to complete it, losing time, money, and research productivity. On a 310-acre catfish farm, such mortality rates would result in losses of approximately $400,000 for every 10% decrease in survival of the catfish stocked, accounting only for the value of the lost fish. Thus, the ability to obtain a depredation permit in a timely manner is essential for commercial farmers and for researchers to prevent catastrophic losses.

The Midwest breeding population of cormorants has been increasing, but the abundance of cormorants wintering in northwestern Mississippi has been decreasing. Burr (2019) measured cormorant distribution and abundance on catfish ponds from aerial surveys flown from October through April over three years: 2015, 2016, and 2017 in the region. He compared his observations to a historical study using the same aerial survey methods conducted during peak

catfish production (2000 and 2003). He found that cormorant densities on catfish ponds in northwestern Mississippi has not changed in the past 15 years (Figure 1), even though aquaculture acreage has significantly declined. Burr also compared aquaculture use versus natural habitats and roost use relative to aquaculture availability from 2015-2017. He found that roost use increased with increasing availability of aquaculture and use of aquaculture by cormorants was greater than expected, particularly in January-April when cormorants are most abundant in the area. Burr (2019) concluded that the amount of catfish ponds in the region is a primary cause of cormorant inhabitation in northwestern Mississippi.

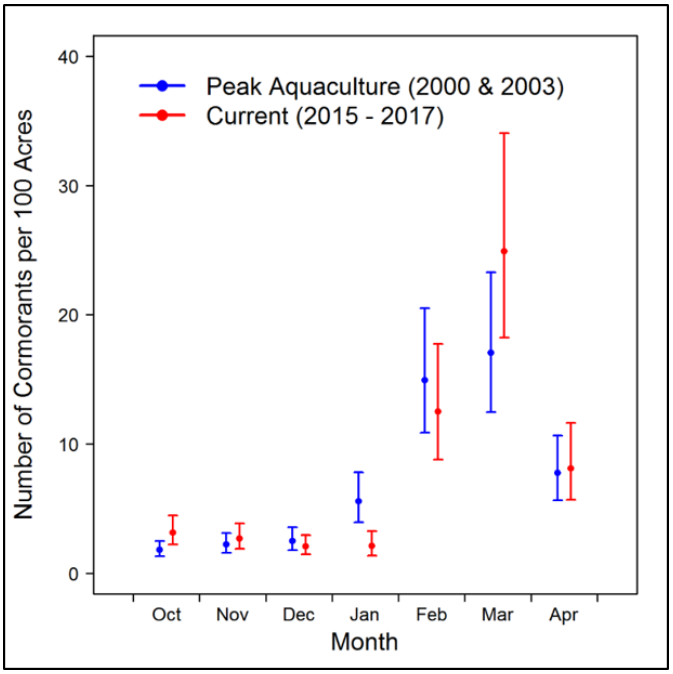

Figure 1. Cormorant densities on aquaculture: Past vs. Current

During Burr's 2015 survey period, catfish producers were allowed to use lethal control against cormorants without a federal permit under the AQDO. During that period, 52% of the cormorants in the survey area were found on catfish ponds (Figure 2). However, during the 2016 survey the AQDO was ceased, and no lethal control methods could be legally used at catfish facilities, and 88% of cormorants in the area were found on catfish ponds. Other non-lethal means of harassment such as pyrotechnics or the use of live ammunition to scare birds was still an allowable technique used to reduce bird presence. During the 2017 survey year producers were allowed to once again use lethal measures but were required to get a permit and were limited on the number of cormorants to be taken. Proportion of cormorants on catfish ponds during 2017 was intermediate (79%) compared to the other two years. These findings show that lethal control influences how cormorants distribute themselves between the two available foraging options (aquaculture vs. natural water bodies). Although the ability of producers to successfully kill cormorants has proven to be rather difficult (Hess 1994), removing the option may result in habituation to non-lethal methods and an overall reduced risk perceived by cormorants.

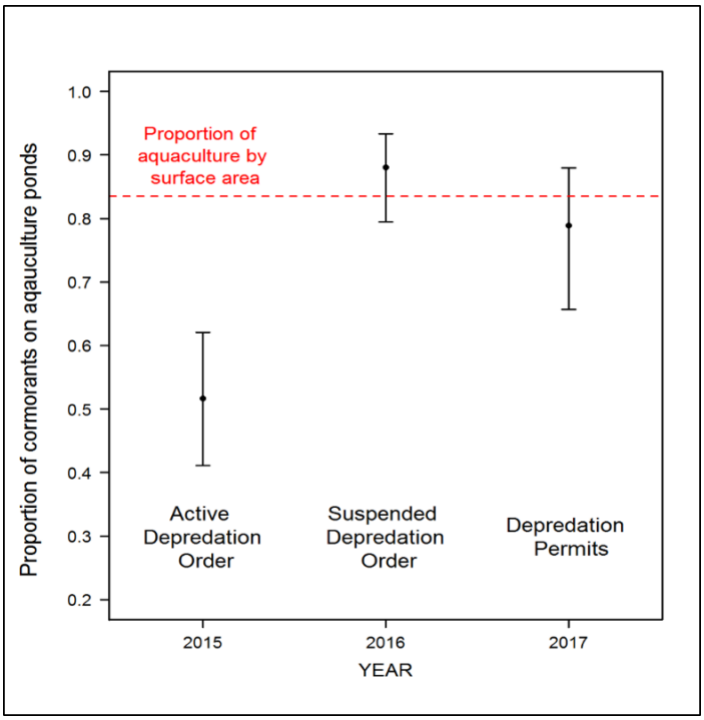

Figure 2. Estimated proportions and 95% confidence intervals of cormorants on aquaculture sites (Burr 2019).

In addition to depredation, cormorants carry an abundant number of digenetic trematodes, several of which are known to infect channel catfish. The avian host of several of these trematodes has only recently been identified through genetic sequencing and life cycle analysis. The life cycle of these trematodes include cormorants, snails, and fish. *Drepanocephalus spathans* has been shown to encyst within the branchial arch of juvenile channel catfish gills, resulting in mortality in small fish. Similarly, circumstantial evidence has linked cessation of feeding activity in hybrid catfish ponds to infestations of *Hysteromorpha triloba* and warrants further study. *Austrodiplostomum ostrowskiae* has been shown to infect the eyes of channel catfish and gizzard shad (a stocked forage species) in commercial catfish ponds, although impacts on production are unsettled. Similarly, a second *Austrodiplostomum* sp. has been shown experimentally to infect the eyes and brains of channel catfish. In addition to these known agents, cormorants also carry several as yet identified trematode species, many with unknown biological impacts on fish."

It is important for aquaculture facilities to be covered under a national AQDO providing farms with adequate tools to best manage cormorant populations. When non-lethal measures fail, farmers need the ability to take cormorants under prescribed conditions, including the use of lead bullets and decoys.

New State and Tribal Permitting Process

Management of double-crested cormorants as it relates to public resources is as important as managing them on aquaculture facilities. Cormorant breeding areas, such as the Great Lakes,

require a plan for management as much as aquaculture farms. For much the same reasoning as stated above, CFA supports creation of a new state and tribal permitting process.

Cormorant management worked well when FWS utilized depredation orders for both public resources and aquaculture. Problems only arose when FWS failed to properly administer responsibilities under the National Environmental Protection Act.

A new permit for state agencies could also provide a welcomed and additional tool for proper management of cormorants. In many cases, these state agencies would be knowledgeable about bird populations in their particular state, allowing them to assist in providing a balanced approach to migratory bird management.

As fish farmers, we believe strongly in not only protecting the consuming public but also protecting our environment and natural resources. Implementing depredation orders for double-crested cormorants coupled with adequate NEPA review by FWS strikes the best balance. CFA stands ready to assist you as you prepare to propose new rules on this topic. Please do not hesitate to contact me if I can be of further assistance on this matter.

Sincerely,

Robert L. "Shorty" Jones
President, Catfish Farmers of America

References

Burr, P.C. 2019. Longitudinal evaluation of habitat use and foraging ecology of piscivorous avian species wintering in the Mississippi Delta. MSU Dissertation.

Hess, K. D. 1994. Effectiveness of shooting double-crested cormorants on catfish ponds and harassment of roosts to protect farm-raised catfish. Mississippi State University, Mississippi State.