July 20, 2020

Jerome Ford, Assistant Director
Migratory Birds
U.S. Fish and Wildlife Service
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RE: Comments Docket No. FWS-HQ-MB-2019-0103

Dear Mr. Ford:

Please accept the following comments from the National Aquaculture Association (NAA)[1] relative to the proposed rule to create a new state and tribal permit to manage conflicts associated with the double-crested cormorant (*Phalacrocorax auritus*) throughout the United States. The NAA requests that a modified Alternative C described in the *Draft Environmental Impact Statement: Management of Conflicts Associated with Double-Crested Cormorants* (FWS 2020) be implemented. The proposed "new" Aquaculture Depredation Order is not workable or effective, as we will present in this letter, and we request that the original 2003-2016 Aquaculture Depredation Order (50 CFR §21.47) be expanded to all 48 states, the use of lead ammunition be allowed, and the current regulation, 50 CFR §21.41, be amended to allow the use of decoys as authorized by an Aquaculture Depredation Order. Our requests are supported by the analysis provided in the environmental assessment (FWS 2017), the draft environmental impact statement (FWS 2020), US Department of Agriculture depredating bird management research, and recommendations as described in detail in this letter.

The NAA supports the creation of the new state and tribal permit and the increased allocation of double-crested cormorants for nationwide lethal take. Double-crested cormorants breed in the Great Lakes region (United States and Canada) and in the fall migrate to the Southeastern United States to overwinter and prey on farmed and wild fish (King et al. 2012; Wires 2014; Craig et al. 2016; FWS 2017). As described in our enclosed March 9, 2020 letter to you, the number of double-crested cormorants is increasing and birds are, or will be as the population continues to expand, occupying or colonizing historic or novel locations as migrants or residents.[2]

[1] The National Aquaculture Association is a U.S. producer-based, non-profit association founded in 1991 that supports the establishment of governmental programs that further the common interest of our membership, both as individual producers and as members of the aquaculture community. For over 29 years NAA has been the united voice of the domestic aquaculture sector committed to the continued growth of our industry, working with state and federal governments to create a business climate conducive to our success, and fostering cost-effective environmental stewardship and sustainability.

[2] In addition to the population increase and/or expansion references cited in the NAA's March letter, please include:

We also note the population numbers in the *Environmental Assessment for Issuing Depredation Permits for Double-crested Cormorant Management* (FWS 2017) and the *Draft Environmental Impact Statement: Management of Conflicts Associated with Double-Crested Cormorants* (FWS 2020), are low based upon: 1) the population modeling used incomplete population estimates because the number of birds in the Canadian prairie provinces and bird numbers outside of the Great Lakes in other Interior regions of the United States are unknown and not included, 2) neither analysis reports annual population growth estimates that are readily available, and 3) the inaccurate and low numbers used were not median numbers but numbers within the lower confidence limit of 60%. As a result, very conservative population numbers are presented (FWS 2020; pages 90-97).

North American Breeding Bird Survey Trend Results provide population growth estimates. The central and eastern regions experienced an average 6.44% and 9.52% annual growth, respectively from 2005-2015, when the Public Resource and Aquaculture Depredation Orders were in effect. Throughout the U.S. and Canada, the growth rate from 2005-2015 was 8.48%.[3] The reasons for these growth rates are few constraints exist to impede reproduction, survival and migration. Double-crested cormorants experience little to no natural predation, there is an expanding prey base, and expanding opportunities to nest and to rest (FWS 2020: pages 21-24; Wires 2014). Wires (2014) reported the bald eagle is the primary cormorant predator, there is no shortage of breeding habitat as cormorants use only a few hundred of the more than 30,000 Great Lakes islands for nesting and similarly there is no shortage of roosting sites as new ones are colonized when birds are disturbed (pages 33-35).

An integrated bird management plan is necessary for migratory or resident breeding colonies and populations to reduce bird-human conflict much as was demonstrated by the successful 13-year, concurrent Aquaculture and Public Resource Depredation Orders. The success of this management decision occurred because of a growing bird population that has not been acknowledged by your office within the *Environmental Assessment for Issuing Depredation Permits for Double-crested Cormorant Management* (FWS 2017) or the *Draft Environmental Impact Statement: Management of Conflicts Associated with Double-Crested Cormorants* (FWS 2020).

The NAA strongly supports the re-establishment of a depredation order specific to aquaculture that contains the same provisions as 50 CFR §21.47, Aquaculture Depredation Order (AQDO), but is expanded to encompass the contiguous lower 48 states as a reasonable and effective means for farmers utilizing outdoor production facilities, primarily ponds or flooded croplands, to deter consumption of their farm-raised fish or crawfish by double-crested cormorants for these reasons:

Capitolo, P.J., H.R. Carter, J.L. Yee, G.J. McChesney, M.W. Parker, R.J. Young, R.T. Golightly and W.B. Tyler. 2019. Changes in breeding population sizes of Double-crested Cormorants *Phalacrocorax auritus* in the Humboldt Bay area, California,1924–2017. Marine Ornithology 47:115–126.

Rauzon, M.J., M.L. Elliott, P.J. Capitolo, L.M. Tarjan, G.J. McChesney, J.P. Kelly and H.R. Carter. 2019. Changes in abundance and distribution of nesting Double-crested Cormorants *Phalacrocorax auritus* in the San Francisco Bay area, 1975–2017. Marine Ornithology 47: 127–138

[3] The North American Breeding Bird Survey Trend results for double-crested cormorants can be accessed here: https://www.mbr-pwrc.usgs.gov/cgi-bin/atlasa15.pl?01200&1&15&csrfmiddlewaretoken=3YKakk7LxT2ki6NSpl4mstudYCqdW02C

1. Significant and increasing double-crested cormorant predation of farm-raised fish as described in our March 9th letter and our comments presented in today's letter.
2. Oversight by two federal agencies, US Department of Agriculture and US Fish and Wildlife Service, was effective in protecting double-crested cormorant populations and managing on-farm fish predation by these birds through lethal and nonlethal methods.
3. Double-crested cormorant populations increased during the period the AQDO and Public Resource Depredation Order were in effect and continue to increase since the court ordered vacatur of both Orders and re-establishment of an individual permit for the bird.

We note that your office is concerned there will not be timely and accurate reporting of birds killed by farms under the provisions of an AQDO if it would be re-established (FWS 2020: pages 57-58). This is an unsubstantiated concern. As presented, a 13-year history of both the AQDO and Public Resource Depredation exists during which the bird population increased. Current individual bird depredation permits require farmer reporting which was not identified as a problematical issue in the *Environmental Assessment for Issuing Depredation Permits for Double-crested Cormorant Management* (FWS 2017). However, the NAA does not object to improved reporting methodology and supports the development of an on-line reporting system as presented in the draft EIS (FWS 2020: page 58) or any other reasonable means to report, collect and analyze this information.

Remove Four Proposed Provisions for a New AQDO

We request the deletion of four requirements proposed for a new AQDO described in the draft environmental impact statement that concern an annual allocation of birds, recording and documenting control costs, recording and documenting of increased revenues and prohibition to the use of lead ammunition and artificial decoys (FWS 2020).

Annual Bird Allocation

We oppose and request the removal of a requirement within the proposed new AQDO of an annual allocation of birds on a farm-by-farm basis (FWS 2020: page 12). A strict bird allocation on a farm-by-farm basis does not allow for seasonal, local and regional variations in bird numbers at any particular farm nor can individual permits be rapidly revised to increase or reduce allocated birds. The unpredictability and interacting factors that influence double-crested cormorant numbers and fish depredation on farms were described by your office and include:

> "(1) the size of the regional and local cormorant population;
>
> (2) the number, size, and distribution of ponds;
>
> (3) the size distribution, density, health, and species composition of fish populations in the ponds;
>
> (4) the number, size, and distribution of natural wetlands in the immediate environment;

> (5) the size distribution, density, health, and species composition of natural fish populations in the surrounding landscape;
>
> (6) the size, and distribution of suitable roosting habitat; and,
>
> (7) the variety, intensity, and distribution of local damage-abatement activities. As a result, cormorants rarely distribute evenly over a given region, but rather tend to be highly clumped or localized (FWS 2020: page 26)."

In addition, your office noted:

> "…damage-abatement activities can shift bird activities from one area to another thereby, reducing damage at one site while increasing it at another [citations omitted]. Thus, some aquaculture producers in a region suffer little or no economic damage from cormorants, while others experience exceptionally high losses (FWS 2020: page 27)."

Recording and Documenting of Control Costs

We oppose and request the removal of a requirement within the proposed new AQDO that expenses associated with nonlethal and lethal control measures must be recorded and documented which imposes a new regulatory cost burden on farms (FWS 2020: page 13). Two studies reported the costs to scare birds and the value of fish losses were found to have increased over time (all values were adjusted for inflation) (Engle et al. in press; Christie et al. 2020). This research found:

> "Catfish farmers spent $704/ha ± $393/ha in 2018 to scare birds, making bird scaring costs one of the top five costs of raising catfish. The greatest cost components of scaring birds were the manpower required (39% of all bird-scaring costs) and for trucks used to scare birds (34% of all bird-scaring costs)."

Recording Increased Revenues

We oppose and request the removal of a requirement within the proposed new AQDO that requires that "any increases of revenue after control efforts are implemented be recorded" (FWS 2020: page 13). Such reporting adds to the compliance burden on farms without explanation or justification for collecting such Confidential Business Information, nor the recognition that any such information collected, including farm-level costs, must be treated as Confidential Business Information. Revenues are influenced by consumer demand, competition with imports, and input costs especially feed, and myriad other factors (Quagrainie and Engle 2002; Buguk et al. 2003; Bastola and Engle 2012). Losses to birds in any given year are highly variable, depending upon the weather and other factors (Christie et al. 2020). Nevertheless, it is intrinsically obvious that reducing losses to cormorants will improve the economic viability of farms. Quantifying specific revenue effects due to cormorant control; however, requires knowing what the bird population was on that farm for that period of time and application of bioenergetics models of fish consumption by cormorants, as has been done in recent studies that have documented losses to cormorants (Engle et al. in press). Thus, if the intent of this request is to obtain a

measure of the benefits from control measures, the USDA-Wildlife Services wildlife management scientists should be funded to conduct annual surveys and field data collection to provide data on bird abundance, occupancy, and fish consumption on aquaculture farms. The majority of individual farms currently have permits and practice control measures; thus, there is no "before control efforts" and "after control efforts."

Prohibitions to Lead Rifle Ammunition

We oppose and request the removal of a requirement within the proposed new state and tribal depredation permit and the current individual permit that prohibits the use of lead rifle ammunition and would, presumably, be applied to an AQDO.

The regulation cited in Federal Register notice Vol. 85, No. 109 at page 34582 as prohibiting the use of nontoxic rifle ammunition for the proposed state and tribal permit, 50 CFR §20.21, is directed towards "migratory birds on which open seasons are prescribed." In federal regulations there is no open season for the double-crested cormorant. In addition, this section prohibits rifles, and nontoxic shotgun ammunition. We note rifles, in an apparent contradictory decision, are currently allowed in the proposed rule.

The NAA requests the re-establishment of the AQDO that allows USDA Wildlife Services to evaluate and authorize the use of lead rifle and pellet gun ammunition to manage double-crested cormorants and revise individual depredation permits to authorize the use of lead ammunition (rifle and pellet). These authorizations are not subject to 50 CFR §20.21 nor 50 CFR §21.41 which prescribes depredation permit conditions.

The *Environmental Assessment for Issuing Depredation Permits for Double-crested Cormorant Management* (FWS 2017), includes an in-depth analysis of the use of lead ammunition for double-crested cormorant management (pages 32-33) noting rifles and pellet guns are used to shoot birds in specific instances (i.e., shooting when mixed species are present, near habitable structures, or when people are present) and that birds downed by firearms are collected and buried as required by permit. The document found that the use of lead rifle or pellet ammunition presents low direct, indirect or cumulative environmental effects because of limited lead use, burial of downed birds. The environmental risk is substantially less than that posed by shotgun ammunition, and use of lead rifle or pellet ammunition over water presents a low risk of lead-related water quality effects (pages 45-46). These conclusions were reflected in the standard conditions proposed for Migratory Bird Depredation Permits (page 76) which included the use of nontoxic shotgun ammunition but did not require nontoxic rifle or pellet ammunition.

Similarly, the *Draft Environmental Impact Statement: Management Conflicts Associated with the Double-crested Cormorant* thoroughly evaluated lead ammunition use and deposition associated with controlling the double-crested cormorant (FWS 2020: page 47-49). And concluded:

> "…standard depredation permit conditions also require retrieval and proper disposal of carcasses, which would limit the availability of lead in the environment. Given the very low amount of lead deposited and concentrations that would occur using firearms under this alternative, lead contamination to soil and waterways is also expected to be negligible under all alternatives (page 63)."

And later in the draft:

> "Given the very low amount of lead deposited and concentrations that would occur using firearms, cumulative impacts from lead contamination to soil and waterways is expected to be negligible (page 76)."

We agree with these statements. The land and static ponds or constructed raceways effected by farm or public facility held individual depredation permits or a re-established AQDO are held in private or public ownership with restricted access by the public. These ponds or raceways are not publicly accessible "waterways." The 2018 Census of Aquaculture reports 1,450 farms grew fish in 32,017 ponds with a total acreage of 142,049 (USDA 2019). A second estimate by the U.S. Fish and Wildlife Service, based upon analysis of satellite imagery, reported 110.1 million acres of wetlands in the United States (95% freshwater and 5% marine) of which 6.4%, or 6.7 million acres, consist of freshwater ponds. Of those total freshwater ponds, 266,000 acres were identified as being associated with aquaculture or 3.9% of the freshwater pond acreage (Dahl 2011). If we use the USDA pond acreage data and Dahl's estimate for total ponds, then 2.1% of total US freshwater ponds acreage are farmed. The use of lead ammunition of any description within privately held and managed ponds poses a negligible risk to people and wildlife based upon acreage alone.

Revise 50 CFR §21.41, Depredation Permits

Currently, 50 CFR §21.41, Depredation Permits, prohibits the use of decoys. We request that this regulation be revised to allow artificial decoys within regulations re-authorizing an Aquaculture Depredation Order.

Double-crested cormorant decoys are a valuable tool for on-farm management. As described in Dorr et al. (2016) in a publication developed to inform wildlife damage management, "Cormorants respond well to both floating and silhouette decoys, which can make shooting more effective and reduce non-target take (page 8)." The use of decoys by farmers allows for the removal of individual cormorants that have become habituated to hazing techniques. These habituated individuals attract additional cormorants and their removal actually decreases the overall take of cormorants on an individual farm. Decoys are used with great care and focus to avoid indiscriminately attracting fish eating birds to the farm. The farming community is desirous of being as effective as humanly possible in managing depredating birds and avoiding the killing of any more birds than is absolutely necessary.

New Economic Damage Studies

The NAA recommends including in the draft EIS (FWS 2020) on page 29 a summary of a new study (Kumar et al. in press) that concluded:

> "Fish loss to piscivorous birds is a significant economic issue on catfish farms. Documented fish losses from commercial-scale research ponds demonstrate the potential economic impact of piscivorous birds on catfish production if control measures are based solely on non-lethal techniques. The economic losses reported in this study from single- and multiple batch production ranged from $3,518 to $4,060/acre. While these results cannot be extrapolated across the commercial catfish industry, it highlights the fact that without the lethal take of birds, damages of these proportions on a few ponds on a farm can significantly affect farm profitability. Fish losses to federally protected birds is a regulatory issue and effective bird-harassment policies are critical to maintaining the profitability of domestic aquaculture. Roost dispersal activities coordinated by federal agencies and timely issue of bird depredation permits are vital for mitigating this persistent and growing problem in the U.S. catfish industry."

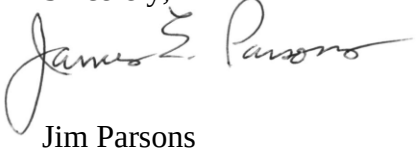
And a second study (Engle et al. in press) concluded:

> "Estimates of losses of catfish to double-crested cormorants in this study are nearly double previous estimates. Catfish farmers spent $704/ha ± $393/ha in 2018 to scare birds, making bird scaring costs one of the top five costs of raising catfish. The greatest cost components of scaring birds were the manpower required (39% of all bird-scaring costs) and for trucks used to scare birds (34% of all bird-scaring costs). Greater losses were found on hybrid catfish than on channel catfish fingerling ponds. Industry-wide, the value of catfish losses averaged $47.2 million (range of $25.8 million to $65.4 million). Total direct losses (including both the increased costs to scare birds and the fish losses despite bird scaring attempts) averaged $64.7 million (ranging from$33.5 million to $92.6 million). Profitability improved by 4% to 23% across the farm size/production strategies analyzed upon removal of economic effects of bird predation and resulted in all but one of the previously unprofitable farm size/production strategies becoming profitable. Overall, the combined effects of increased costs from farm expenditures and efforts to scare birds from farms and the sales revenue value of the catfish lost due to predation by cormorants caused substantial negative economic effects on catfish farms."

For these reasons, the NAA requests that the original 2003-2016 Aquaculture Depredation Order (50 CFR §21.47) be expanded to all 48 states, the use of lead rifle ammunition be allowed, and the current regulation 50 CFR §21.41 be amended to allow the use of decoys as authorized by an Aquaculture Depredation Order. Our requests are supported by the analysis provided in the environmental assessment (FWS 2017), draft environmental impact statement (FWS 2020) and USDA depredating bird management research and recommendations.

It is apparent to us that there is a lack of appreciation for the challenges created by the double-crested cormorant. We offer our assistance to organize a farm tour or workshop for you and your staff to meet with the farming community and aquaculture extension specialists to experience first-hand the impacts of non-lethal and lethal control measurements. Thank you for the opportunity to comment on this proposed rule and draft EIS. If you or your staff have questions, comments, or would like a copy of cited literature, please do not hesitate to contact us.

Sincerely,



Jim Parsons
President

cc: Janet Bucknall, Deputy Administrator, US Department of Agriculture, Wildlife Services
Prianka Sharma, Assistant Chief Counsel, Small Business Administration, Office of Advocacy
Aurelia Skipwith, Director, U.S. Fish and Wildlife Service

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