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Review of Captive-Reared Mallard Regulations on Shooting Preserves- Final Report

REVIEW OF CAPTIVE-REARED MALLARD REGULATIONS ON SHOOTING PRESERVES

FINAL REPORT

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EXECUTIVE SUMMARY

As numbers of wild ducks declined and hunting opportunities became more restricted in the mid-1980s, interest in shooting captive-reared mallards on shooting preserves increased dramatically. In 1985, the U. S. Fish and Wildlife Service (Service) received a series of letters regarding the interpretation of regulations in 50 CFR 21.13 and the practice in Maryland of releasing captive-reared mallards in a free-flying condition on their State-licensed shooting preserves. Prior to this time, shooting preserves released flighted mallards from towers as a general practice to be shot immediately after release and maintained tighter control to prevent these birds from escaping to the wild. The Service responded to the State of Maryland by strictly reiterating the intent of these regulations, mainly "...that such birds may be killed by shooting, in any number, at any time, within the confines of any premises operated as a shooting preserve under State license, permit, or authorization." Since then, the practice of releasing captive-reared mallards on State-licensed shooting preserves has been more broadly interpreted to allow releases of free-flying birds. As a result of this de facto policy, the number of shooting preserves grew significantly in some areas. However, this practice has become more controversial as large numbers of these birds are being released into areas where they are free to intermingle with wild populations of migratory waterfowl.

At the urging of the four Flyway Councils and the International Association of Fish and Wildlife Agencies (now Association of Fish and Wildlife Agencies, AFWA), the Service was asked to conduct a review of the potential conflicts of releasing free-flying captive-reared mallards on State-licensed shooting preserves and to assess the resulting effects upon migratory waterfowl. With assistance from States and Flyway Councils, all aspects pertaining to enforcement of various regulatory statutes, genetic introgression, disease transmission, and impacts upon waterfowl management programs of wildlife agencies (e.g., population monitoring, banding, and harvest surveys) were examined during 2001-02, including authority and jurisdiction under the Migratory Bird Treaty Act (MBTA).

Based upon this review, the Service's Division of Migratory Bird Management concludes that releasing and shooting of captive-reared mallards on shooting preserves results in greater potential for violations of regulatory statutes, in particular, Federal waterfowl hunting regulations involving live decoys, baiting, over-bagging, and take of wild ducks out of season. The inability to distinguish between captive-reared and wild mallards in flight and the potential for problems caused by these birds intermixing, both on and off shooting preserves, are at the heart of law-enforcement issues regarding releases of free-flying captive-reared mallards on shooting preserves. If a hunter happens to take a wild duck on a shooting preserve, all hunting prohibitions will apply to that "take."

There is also evidence of increased risks of genetic introgression and hybridization, disease transmission, and confounding of established waterfowl-management databases that stem from these activities. The effects upon genetic diversity of, and hybridization with, wild ducks by captive-reared mallards are difficult to quantify at the population level. However, pairing and interbreeding of captive-reared mallards with wild mallards, black ducks, and mottled ducks have been documented. Small, isolated, non-migratory populations, such as mottled ducks in Florida, and perhaps some local breeding populations of black ducks and wild mallards in eastern United States, are most at risk. The genetic differentiation between mallards and black ducks has declined significantly during the past century, most likely due to hybridization. Captive-reared mallards are likely contributing to this breakdown, either directly by interbreeding with black ducks or indirectly through introgression into the wild mallard population that is interbreeding with black ducks. Thus, although the genetic impacts of captive-reared mallard releases on wild stocks are not readily apparent, the long-term effects of hybridization and introgression on the species integrity of mottled ducks, black ducks, and wild mallards should be of concern.

The threat of disease transmission is the primary concern among nearly all State wildlife agencies; however, determining the role of captive-reared mallards in the epidemiology of wild waterfowl

diseases is inherently difficult. Existing data on the topic are sparse, and as a result, documentation and illustration of disease transmission events in wild birds resulting directly from the release of captive-reared mallards are difficult. The primary concern however, when considering the importance of disease transmission in captive-reared mallard releases, is the risk associated with the activity. The potential for disease transmission dictates the precautions necessary for proactive and preventative management strategies. Diseases such as duck virus enteritis, avian influenza, and chronic wasting disease illustrate this disease potential and demonstrate the important role that captive-reared and free-ranging populations play in disease ecology.

Large-scale releases of captive-reared mallards in localized areas were found to affect waterfowl-management programs (e.g., population monitoring, banding, and harvest surveys) designed to track the status and harvest of migratory waterfowl, mainly in the Atlantic Flyway. For example, the estimated number of captive-reared mallards present in the Atlantic Flyway when the annual mid-winter waterfowl survey is conducted is more than half the total number of mallards counted during that survey, and captive-reared mallards may make up as much as 10 percent of the estimated total mallard breeding population in Atlantic Flyway States. These effects can introduce additional bias into important databases used by wildlife management agencies to manage our waterfowl resources. The less effective these databases become, the more difficulty and uncertainty these agencies have in making informed decisions regarding population status and trends, habitat utilization, and appropriate waterfowl hunting seasons. In addition, there are international waterfowl management concerns, since band-recovery data from free-flying mallard releases indicate that some of these birds are entering the wild population and being recovered in Canada.

While the intent of the regulation 50 CFR 21.13 was to allow privately-operated shooting preserves unlimited opportunity to shoot captive-reared mallards, provided there is a clear distinction from wild mallards, the Service's primary obligation is to safeguard migratory waterfowl protected under

the MBTA. Thus, our review suggests that there is sufficient ambiguity in the regulation 50 CFR 21.13, particularly as it relates to release methodology and containment of captive-reared mallards, to consider amending it or to devise corrective action to limit intermixing with wild migratory waterfowl. Clearly, it was not the intent of these regulations that private shooting preserves should in any way adversely affect our public migratory bird resources.

INTRODUCTION

Purpose

On June 1, 1993, the U.S. Fish and Wildlife Service (hereafter Service) published in the *Federal Register* (58 FR 31247-31249) a Notice of Intent (NOI) to review all aspects of regulations pertaining to the release and harvest of captive-reared mallards (*Anas platyrhynchos*) (Attachment 1). These regulations are specified in Title 50 of the Code of Federal Regulations, Part 21, Section 13 (50 CFR § 21.13), and pertain to harvest of captive-reared mallards on State-licensed shooting preserves (also known as Regulated Shooting Areas or RSAs). This NOI provided background information, informed the public of potential conflicts that may arise from these activities, and invited their participation. The review was postponed pending the completion of several studies. Upon completion of these studies, the Service published a subsequent NOI on August 28, 2001 (66 FR 45274-45275), announcing its intention to resume the review. This report is in fulfillment of those NOIs and represents the Service's efforts to gather and assess information pertaining to the potential conflicts associated with this issue.

Scope

This report is an assessment of potential conflicts regarding the management, health, and status of migratory waterfowl that may result from current regulations governing the release and harvest of captive-reared mallards on State-licensed shooting preserves (hereafter shooting preserves). This review does not address issues involving release and harvest of captive-reared mallards on areas outside of shooting preserves, where migratory bird hunting regulations apply.

"Migratory Birds" are defined in § 10.12, as meaning any bird, irrespective of its origin and whether or not raised in captivity (Attachment 2), which belongs to a species listed in §10.13, for the purpose of protection under the Migratory Bird Treaty Act (MBTA). Mallards are among those species

listed and, as defined, captive-reared mallards are protected under the MBTA and may be shot only in accordance with hunting regulations governing the taking of mallard ducks.

Regulations in § 21.13 allow captive-reared mallards, provided they are properly marked prior to 6 weeks of age by either removal of a hind toe, banding with a seamless metal band, pinioning, or tattooing, to be possessed and disposed of *except by shooting* in any number, at any time, by any person, without a permit. When so marked, such birds may be killed by shooting only in accordance with all applicable hunting regulations governing the take of mallard ducks from the wild, *with the exception* that such birds may be killed by shooting, in any number, at any time, within the confines of any premises operated as a shooting preserve under State license, permit, or authorization (Attachment 3).

BACKGROUND

Historical Perspective

Interest in shooting captive-reared mallards on shooting preserves increased dramatically during the mid-1980s when numbers of wild ducks declined and hunting regulations became more restricted to protect breeding populations. Private landowners on Maryland's Eastern Shore, who practiced releasing captive-reared mallards to be free-ranging, became increasingly frustrated with the loss of hunting opportunity associated with Federal regulations limiting the take of captive-reared mallards to seasons and bag limits set for wild mallards. In October, 1985 (Attachment 4), the Service was asked to send a letter to the Maryland Department of Natural Resources (DNR) to confirm the policy applying to shooting preserves (Maryland's terminology is Regulated Shooting Areas or RSAs) pursuant to regulations § 21.13. At that time, Maryland's regulations specified that the harvest of captive-reared mallards that were released to be free-ranging (hereafter referred to as "free-flying") could only occur within the regular statewide daily bag limits set in accordance with Federal regulatory frameworks (season dates and daily bag limits) established for wild mallards.

The Service responded to the Maryland DNR in a letter dated October 28, 1985, indicating that regulations contained in § 21.13 do apply to the confines of any premises operated as a shooting preserve under State license, which would allow captive-reared mallards to be killed by shooting, in any number, at any time of year (Attachment 5). However, this letter noted that "Wild birds may be killed in such situations only in circumstances that fully comply with the provisions of 50 CFR, Section 20, particularly Section 20.21(f) relating to live decoys, and Section 20.21(i) concerning baiting" and further noted that "full compliance with those laws may be difficult if captive-reared mallards are being fed or used as live decoys."

In a follow-up letter dated November 21, 1985, the Maryland DNR indicated that as a result of this interpretation by the Service, it intended "to issue RSA licenses to individuals who wanted to release captive-reared mallards in a free-flying condition on their property" (Attachment 6). This interpretation of § 21.13, allowing "free-flying" captive-reared mallards to be taken in any number, at any time on shooting preserves is now recognized as de facto Service policy, but was never officially stated as such. However, as a result of this broader interpretation of § 21.13, interest in releasing and shooting free-flying, captive-reared mallards on shooting preserves expanded rapidly. The number of RSA permits in Maryland (including existing tower shoots) increased from 15 in 1985 to 132 in 1990 (Smith and Rohwer 1997).

Previously, shooting preserves taking captive-reared mallards in any number under regulations in § 21.13 were operated as "tower shoots" whereby captive-reared mallards are shot upon being released (note: hereafter defined as "flighted" releases). This release method consists of holding birds in pens until the release, and directing the flight of released birds past waiting gunners. The gunners are positioned on a flight path that leads to a pond, and released birds that are not shot land in the pond, whereupon they are trapped and taken back to pens or, if they are trained to do so, return to the pens by themselves. This method of release is cost-effective, since most birds are either shot immediately upon release or the

survivors later gathered up and contained for a subsequent release. Furthermore, the flighted release method contains captive-reared mallards and prevents them from intermingling freely with wild ducks, ensuring that few birds, if any, escape to the wild, thus minimizing any possible adverse effects on wild populations.

However, under the new policy interpretation, shooting preserves releasing free-flying mallards had an opposite effect, as much greater numbers (tens-of-thousands) of captive-reared mallards were released, fewer were shot directly, and the survivors were allowed to freely wander off the premises, increasing the potential to mix with wild ducks. Shooting preserves using the free-flying release method attempt to condition released birds to move freely among several impoundments on the preserve that serve as feeding and loafing areas. Once they are released, the birds are not trapped and put back in confinement, but the preserves maintain flooded grain crops that are intended to keep the birds on or near the preserve.

The Service prepared a fact sheet in 1986, providing information to the public regarding regulations governing the hunting of captive-reared mallards (Attachment 7). The information provided by the Service indicated that a conflict with Federal regulations prohibiting live decoys and baiting could result when captive-reared and wild ducks are both present and hunted on the same premises operated as a licensed shooting preserve.

Management Implications

As controversy surrounding the practice of releasing captive-reared mallards on shooting preserves intensified in the late 1980s and early 1990s, the four Flyway Councils and the International Association of Fish and Wildlife Agencies (now Association of Fish and Wildlife Agencies, AFWA) made several requests urging that the Service conduct a thorough review of all the information available and clarify the biological, regulatory, and enforcement conflicts pursuant to the management of migratory waterfowl (Attachment 8). The Service held a meeting attended by State and Federal personnel on

November 10, 1988, at the Patuxent Wildlife Research Center, Laurel, Maryland, to begin exploring the potential conflicts and management implications caused by the rapidly expanding interests in releasing large numbers of captive-reared mallards on shooting preserves. During the 1988-89 hunting season, more than 100,000 mallards were released on shooting preserves in Dorchester County, Maryland alone.

Because of concerns about conflicts with regulations prohibiting baiting and live decoys, and the potential for alteration of wild-stock genetics, introduction of disease, and confounding of management and data-collecting efforts, the Service proposed to review the regulations governing the release and harvest of captive-reared mallards on State-licensed shooting preserves in February 1992 (57 FR 43868). On June 1, 1993, the Service published a NOI (58 FR 31247) to inform the public of potential conflicts arising from these activities by providing background information, and to invite public comments (Attachment 1). Although the Service initiated the review and solicited input from State wildlife agencies and the public, the effort was suspended because of provisions attached to the 1994 Congressional Appropriations Bill requesting the Service to withhold promulgation of any new regulations until further studies were completed (Attachment 9). Accordingly, the Service suspended its review in March 1994.

The International Association of Fish and Wildlife Agencies, at its annual meeting in September 1999 (Attachment 10), and all four Flyway Councils by joint recommendation in July 2000 (Attachment 11), urged the Service to resume its review of the possible adverse effects of releasing captive-reared mallards into the wild for hunting purposes. Since the studies referenced in the language of the 1994 Congressional Appropriations Bill had concluded, the Service agreed to this request and published in the Federal Register on August 28, 2001 (66 FR 45274) a NOI to resume its review of § 21.13. The Service asked the Flyway Councils to assist with this review by providing information about the number of shooting preserves, those releasing captive-reared mallards, and the methods used in releasing mallards for shooting (Attachment 12). In addition, the Service requested information from its Regional Offices about the effects of captive-reared mallard releases occurring near National Wildlife Refuges or other

Federal lands, and from its Division of Law Enforcement regarding conflicts with enforcement of hunting regulations and the take of both wild and captive-reared mallards in areas where they come into close proximity, either on shooting preserves or adjacent habitats.

Applicable Regulations and Court Decisions

Several of the Service's regulations and some court decisions inform (but do not definitely resolve) whether (1) captive-reared mallards are protected as "migratory birds" under § 10.12, and (2) whether such birds become "wild" when released in free-flying situations and property rights are relinquished. In its regulations, the Service defines "migratory bird" (and "fish or wildlife") to "mean[] any bird, whatever its origin and whether or not raised in captivity, which belongs to a species listed in §10.13." 50 CFR 10.13 states that, "the following is a list of all species of migratory birds protected by the [MBTA] and subject to the regulations on migratory birds contained in this subchapter B of title 50 CFR." Thus, captive-reared mallards may be regulated under the MBTA by the Secretary of the Interior and administered by the Service because §10.12 and its reference to §10.13 include such birds raised in captivity as "migratory birds." This issue is particularly relevant, as the Service's responsibilities could be affected whenever releases of captive-reared mallards, indistinguishable from wild mallards, conflict with harvest management and hunting-regulations development, law-enforcement issues associated with existing baiting and live-decoy regulations, and the potential for transmission of disease between these groups.

The courts that have discussed this question have not conclusively resolved it: Koop v. United States, 296 F.2d 53 (8th Cir. 1961), United States v. Richards, 583 F.2d 491 (10th Cir. 1978), and United States v. Conners, 606 F. 2d 269 (10th Cir. 1979). The issue of control, or whether property rights are relinquished when captive-reared mallards are released in free-flying situations, was raised in Koop v. US. The court found that once Dr. Koop (the owner) released captive-reared mallards to the wild (free-flying), they were no longer under his control and no longer his property, and thus, reverted to ferae

naturae and property rights were destroyed. The court did not explicitly address what constitutes "release of control," or whether ownership is retained following free-flying releases. But the court found that "[u]nder the circumstances existing on the ranch, therefore, it would seem perfectly clear that even the mallards raised by Dr. Koop, if they could have been identified or distinguished from the other ducks, were wild ducks within the meaning of the law and other regulations." Koop, 296 F.2d 60.

In the 1978 10th Circuit case US v. Richards, defendant raised in captivity and sold kestrels, a species protected under 50 CFR 10.13. Though the case did not involve captive-reared mallards, its interpretation of the MBTA and the Secretary's authorities may extend to captive-reared mallards. The court held that, "[t]he fact that captive birds do not migrate is immaterial. The question is whether the sparrow hawks which defendant sold belong to a species or group that migrate, not whether the particular birds migrate." Richards, 583 F.2d at 495. The court later found that "[i]n the exercise of his statutory authority, the Secretary reasonably determined that the problems relating to captive birds required their inclusion within the definition of migratory birds." Id., at 496. This opinion was not unanimous, with a dissent by Judge Logan.

However, in US v. Conners, again the 10th Circuit, the court held that "the provisions of the [MBTA] do not apply to the killing or attempted killing of "captive-reared" ducks." This time, Judge Logan concurred with the majority opinion, with a new judge (who did not sit in the Richards case) dissenting. The Conners majority addressed the 10th Circuit's earlier US v. Richards decision by distinguishing that "[n]one of the three treaties referred to in this case, and applicable in Richards, distinguish between "wild" and "captive-reared" kestrel or raptors… The unique fact that the treaties and regulations specifically refer to 'wild ducks' rather than simply 'ducks' distinguishes this case from Richards. Cf. Koop v. United States, 296 F. 2d 53, 59 (8th Cir. 1961.)" Conners, 606 F.2d 272, fn 4. The court was careful not to "question the authority of the [US FWS] to promulgate reasonable regulations designed to distinguish 'captive-reared' mallard ducks from 'wild' mallard ducks so as to

effectuate the intent of the treaties. See: e.g., 50 C.F.R. 21.13 (1977)." Conners, 606 F.2d 272. The Conners decision is limited only to the states within the 10th Circuit, so there may be a "split in the Circuits," specifically with the 8th Circuit.

Regardless whether or not the MBTA applies to captive-reared mallards, the Secretary may promulgate regulations for captive-reared mallards to the extent that they have an effect on migrating mallards (which are without question protected under the MBTA). Under the authority delegated from the Secretary to the Service, the Service exercised that authority in 50 CFR 21.13, specifically under subsection (d), "When so marked, such live birds [captive-reared and properly marked mallard ducks] may be killed, in any number, at any time or place, by any means excepted shooting. Such birds may be killed by shooting only in accordance with all applicable hunting regulations governing the taking of mallard ducks from the wild: *Provided*, That such birds may be killed by shooting, in any number, at any time, within the confines of any premises operated as a shooting preserve under State license, permit or authorization…."

Louisiana State University Study Results

In 1989, a study proposal was submitted to the Service by Dr. Frank Rohwer, originally with the Appalachian Environmental Laboratory, University of Maryland System, Frostburg, Maryland, now with Louisiana State University, for partial funding to examine the survival, movements, habitat use, and pairing chronologies and interactions with other waterfowl, of captive-reared mallards (Attachment 13). This study was initiated in 1991 and received support from the Service, Maryland DNR, The Grand National Waterfowl Hunt Club, and The Past Shooters Association.

Results of the 3-year study conducted by Louisiana State University on RSAs in Maryland are described in a 1999 Ph.D. dissertation by David Smith (Attachment 14) and a paper published in the 1997 Transactions of the North American Wildlife and Natural Resources Conference by Smith and Rohwer

(Attachment 15). This study used radio-telemetry to examine the survival and movements of captive-reared mallards released in Maryland, and documented pair composition and social interactions between captive-reared mallards, wild mallards, and American black ducks (*Anas rubripes*, hereafter black ducks) based on direct observations of leg-banded birds. The study examined two main components of captive-reared mallard releases in Dorchester County, Maryland: (1) Maryland's State-release program, and (2) private releases on RSAs. Results from the State-release program indicated that more than 70 percent of the captive-reared mallards that were released died before the hunting season opened, largely because of nutritional deficiency. As a direct result of these findings, this program was discontinued by the Maryland DNR in 1993 for reasons of cost-effectiveness (Hindman et al. 1992, Smith and Rohwer 1997).

In contrast, mallards released free-flying on RSAs survived to the opening of the hunting season at rates exceeding 80 percent because of an active feeding program and managed habitats on the RSAs. Their overall survival probability from the release date to the end of the hunting season ranged from 0.32-0.54 (Smith 1999). Dispersal distances varied, depending on habitat available in proximity to the source RSA; ducks released on RSAs composed primarily of marsh habitat moved farther and had larger home ranges than those released on sites with more upland characteristics. Smith (1999) documented considerable movement of captive-reared mallards among RSAs and between RSAs and the Blackwater National Wildlife Refuge. The proportion of wild mallards on Blackwater National Wildlife Refuge decreased dramatically in January and February, while the number of mallards overall increased, based on refuge counts (Smith and Rohwer 1997). This indicates an influx of captive-reared birds onto the refuge from surrounding RSAs in late winter. Smith (1999) also observed wild mallards on RSAs, particularly in late winter; the proportion of mallards on RSAs that were wild birds increased from 2 percent in October to 25 percent in February.

Pairing appeared to be highly assortative (mating occurred more often within specific groups than among groups) between black duck and mallards (either wild or captive-reared) and between captive-

reared and wild mallards. From the sample of paired females of captive-reared origin, 86 percent were paired with males of the same origin, while only 13 percent were paired with wild male mallards. However, wild female mallards were observed more frequently with captive-reared male mates; 76 percent of wild females were paired with wild males, and the remaining 24 percent had captive-reared mates. Although Smith (1999) found a strong preference for assortative pairing rather than interspecific pairing between captive-reared mallards and black ducks, these findings were not gathered during the breeding season when hybridization is more likely to occur as the result of forced copulation or pairing during re-nesting (Ankney et al. 1987).

The Louisiana State University study provided some valuable insights into the survival, movements, and intra- and interspecific pairing of captive-reared mallards with wild mallards and black ducks. The results indicated that up to 50 percent of captive-reared mallards released free-flying on RSAs survived the hunting season, some of those survivors moved freely among RSAs and other habitats occupied by wild waterfowl, and some of them paired with wild mallards or, rarely, with black ducks. Thus, interactions between these groups on RSAs and surrounding areas in Maryland were not uncommon.

SURVEY RESULTS

In May 2001, the Service sent the wildlife agencies in the 48 contiguous States and Alaska a questionnaire concerning captive-reared mallard releases (Attachment 16). This questionnaire was distributed to the States through the Flyway Councils. Responses were compiled and used to estimate the extent and magnitude of captive-reared-mallard releases across the United States. Because of the number of shooting preserves in Maryland, more detailed information was gathered from records provided by the Maryland DNR. Additionally, a series of questions (Attachment 17) was sent to the Service's Regional Offices to determine what impacts were occurring on National Wildlife Refuges or other public lands.

State Agency Responses

All States except Alaska and Wyoming have State-licensed shooting preserves, 70 percent of which occur in the Atlantic and Mississippi Flyways (Table 1). Fewer than 10 percent (317 of 4,631, Table 1) of these preserves release captive-reared mallards for shooting, and the 317 preserves that do so are located in 27 States. Most of those States are in the Atlantic (12 States) and Mississippi (9 States) Flyways, and the greatest proportion of licensed shooting preserves releasing captive-reared mallards (86%) occurs in those 2 Flyways, mostly in the Atlantic Flyway (approximately 64%, Table 1). Two States with a combined total of 396 shooting preserves were unable to report the number of those preserves that release captive-reared mallards.

Table 1. Number of licensed shooting preserves and number of preserves releasing captive-reared mallards, by Flyway (data for 2001 or most recent prior year).

	Number of licensed shooting preserves		Number of licensed shooting preserves releasing captive-reared mallards		
Flyway	Number	No response[a]	Number	Unknown[b]	No response[a]
Atlantic	1,946	1	204	0	0
Mississippi	1,325	1	70	1	0
Central	902	0	6	1	0
Central/Pacific[c]	249	0	32	0	0
Pacific	209	0	5	0	0
Total	4,631	2	317	2	0

[a] Number of States that did not include a response to this question.

[b] Number of States that indicated that they did not have records to answer this question.

[c] States that are divided between the Central and Pacific Flyways, i.e., Montana, Wyoming, Colorado, and New Mexico.

Methods of release were reported for 212 of the 317 shooting preserves releasing captive-reared mallards (Table 2). In the Atlantic Flyway, 80 percent of those use free-flying releases, whereas only 18 percent use the more traditional flighted mallard tower-release methods (Table 2). In contrast, 59 percent of the shooting preserves in the Mississippi Flyway utilize flighted mallard tower-releases and only 20 percent release free-flying birds. Thus, 88 percent of all free-flying release operations occur in the Atlantic Flyway. There were relatively few licensed shooting preserves that release captive-reared mallards reported in the Central and Pacific Flyways (Table 2).

Table 2. Number of licensed shooting preserves using tower, free-flying, and other release methods, by Flyway (data for 2001 or most recent prior year).

	Release method				
Flyway	Tower	Free-flying	Other[a]	Total	States w/o data[b]
Atlantic	29	128	3	160	1
Mississippi	26	9	9	44	2
Central	0	1	0	1	3
Central/Pacific[c]	0	4	0	4	1
Pacific	0	3	0	3	0
Total	55	145	12	212	7

[a] In the Atlantic Flyway, these operations hand throw or use "launchers" to release birds. In the Mississippi Flyway, a "hybrid" method where birds are kept on a home pond, captured before the shoot, released, and allowed to fly to their home pond.

[b] Number of States that indicated that they did not have records to answer this question.

[c] States that are divided between the Central and Pacific Flyways, i.e., Montana, Wyoming, Colorado, and New Mexico.

In the Atlantic Flyway, the estimated number of captive-reared mallards released annually in free-flying situations is similar to the number released from flighted tower-release operations (Table 3). However, 53,000 birds released in New York could not be classified by release method. Most of these releases probably were controlled, tower-release operations, since most shooting preserves are located in upstate New York, which would not be conducive to maintenance of free-flying flocks (B. L. Swift, New

York Department of Environmental Conservation, personal communication). In the Mississippi Flyway, the clear majority of birds released annually on shooting preserves is from tower-release operations (Table 3). More than 270,000 captive-reared mallards are released annually on shooting preserves in the United States, of which more than 210,000 (approximately 79%) are released in the Atlantic Flyway (Table 3). Because records from several States were not available or incomplete, Table 3 does not include data from at least 85 shooting preserves that release captive-reared mallards. The average number of captive-reared mallards released annually per shooting preserve exceeds 1,000 (Tables 2 and 3), thus, the actual nationwide total is probably well over 300,000 birds.

Table 3. Number of captive-reared mallards released on licensed shooting preserves using tower, free-flying, and other release methods, by Flyway (data for 2001 or most recent prior year).

Flyway	Release method					States w/o data[b]
	Tower	Free-flying	Other[a]	Unknown	Total	
Atlantic	76,235	83,223	2,300	53,413	215,171	0
Mississippi	33,963	3,300	10,710	0	47,973	3
Central	0	100	0	32	132	2
Central/Pacific[c]	0	0	0	0	0	2
Pacific	0	10,000	0	0	10,000	0
Total	110,198	96,623	13,010	53,445	273,276	7

[a] In the Atlantic Flyway, these operations hand throw or use "launchers" to release birds. In the Mississippi Flyway, a "hybrid" method where birds are kept on a home pond, captured before the shoot, released, and allowed to fly to their home pond.

[b] Number of States that indicated that they did not have records to answer this question.

[c] States that are divided between the Central and Pacific Flyways, i.e., Montana, Wyoming, Colorado, and New Mexico.

At least 60 percent of the harvest on shooting preserves (excluding those for which release method is unknown) is derived from the flighted mallard tower-release method in each of the two eastern Flyways (Table 4). Also, harvest data from shooting preserves are not readily available for 20 percent of the States, including 3 that did provide data on the number of mallards released.

Table 4. Number of captive-reared mallards harvested on licensed shooting preserves using tower, free-flying, and other release methods, by Flyway (data for 2001 or most recent prior year).

Flyway	Release method					States w/o data[b]
	Tower	Free-flying	Other[a]	Unknown	Total	
Atlantic	56,142	34,369	1,140	36,900	128,551	0
Mississippi	19,663	1,399	8,131	0	29,193	5
Central	0	0	0	0	0	3
Central/Pacific[c]	0	0	0	0	0	2
Pacific	0	8,000	0	0	8,000	0
Total	75,805	43,768	9,271	36,900	165,744	10

[a] In the Atlantic Flyway, these operations hand throw or use "launchers" to release birds. In the Mississippi Flyway, a "hybrid" method where birds are kept on a home pond, captured before the shoot, released, and allowed to fly to their home pond.

[b] Number of States that indicated that they did not have records to answer this question.

[c] States that are divided between the Central and Pacific Flyways, i.e., Montana, Wyoming, Colorado, and New Mexico.

The apparent harvest rates (number harvested/number released) differed by release method (Table 5). A higher percentage (approximately 69%) of the birds released from tower settings were harvested than those released in free-flying situations (approximately 45%). Thus, the apparent harvest rate of tower-released, flighted birds was about 1.5 times that for free-flying birds. Apparent harvest rates for the birds released in New York with "unknown" release methods (and for 10,000 unclassified releases in the Mississippi Flyway) are more similar to those for tower-released birds than free-flying released birds (Table 5), which supports the contention that these likely were tower-type releases.

Table 5. Apparent harvest rates of captive-reared mallards released and harvested on licensed shooting preserves using tower, free-flying, other, and unknown release methods, by Flyway.

Flyway	Tower	Free-flying	Other[a]	Unknown
Atlantic	0.736	0.413	0.496	0.691
Mississippi	0.579	0.424	0.759	N/A
Central	N/A	0.000	N/A	0.000
Central/Pacific[b]	N/A	N/A	N/A	0.000
Pacific	N/A	0.800	N/A	N/A
Total	0.688	0.452	0.713	0.690

[a] In the Atlantic Flyway, these operations hand throw or use "launchers" to release birds. In the Mississippi Flyway, a "hybrid" method where birds are kept on a home pond, captured before the shoot, released, and allowed to fly to their home pond.

[b] States that are divided between the Central and Pacific Flyways, i.e., Montana, Wyoming, Colorado, and New Mexico.

In accordance with the statutes outlined in § 21.13, most States across the country (67%) have regulations that allow licensed shooting preserves to harvest captive-reared mallards in excess of daily bag limits for wild ducks, or outside of their regular duck-season dates (Table 6). This includes 24 of the 27 States in which some shooting preserves release captive-reared mallards, and 9 of the 22 States in which no preserves currently release mallards. Of the 4 States that did not provide this information, only 1 has shooting preserves that release captive-reared mallards.

Table 6. Number of States in each Flyway that allow or do not allow shooting preserves to harvest captive-reared mallards in any number and/or during periods outside the regular hunting season for wild ducks.

Flyway	Allow	Do not allow	Unknown[a]
Atlantic	11	6	0
Mississippi	12	2	0
Central	5	1	0
Central/Pacific[b]	1	1	2
Pacific	4	2	2
Total	33	12	4

[a] Number of States that did not provide this information.

[b] States that are divided between the Central and Pacific Flyways, i.e. Montana, Wyoming, Colorado, and New Mexico.

Most States (61%) did not limit the location of licensed shooting preserves relative to the distribution of migratory ducks (Table 7). Some States specifically prohibited the operation of shooting preserves on or near natural wetland habitats and prohibited the attraction of wild waterfowl to the premises. Recent regulatory changes in Maryland no longer permit RSAs to release or feed birds on tidal wetlands. Several States indicated that they have adopted State laws either prohibiting the releases of captive-reared mallards on shooting preserves or strictly regulating their release and harvest methodology. However, many States commented that they did not have good records or closely track the release and harvest of captive-reared mallards.

Table 7. State responses, by Flyway, to the question, "Do you limit the locations of shooting preserves releasing captive-reared mallards relative to the distribution of wild ducks?"

Flyway	Yes	No	Not applicable[a]	No response[b]
Atlantic	2	13	2	0
Mississippi	5	7	1	1
Central	1	4	1	0
Central/Pacific[c]	0	3	0	1
Pacific	2	3	1	2
Total	10	30	5	4

[a] Number of States that indicated that this question is not applicable, e.g. they do not allow release of mallards.

[b] Number of States that did not include a response to this question.

The majority (71%) of State wildlife agencies viewed the practice of releasing captive-reared mallards for hunting as negative (Table 8). Twenty-two percent of the States were neutral, and 6 percent had no position, indicating that this practice was not a "popular topic" in their State and the issue had not been addressed. No State agency reported a positive view of these practices.

Table 8. State responses, by Flyway, to the question, "Does your State agency view captive-reared mallard releases as positive, negative, or neutral?"

Flyway	Positive	Neutral	Negative	No position
Atlantic	0	2	13	2
Mississippi	0	3	11	0
Central	0	1	4	1
Central/Pacific[a]	0	3	1	0
Pacific	0	2	6	0
Total	0	11	35	3

[a] States that are divided between the Central and Pacific Flyways, i.e., Montana, Wyoming, Colorado, and New Mexico.

Only 16 percent of the States reported documented law-enforcement problems; 80 percent documented no problems, and 4 percent did not respond (Table 9). All of the States reporting documented law-enforcement problems were in the Atlantic and Mississippi Flyways, where most of those releases occur. The most frequent enforcement problems cited by States involved violations associated with live decoys, baiting, over-bagging of wild ducks, and shooting of wild ducks after the hunting season had closed. The number of citations issued and convictions for these violations was not reported, but 3 States reported convictions for use of captive-reared mallards as live decoys on shooting preserves, and 2 States reported baiting convictions. Several States noted that violations associated with captive-reared releases on shooting preserves are difficult to detect and prosecute, especially the taking of wild ducks when the regular hunting season is closed.

Table 9. State responses, by Flyway, to the question, "Do you have any information pertaining to enforcement problems associated with captive-reared mallard releases?"

Flyway	Yes	No	No response[a]
Atlantic	5	12	0
Mississippi	3	11	0
Central	0	5	1
Central/Pacific[b]	0	4	0
Pacific	0	7	1
Total	8	39	2

[a] Number of States that did not include a response to this question.

[b] States that are divided between the Central and Pacific Flyways, i.e., Montana, Wyoming, Colorado, and New Mexico.

Nationwide, 73 percent of the State responses favored more restrictive Federal regulations to control the release of captive-reared mallards into the wild for shooting, and 10 percent did not. Of the rest, 6 percent were neutral, 6 percent had no position, and 4 percent either did not respond to this

question or were unsure of their position on this question (Table 10). Support by several States for more restrictive Federal regulations was, however, contingent upon the States and other parties collaborating in the development of these regulations, and that these regulations focus more specifically on reducing the interactions between captive-reared mallards and wild waterfowl. A few States commented that they would favor better clarification of the Federal regulations regarding the release of captive-reared mallards on shooting preserves.

Table 10. State responses, by Flyway, to the question, "Does your agency favor more restrictive Federal regulations controlling the release of captive-reared mallards into the wild for shooting?"

Flyway	Yes[a]	Neutral	No	No position	No response[b]	Unknown[c]
Atlantic	15	0	1	1	0	0
Mississippi	10	1	2	1	0	0
Central	5	0	0	1	0	0
Central/Pacific[d]	2	1	1	0	0	0
Pacific	4	1	1	0	1	1
Total	36	3	5	3	1	1

[a] Several States indicated that support for more restrictive Federal regulations was conditional.

[b] Number of States that did not include a response to this question.

[c] Number of States that indicated that they did not have information to answer this question.

[d] States that are divided between the Central and Pacific Flyways, i.e., Montana, Wyoming, Colorado, and New Mexico.

Several State responses expressed concern regarding genetic introgression or contamination of the wild-mallard gene pool, and interbreeding with black ducks and mottled ducks (*A. fulvigula*), particularly when free-flying captive-reared birds migrate or intermingle with wild stocks. In addition to the negative impacts associated with hybridization with wild birds, they cited concerns that captive-reared mallards escaping from shooting preserves often become feral, creating nuisance problems and potential

disease transmission problems. Although most States were not opposed to the practice of shooting captive-reared mallards on shooting preserves, they were strongly opposed to releasing free-flying birds that escape into the wild. A few States commented that this practice sends the wrong message regarding game management (i.e., a "quick fix"), and detracts from habitat management and protection programs that remain the key factors in maintaining healthy and viable waterfowl populations.

Maryland

Maryland has the largest number of shooting preserves, or Regulated Shooting Areas (RSAs), that release and shoot captive-reared mallards. Between 1985 and 1990, more than 100,000 captive-reared mallards were released annually on RSAs in Maryland (records from the Grand National Waterfowl Association). However, since the early 1990s, these numbers have declined by more than 60 percent. As of 2007, there were 30 commercial and 84 noncommercial RSAs in operation, mostly located on Maryland's Eastern Shore of the Chesapeake Bay. Prior to 2008, preserves were required to be at least 200 acres in size to qualify under State regulations. The minimum acreage for preserves releasing free-flying mallards was reduced to 100 acres in 2008 at the same time new State regulations went into effect that prohibited the release of captive-reared mallards except on RSAs, for retriever training, and for sanctioned field trials and hunt tests. Of the 78 RSAs on Maryland's Eastern Shore, 59 release mallards in a free-flying condition, whereas 19 use the more traditional tower-release or flighted-bird method.

In Dorchester County, there are 3 commercial and 40 noncommercial RSAs, which is the highest concentration in the State. Records from annual reports filed with the Maryland DNR indicate that numbers of free-flying mallards released from 2002 to 2007 totaled less than 20,000 per year; the total number available to shoot, including birds carried over from the previous year, was less than 25,000 per year (Table 11). Apparent harvest rates ranged from 40-50 percent (Table 11). However, the numbers of captive-reared mallards released and carried over from year to year were under-reported because some RSAs did not file reports of their releases. Therefore, the percentage of birds harvested from all captive-

reared mallards in the environment, including survivors that have accumulated from releases during previous years, is actually far less than half. The fate of those unaccounted-for birds is unknown, but they either move away from the RSAs, are shot on adjacent properties, die from other causes, or immigrate into the wild population.

Table 11. Number of captive-reared mallards (CRM) released and harvested, and wild ducks harvested on non-commercial regulated shooting areas (RSAs) in Dorchester County, Maryland, based on annual reports submitted by RSA owners/operators to the Maryland Department of Natural Resources.

Hunting season	CRM released	CRM carried over[1]	CRM harvested (%)	CRM un-accounted[2]	Wild mallards	Black ducks	Other ducks
2002-03	4,700	800	2,377 (43)	—	14	3	160
2003-04	10,650	2,687	5,821 (44)	436	439	29	931
2004-05	18,475	6,057	10,266 (42)	1,459	495	73	1,497
2005-06	19,300	4,666	11,910 (50)	9,600	992	85	1,955
2006-07	9,650	2,388	5,631 (50)	9,668	322	65	1,237
2007-08	15,300	4,290	7,140 (40)	2,117	581	75	1,602
Average	13,013	3,481	7,191 (44)	4,656	474	55	1,230

[1]Number of CRM remaining after harvesting that are carried over from previous years.

[2]Number of CRM released, plus carried over birds from previous years, minus birds harvested, minus the next years' carryover birds.

The RSA reports also indicate that 2,000 or more wild ducks, mostly mallards, black ducks, green-winged teal (*A. crecca*), and wood ducks (*Aix sponsa*), are shot on these preserves annually during the regular duck season (Table 11). This county is an important breeding and wintering area for many

migratory waterfowl and encompasses significant State and Federal wildlife habitat, including Fishing Bay Wildlife Management Area and Blackwater National Wildlife Refuge, respectively. As a result of the close proximity of these areas, free-flying captive-reared mallards and wild ducks readily intermix (Smith 1999).

National Wildlife Refuges

A query of the Service's Regional Offices to determine whether National Wildlife Refuges (refuges) are being adversely affected by releases of captive-reared mallards from shooting preserves, either impacting their mission to provide habitat for wild ducks or their operational management practices, indicated that most refuges generally are not influenced by mallard releases on shooting preserves. Only Region 4 (Southeast) and Region 5 (Northeast) responded that certain refuges have reported concerns regarding the presence of captive-reared mallards from nearby shooting preserves or other properties releasing mallards to supplement their hunting. Several refuges in South Carolina (Santee Refuge) and North Carolina (Mattamuskeet, Pee Dee, and Pocosin Lakes Refuges) reported that captive-reared mallards from adjoining properties interfere with their operational banding program (by consuming bait used to trap wood ducks) and population surveys. In the mid-Atlantic region, Blackwater (Maryland), Bombay Hook and Prime Hook (Delaware), Iroquois (New York) and Supawna Meadows (New Jersey) Refuges are located in close proximity to shooting preserves and reported receiving considerable usage by captive-reared mallards, as evidenced by the fact that refuge personnel routinely trap captive-reared mallards during banding operations. Blackwater Refuge estimated that 1,000 captive-reared mallards use the refuge annually, and Bombay Hook Refuge stated that one of its usual banding sites has been rendered ineffective by the preponderance of captive-reared mallards at the site. Some refuges indicated concerns about pairing with wild mallards, interbreeding with black ducks and mottled ducks, and exploiting habitats for wild ducks.

Summary

The survey of State wildlife agencies indicated that at least 270,000 captive-reared mallards are released annually on shooting preserves in the United States, mainly in the Atlantic and Mississippi Flyways. Most States that permit shooting preserves to release captive-reared mallards allow those birds to be taken on shooting preserves in numbers that exceed bag limits for wild ducks, or during periods that are closed to hunting for wild ducks. Nonetheless, more detailed reports from RSAs in Maryland indicated that significant numbers of captive-reared mallards survive the shooting preserve hunts and subsequently accumulate in the vicinity of their release sites or disperse, either of which results in intermixing with wild waterfowl. Although few States reported documented cases of disease transmission and law enforcement problems associated with captive-reared mallard releases, most of them (>70%) had a negative view of captive-reared mallard releases and favored more restrictive regulations that would limit intermingling with wild waterfowl. National Wildlife Refuges reported few impacts of captive-reared mallards other than disruption of their banding programs for wild ducks.

ACCUMULATION

Several studies have shown that some captive-reared mallards escape from shooting preserves, survive, and subsequently associate with wild birds (e.g., Soutiere 1989, Smith 1999), but assessing the potential impacts of those birds requires an estimate of abundance. The following deterministic model was used to estimate the number of captive-reared mallards that accumulate in the environment as a result of surviving the hunting season and not being recaptured at the end of that period:

$$N(t) = \sum_{i=1}^{t} N(0) \cdot S(pre) \cdot S(h) \cdot [1 - p(r)] \cdot S(post) \cdot S(a)^{[t-1]},$$

where

$N(t)$ = number of captive-reared mallards alive in August of year t,

$N(0)$ = number of captive-reared mallards released each year,

$S(pre)$ = pre-hunting survival rate (probability of surviving from release in August to start of hunting period),

$S(h)$ = hunting period survival rate (probability of surviving from beginning to end of hunting period),

$p(r)$ = probability of recapture at end of hunting,

$S(post)$ = post-hunting period survival rate (probability of surviving from the end of the hunting period to 31 July), and

$S(a)$ = annual survival rate from 1 August to 31 July for every year after the year of release.

Several of these model parameter values differ by release method (tower or free-flying), thus, the result also varies by release method. Assuming that the birds released on shooting preserves in New York are tower releases, and that the birds released by "other" and "unknown" release methods are divided evenly between tower and free-flying releases, at least 170,000 captive-reared mallards are released annually [$N(0)$] for tower shoots, and at least 103,000 are released free-flying (Table 3). $S(pre)$ for the tower release method is 1.0 because birds are held in pens until release, whereas Smith (1999) estimated $S(pre)$ for free-flying released mallards at 0.81-0.85. $S(h)$ can be estimated as 1 – the kill rate. The apparent harvest rate for tower shoots is 0.69 (Table 5). Unretrieved kill (crippling loss) is probably negligible because of the highly controlled nature of tower shoots, therefore estimated $S(h)$ for tower-released birds is 0.31. The apparent harvest rate for free-flying releases is lower (0.45, Table 5), but there is also probably some additional mortality due to crippling loss. Crippling loss is typically estimated as

20 percent of the total hunting mortality of ducks (Anderson and Burnham 1976). Adjusting the apparent harvest rate to account for crippling loss yields an estimated kill rate of 0.56 and an estimated $S(h)$ of 0.44 for the free-flying release method, which is very similar to the hunting survival rate that Smith (1999) and Osborne et al. (2010) found for free-flying captive-reared mallards (0.42 and 0.40, respectively). The ability of tower shoot operations to recapture birds that survive a shoot varies, ranging from recapture rates [$p(r)$] of at least 50 percent under poor or normal conditions to 90 percent under ideal conditions (L. J. Hindman, Maryland DNR, personal communication). Shooting preserves that release free-flying birds do not attempt to recapture them, thus, $p(r) = 0$ for that method.

$S(post)$ and $S(a)$ are assumed to be similar for both release methods. Soutiere (1989) found that post-hunting survival rates [$S(post)$] of captive-reared mallards were about 18 percent lower than wild mallard survival rates during the same period. Likewise, Dunn et al. (1995) found a similar relationship between annual survival rates of captive-reared and wild mallards >1 year after release. Annual survival probabilities of adult wild mallards vary by sex, but average about 0.62 (Trost 1987); thus, $S(a)$ is estimated at 0.52, or 18 percent less than 0.62. Estimated $S(post)$ is based on the same rate, but adjusted because $S(post)$ only encompasses 6 months (February through July), whereas $S(a)$ is an annual (12-month) survival probability. Therefore, $S(post)$ is estimated as $S(a)^{6/12} = 0.72$. Table 12 shows the model parameters for two tower release models (one with a 90 percent recapture rate and the other with a 50 percent recapture rate) and one free-flying release model.

Table 12. Model parameters for estimating the number of captive-reared mallards present in the environment as the result of tower and free-flying releases on shooting preserves.

Release method	$N(0)$	$S(pre)$	$S(h)$	c	$p(r)$	$S(post)$	$S(a)$
Tower	170,000	1.00	0.31	0.00	0.90	0.72	0.52
Tower	170,000	1.00	0.31	0.00	0.50	0.72	0.52
Free-flying	103,000	0.83	0.44	0.20	0.00	0.72	0.52

For each model, the estimated number of captive-reared mallards in the environment as a result of releases on shooting preserves stabilizes after about 10 years, assuming that $N(0)$ does not change from year to year. The models yield estimates of the number of surviving captive-reared birds present on 1 August; estimates for the number of captive-reared mallards present on the previous 1 January and on 1 May were calculated by dividing the August estimate by $S(a)^{7/12}$ and $S(a)^{3/12}$, respectively (Table 13).

Table 13. Estimated number of captive-reared mallards present in summer (1 August), winter (1 January), and spring (1 May) as the result of tower and free-flying releases on shooting preserves. Tower models 1 and 2 assume recapture probabilities of 0.9 and 0.5, respectively.

Release method	1 August	1 January	1 May
Tower (model 1)	7,900	11,600	9,300
Tower (model 2)	39,500	58,100	46,500
Free-flying	56,400	82,900	66,400

Although more birds are released from towers, the free-flying release method results in the most captive-reared mallards in the environment. The number of surviving "escapees" from tower release operations is probably between the two estimates in Table 13 because the actual recapture rate [$p(r)$] is likely between the two extreme values used. However, $N(0)$ for each model is a minimum value,

therefore all models likely underestimate the number of captive-reared mallards in the environment as a result of releases on shooting preserves.

LAW ENFORCEMENT ISSUES

Captive-reared mallards released on shooting preserves in a free-flying condition in areas frequented by wild ducks increase the potential for violations of Federal waterfowl hunting regulations. Under Federal provisions listed in § 21.13, hunters on shooting preserves are exempted from regulations set for wild ducks and allowed to take captive-reared mallards by shooting at any time of year and in any number. But if a hunter shoots a wild duck, all the requirements of the Federal hunting regulations apply to the taking of that duck. Thus, a closed-season violation [§ 20.22 and § 20.32], involving take or possession of wild ducks, will occur if a hunter shoots a wild duck outside the hunting season dates selected by a State for wild ducks. In these cases, a State must limit its shooting preserves, specified by licenses, to operate only during the period of take set for wild ducks in that State's regulations. Therefore, in these situations, regulations in § 21.13 conflict with hunting regulations set for wild mallards in accordance with the MBTA.

Hunters also may commit violations when wild ducks are taken on shooting preserves if the captive-reared birds that are present serve as live decoys under § 20.21(f), or if they exceed the daily bag limit of wild ducks in § 20.24. Live-decoy violations can occur when wild ducks are attracted to the presence or audible calls of captive-reared mallards on sites operated as shooting preserves. Also, some hunters may not be fully aware that any captive-reared mallard taken outside the premises of a shooting preserve must count towards their daily bag limit for wild ducks or that they may be put at risk by hunting within the "zone of influence" involving live decoys and/or taking with the aid of bait [§ 20.21(i)]. The legality of whether free-flying captive-reared mallards released from one shooting preserve can be shot in

any number on another shooting preserve in accordance with § 21.13 is uncertain and should also be clarified.

Although the taking of captive-reared mallards on shooting preserves is exempted from Federal waterfowl hunting regulations by § 21.13, the potential for violations is greatly increased where free-ranging captive-reared mallards and wild ducks intermingle on the same premises (Attachment 19). In these situations, legal conflicts usually arise because hunters find it difficult or impossible to distinguish between captive-reared and wild mallards on the wing. Low light or poor weather can exacerbate problems with identification of other species of wild ducks such as black ducks, northern pintails (*A. acuta*), and gadwalls (*A. strepera*). Therefore, Federal regulations under § 21.13, permitting shooting preserves to operate at any time of year, and to take in any number, are seriously compromised whenever wild birds intermix with captive-reared mallards on the same premises. Federal regulations allowing the take of wild waterfowl are strict liability statutes [with the exception of the baiting regulation, § 20.21(i)], and do not require that the violator has knowledge of the unlawful situation. Waterfowl hunters who hunt near a shooting preserve may also experience increased liability due to the release of free-flying captive-reared mallards. These ducks often move between different shooting preserves and the surrounding areas, and thus, the possibility of hunting by the use or aid of live decoys may exist if all the elements of the violation are present. Although each hunting situation is unique, some increased potential for violation usually exists for hunters that shoot both captive-reared mallards and wild ducks near a shooting preserve. State agency responses to the survey discussed previously indicate that several violations of these Federal regulations occur each year in areas where large numbers of captive-reared mallards are released, in particular the mid-Atlantic region.

POTENTIAL AREAS OF CONFLICT

Genetic Diversity and Hybridization

Another concern of biologists and resource-managers about the release of captive-reared mallards is the potential to introduce heritable traits into wild mallard populations that reduce fitness under natural conditions (Banks 1971, Shoffner 1971, Smith 1999, Cizkova et al. 2012). Although largely speculative, the concern is that captive-reared mallards from various game-farm stocks may interbreed with wild mallards and adversely affect the wild characteristics of the native stock. Studies comparing these different mallard strains indicate that differences in egg production, fertility, growth rates, and body weights may be linked to genetic differences (Prince et al. 1970, Greenwood 1975). Such studies relied on breeding and back-crossing experiments to determine the genetic nature of these differences, but differences between these groups were not determined with molecular-genetics techniques. More recent research has focused on identifying the specific genes that influence reproductive traits and other traits associated with fitness. For example, quantitative trait loci (QTL) have been identified that influence variation in mallard fertility (Huang et al. 2006) and body condition (Wu et al. 2008). Although QTL comparisons between wild and captive-reared mallards have not been conducted to date, recent studies such as these confirm that interbreeding between mallard strains can influence morphological and reproductive traits associated with fitness.

Game-farm mallard hens began egg-laying earlier, laid for a longer time, laid larger clutches, and had greater incubation time than wild hens bred in captive-breeding situations (Prince et al. 1970, Greenwood 1975, Cheng et al. 1980). Cheng et al. (1980) felt that these differences might explain the frequent reproductive failure of released mallards. They reasoned (Cheng et al. 1980:1974-1975) that these traits led to improper timing of migration and nest initiation (resulting in ducklings hatching before environmental conditions permitted good survival) and that large clutch size and decreased broodiness could be the cause of a high rate of nest and brood abandonment.

The flow of genes from captive-reared to wild mallards, and thus the likelihood of introducing "nonadaptive" traits to wild populations, depends in part on the extent of interbreeding between the strains. The extent of interbreeding that occurs, in turn, depends on the time of release, area of release, age of the birds when released, composition of the released flocks (Cheng et al. 1979:424), and mating behavior of the strains. Cheng et al. (1978) found that in captive conditions, both wild and game-farm mallard drakes preferred mates of their own strain, if they were raised with their own kind. When drakes were raised with hens of the opposite strain, this preference became less pronounced. Mallard hens preferred or paired with drakes with which they were raised, regardless of whether the drakes were from wild or game-farm strains (Cheng et al. 1978). Thus, there may be barriers related to courtship behaviors that could limit the mixing of wild and game-farm mallards (Cheng et al. 1979). However, these studies were conducted in pens, and as Greenwood (1975) has pointed out, interactions between game-farm and wild mallards may be different in wild situations than in pen situations.

Smith (1999) reported a largely assortative (like-kind) mating pattern among wild mallards and free-ranging game-farm mallards in Maryland. Of known-origin hens that were observed to be mated, 13 percent (n = 124) of the captive-reared mallard hens paired with wild drakes and 24 percent (n = 95) of the wild mallard hens paired with captive-reared drakes (Smith 1999:52). Although these findings support the idea that the majority of mallard pairings were assortative, nearly one-quarter of the matings of wild hens were with captive-reared drakes, which suggests that a considerable amount of intermixed mating does occur in certain wild situations. Thus, as has been found in in Europe (Champagnon 2011, Cizkova et al. 2012) introgression (the spread of genes from one population or species into another) of captive-reared mallards into North America's wild mallard populations is certainly occurring, but the magnitude and genetic impacts are unknown.

Another major concern related to the release of captive-reared mallards is their potential to contribute to hybridization with, and genetic swamping of, mallard-like species. Small, isolated populations of species that are closely related to mallards are most at risk from hybridization (Rhymer and Simberloff 1996). The magnitude of the threat to mallard-like species under those conditions is illustrated by the status of the New Zealand grey duck (*A. superciliosa superciliosa*). In the 1860s, mallards were introduced to New Zealand and produced reproductively viable hybrids with the native grey duck (Haddon 1984, Gillespie 1985). By 1981-82, 51 percent of one mallard/grey duck population appeared to be hybrids based on morphology, and only 4.5 percent pure grey duck (Gillespie 1985). Subsequent genetic analysis suggested that hybridization was even more extensive (Rhymer et al. 1994). It is currently estimated that about 95 percent of grey ducks in New Zealand are mallard-grey duck hybrids (J. M. Rhymer, personal communication).

In Florida, hybridization with feral mallards is seen as the major threat to the State's mottled duck population (Moorman and Gray 1994). Florida's breeding population of mottled ducks is estimated at only about 30,000-40,000 birds (Florida Fish and Wildlife Conservation Commission, unpublished report), and the population is non-migratory (Moorman and Gray 1994) and genetically isolated (McCracken et al. 2001). Recently, Williams et al. (2005) analyzed microsatellite DNA and estimated that 11 percent of Florida's mottled ducks are actually mallard-mottled duck hybrids. Because Florida lies far south of the breeding range of wild mallards (Bellrose 1980), this hybridization situation is primarily attributed to the release of captive-reared mallards in Florida and their subsequent establishment as resident breeders (Moorman and Gray 1994, Williams et al. 2005). However, biologists of the Florida Fish and Wildlife Conservation Commission have also documented ingress movements of captive-reared mallards from release programs in South Carolina. The hybrid offspring from crossbreeding are fertile because mottled ducks and mallards are closely related. Because of the danger of genetic swamping from this introgression by feral mallards, the Florida Fish and Wildlife Conservation Commission has taken

management action to protect the mottled duck as a discrete entity by prohibiting all further releases of free-ranging captive-reared mallards (Williams et al. 2005).

Probably the most widely-known instance of mallard hybridization in North America involves the black duck. The mallard was considered a wanderer or occasional visitor in most of the northeastern United States at the beginning of the twentieth century (Heusmann 1974, 1991). Over the past 100 years, however, mallard numbers in the northeastern United States and eastern Canada have increased as western populations expanded eastward into traditional black duck nesting range (Johnsgard and DiSilvestro 1976, Heusmann 1991). Also, there were large-scale release programs in several States, mainly New York (1946-52; Foley et al. 1961), Pennsylvania (1951-1982; Dunn et al. 1995), and Maryland (1974-1987; Hindman et al. 1992), where mallards were raised and released to augment declining duck populations.

Concurrent with mallard intrusion into black duck breeding and wintering range, black duck populations have declined (Johnsgard and DiSilvestro 1976, Rusch et al. 1989, Serie 1990). Although the nature of the relationship between mallard expansion and black duck decline is uncertain (Ankney and Dennis 1988, Ankney et al. 1987, 1988, Conroy et al 1989, Ankney et al. 1989, Merendino et al. 1993), the release of game-farm mallards may add competition pressure on black duck populations, including the increased likelihood of hybridization.

Black ducks and mallards are nearly identical genetically (Ankney et al. 1986, Ankney and Dennis 1988, Hepp et al. 1988, Avise et al. 1990). Hybridization between these species is well documented (Johnsgard 1960, Heusmann 1974), and the offspring of such matings are fertile (Phillips 1915 *in* Heusmann 1974). Documented hybridization rates are variable. Morgan et al. (1984) reported hybrid frequencies of mallards and black ducks above the frequencies expected from random mating in Maryland (49%) and Massachusetts (62%), whereas, D'Eon et al. (1994) reported a 2 percent hybridization rate in New Brunswick, Canada. From bag-checks of hunters, Smith (1999) reported 8.4

percent hybrids based on plumage characteristics. Although plumage-coloration traits of F1 hybrids are detectable and have been well described (Kirby et al. 2000), identification of hybrids based on plumage becomes increasingly difficult as backcrossing with parent stocks increases (Phillips 1915 *in* Heusmann 1974, Mank et al. 2004).

The dynamics of mallard-black duck hybridization are uncertain. Mixed pairing during winter was observed frequently by Brodsky and Weatherhead (1984) near Ottawa, Ontario, Canada and by Heusmann (1974) in Massachusetts. Brodsky and Weatherhead (1984) found that male mallards courted female black ducks only when all female mallards were paired. In the Chesapeake Bay area of Maryland, little mixed pairing appears to occur, and mixed pairing could not account for observed hybridization rates (Morton 1998, Smith 1999). D'Eon et al. (1994) felt that mixed pairings likely were responsible for the hybridization rates that they observed in New Brunswick. However, these studies cover limited geographic areas in relation to both the wintering and breeding ranges of the black duck.

Forced copulation is another potential cause of hybridization. Forced copulation is a common reproductive strategy in wild mallard males, but infrequently observed in black duck males (McKinney et al. 1983 *in* Morton 1998). Seymour (1990) found a low frequency of attempted and successful interspecific forced copulation in Nova Scotia, Canada, but concluded that the frequency was much greater than expected given the dispersed distribution of the breeding populations. Ankney et al. (1987) reasoned that because pairing on wintering grounds is highly assortative and nearly all birds arrive on their breeding grounds already paired, most mallard-black duck hybridization probably occurs as a result of forced copulation during renesting. Captive-reared male mallards may have a greater tendency toward forced copulation than wild males because the breeding systems used in captivity tend to select for those males that force-copulate rather than pair (McKinney et al. 1984 *in* Morton 1998). Thus, if forced copulation during renesting is a significant cause of hybridization, the release of large numbers of captive-reared mallards may pose a serious threat to local black duck breeding populations.

The potential for interbreeding between captive-reared mallards and wild ducks depends on the number of captive-reared mallards that avoid being shot during the hunting period and "escape" into environments where they can intermix with wild ducks. Survival modeling indicated that at least 75,000 – 112,900 captive-reared mallards are present in early May, at the beginning of the duck breeding season (Table 13). Although this number is small relative to the breeding population of mid-continent mallards (8.5 million in 2009; U.S. Fish and Wildlife Service 2009a), impacts could be significant in the Atlantic Flyway, where the survival models described above (Table 12) estimate that at least 61,600 – 90,200 captive-reared mallards are present on 1 May. A waterfowl breeding population survey that is conducted annually in most of the Atlantic Flyway's north and mid-latitude States during April and May (Heusmann and Sauer 2000) estimated long-term (1993-2008) average breeding populations of 777,000 mallards and 68,400 black ducks; estimates for 2009 were 666,800 mallards and 39,500 black ducks (U.S. Fish and Wildlife Service, unpublished report). In Maryland, where many of the Atlantic Flyway's captive-reared mallards are released, the 2009 survey estimated 32,200 mallards and 2,400 black ducks. Thus, even the limited frequency of mixed pairings documented by Smith (1999) could result in genetic introgression impacts on wild ducks in the Atlantic Flyway.

The net effects of genetic introgression on survival, reproduction, and behavioral characteristics are uncertain (Cade 1983), but it is clear that introgression is occurring and that captive-reared mallards are likely involved. Small, isolated, non-migratory populations, such as mottled ducks in Florida, and perhaps some local breeding populations of black ducks and wild mallards in eastern United States, are most at risk. Although mallards and black ducks are both migratory, Mank et al. (2004) demonstrated a significant reduction in genetic differentiation between mallards and black ducks collected prior to 1940 and birds collected in 1998. They termed this change a "breakdown in species integrity most likely due to hybridization." Captive-reared mallards are likely contributing to this breakdown, either directly by interbreeding with black ducks or indirectly through introgression into the wild mallard population that is interbreeding with black ducks. Thus, although the genetic impacts of captive-reared mallard releases on

wild stocks are not readily apparent, the long-term effects of hybridization and introgression on the species integrity of mottled ducks, black ducks, and wild mallards should be of primary concern (Rhymer and Simberloff 1996).

Risk of Disease Transmission

Determining the role of captive-reared mallards in the epidemiology of wild waterfowl diseases is inherently difficult. Existing data on the topic are sparse, and as a result documentation and illustration of disease transmission events in wild birds resulting directly from the release of captive-reared mallards are difficult. The primary concern however, when considering the importance of disease transmission with regard to captive-reared mallard releases, is the risk associated with the activity. The potential for disease transmission is the key to this area of conflict, and dictates the precautions necessary for proactive and preventative management strategies.

Stemming the increasing impacts and challenges diseases pose for wildlife conservation relies on the active prevention of disease emergence. Global infectious disease emergence has increased dramatically over the past several decades (Jones et al. 2008). Likewise, the importance of managing activities involving wildlife to eliminate disease threats is also increasing (Simpson 2002). Factors influencing disease emergence include: 1) the increasing interface between humans, livestock, and wildlife; 2) the increasing popularity of wildlife-associated and captive-wildlife industries; and 3) alterations to the environment, such as introductions of nonnative species or the same species from a different location (Rhyan and Spraker 2010). The emergence of infectious diseases in wildlife species not only impacts wildlife conservation efforts, but can also have severe impacts on economic stability, agricultural commerce, and human health.

Described below are a few examples of avian and mammalian diseases which have emerged in wildlife species over the past century. These diseases cross the boundaries between captive-reared and

free-ranging wildlife populations, and since emergence, have continued to cause decreased productivity, clinical disease, and mortality in both groups.

Duck Virus Enteritis - Duck virus enteritis (DVE, also known as duck plague) was first isolated from domestic waterfowl in the Netherlands in 1923. In 1967, DVE caused a major mortality event in the white Pekin duck industry on Long Island, New York, as well as in wild and captive-reared waterfowl in that same geographic area (Leibovitz and Hwang 1968). This represented the first detection of DVE in the United States, as well as the first report of DVE in free-ranging wild waterfowl (Leibovitz and Hwang 1968). Since 1967, DVE has been reported in 21 States, the District of Columbia, and 4 Canadian Provinces (USGS National Wildlife Health Center [NWHC], unpublished data). These cases include three major DVE outbreaks among wild migratory waterfowl. The 1967 outbreak on Long Island, New York affected black ducks (89), mallards (19), Canada geese (*Branta canadensis*) (1), and bufflehead (*Bucephala albeola*) (1). The second outbreak occurred in 1973 at Lake Andes Refuge in South Dakota, where an estimated 42,000 mallards, 270 Canada geese, and lesser numbers of other species died (Pearson and Cassidy 1997). The latest outbreak occurred in 1994, when approximately 1,200 waterfowl carcasses (mostly black ducks and mallards) were recovered in the Finger Lakes region of western New York (Converse and Kidd 2001).

Duck virus enteritis is caused by a herpes virus. The virus is transmitted to naïve birds through direct contact with infected birds or via environmental contamination (water) by infected birds (Wobeser 1981, Sandhu and Leibovitz 1997). The virus can persist in water for up to 60 days under certain conditions (Wolf and Burke 1982). Transmission may also occur via the egg, as has been demonstrated in mallards (Burgess and Yuill 1981). Several findings demonstrate that transmission of DVE is occurring amongst domestic, captive-reared, and wild waterfowl: 1) duck virus enteritis does not appear to be enzootic in free-ranging, migratory waterfowl in North America; 2) each DVE outbreak in migratory waterfowl has been associated with cases in captive or feral birds (Brand and Docherty 1984,

1988; Friend 1999); 3) viral shedding and the presence of antibodies to DVE have been recorded in both wild and captive-reared birds sharing the same geographic areas; and 4) duck virus enteritis vaccine virus, which is only licensed for use in domestic waterfowl, has been detected in wild and captive-reared mallards, as well as Canada geese captured in Maryland (NWHC, unpublished findings).

Highly Pathogenic Avian Influenza - The last decade has seen a marked increase in highly pathogenic avian influenza (HPAI) outbreaks (Munster and Fouchier 2009). After initial detection in domestic poultry in Hong Kong in 1996, the Asian strain of highly pathogenic avian influenza subtype H5N1 has spread throughout Asia and into Europe and Africa and is officially reported in 61 countries (Alexander 2000, Alexander and Brown 2009, World Health Organization 2010). Outbreaks have involved not only domestic poultry and waterfowl, but free-ranging and captive-reared wild bird species as well (Stallknecht and Brown 2007). Outbreaks have caused significant mortalities in wild birds in China, Mongolia, Kazakhstan, and Russia and more isolated cases in Europe and Africa. Over 6,000 wild birds, predominantly bar-headed geese (*Anser indicus*), were reported to have died during one event in China at Qinghai Lake (Chen et al. 2005, Liu et al. 2005). Smaller numbers of grebes and swans have been affected in Europe in isolated events (Globig et al. 2009, Artois et al. 2009). Outbreaks continue to be reported, and the additive impact on wild bird populations is unknown.

Avian influenza virus is an orthomyxovirus and is transmitted to naïve birds primarily via contaminated water and direct contact. Oral ingestion of infectious particles and droplet infection also occur. Like DVE, AI viruses can persist in water; HPAI H5N1 wild type viruses have been shown to persist for over two weeks under certain conditions (Brown et al. 2007). This persistence allows for transmission of viruses between bird groups which do not physically interact.

Phylogenetic analysis of HPAI H5N1 strains isolated from domestic birds, wild birds, and captive-reared wild bird species demonstrate that influenza virus transmission is occurring between these groups (Neumann et al. 2010). The Asian trade in wild bird species reared for sale in markets and

eventual release into the surrounding ecosystem serves as a link between domestic poultry/waterfowl and wild birds; mortality due to H5N1 continues to be documented in these birds (Promed-Mail 2007, Ellis et al. 2009). Global illegal trade and transportation of wild birds is rife and presents a strong risk for introduction of HPAI H5N1 Asian strain into North America (Van Borm et al. 2005, van den Berg 2009). Once introduced to North America, HPAI H5N1 circulation may be difficult to eradicate due to the interactions between domestic, wild, and captive-reared birds.

Chronic Wasting Disease - Chronic wasting disease (CWD), a transmissible spongiform encephalopathy, was first recognized in 1967 among captive mule deer (*Odocoileus hemiolus*) in Colorado (Williams and Young 1992). Cases in captive cervids have since been diagnosed in 11 States and two Canadian Provinces, and cases in free-ranging mule deer, white-tailed deer (*O. virginianus*), elk (*Cervus canadensis*), and moose (*Alces alces*) have been documented in 13 States and two Canadian Provinces (Chronic Wasting Disease Alliance 2010). The disease is considered to have a 100 percent case-fatality rate. Preliminary modeling suggests that CWD could be detrimental at the population scale in endemic areas (Williams et al. 2001).

The geographic extent of endemic CWD in free-ranging wildlife was initially thought to be quite limited and its natural rate of expansion slow; however, recent investigations have revealed that CWD has been inadvertently spread much more widely via market-driven movements of infected, farmed elk and deer (Miller and Williams 2004). CWD is contagious; epidemics are self-sustaining in both captive and free-ranging cervid populations (Miller et al. 1998, 2000). Decontamination attempts on infected properties have been unsuccessful, resulting in continued CWD case occurrences at these locations (Williams et al. 2001). Direct contact and shared grazing areas between captive-reared and free-ranging cervids therefore represent a high CWD transmission risk.

In addition to the three diseases cited above, several other diseases demonstrate the potential for disease emergence within wildlife populations and associated captive-reared wildlife species.

Mycoplasma and avian cholera in avian species, as well as whirling disease and viral hemorrhagic septicemia in fish, illustrate the potential for disease transmission between captive and wild populations (Botzler 1991, Goldberg et al. 1995, Gilbert and Granath 2003, Skall et al. 2005). Extreme difficulties have been faced in attempting to control and eradicate these diseases. Because the interface between captive and wild animals increases the risk of disease transmission and amplification, prevention of diseases, rather than reactive responses to disease occurrence, should be the primary focus for addressing wildlife health. Clearly, proactive approaches for combating disease in migratory waterfowl are consistent with Service obligations under the MBTA and require further advancement because of global challenges associated with infectious disease emergence and resurgence.

Waterfowl Management Programs

Management of migratory waterfowl in North America is dependent upon a series of coordinated surveys and other monitoring programs to assess the status of waterfowl and to determine what public-use opportunities exist, including regulated hunting opportunities. Each year, waterfowl managers representing Federal, State, and Provincial wildlife agencies, as well as a few private conservation organizations such as Ducks Unlimited, Inc., review and analyze biological information from both operational and special data-gathering activities to assist them in conserving migratory waterfowl populations at satisfactory levels. This information is used to promulgate hunting-season frameworks, to justify purchase and management of important habitats, and to guide activities among various joint ventures coordinated under the North American Waterfowl Management Plan (U.S. Fish and Wildlife Service et al. 1998). The Service is concerned about how and to what extent large-scale releases of free-ranging, captive-reared mallards on shooting preserves confound these databases and conflict with management efforts by public wildlife agencies to protect wild populations and make informed decisions regarding their welfare. State waterfowl managers share this concern; in May, 2008, each of the four Flyway Councils sent a letter to the Service's Director, in which they pointed out that such releases "compromise several population monitoring tools used to manage wild stocks" of ducks.

Mid-Winter Waterfowl Surveys - The Midwinter Waterfowl Survey (MWS), initiated in the 1930s, is the longest-term source of information on wintering waterfowl populations in the United States. Its principal objectives are to obtain annual indices of winter abundance for certain species or populations and to assess changes in distributions. The survey is a cooperative effort that relies heavily on State and Federal involvement throughout most of the United States. The potential conflict between this survey and the release of captive-reared mallards arises from the fact that the MWS is largely an aerial survey, but captive-reared and wild mallards cannot be differentiated from the air.

The MWS is conducted in early January, when at least 94,500-141,000 captive-reared mallards are present in the United States (see Table 13, page 26), most of them (at least 76,900-112,600) in the Atlantic Flyway. The 2009 MWS mallard count for the Atlantic Flyway was 139,300 birds, of which 58,300 were counted in Maryland (U.S. Fish and Wildlife Service, unpublished report). Thus, although the survey does not cover the entire Flyway, captive-reared mallards could make up a large proportion of the Atlantic Flyway's mallard count, particularly in Maryland.

Large numbers of captive-reared mallards are presumably recorded in the survey on Maryland's Eastern Shore, where MWS zones encompass several shooting preserves. These counts comprise an increasing proportion of Maryland's total mallard index since the expansion of shooting preserves in the late 1980s (Fig. 1). While numbers of mallards observed in the surrounding States of Delaware, Pennsylvania, Virginia, and New Jersey show a declining trend ($r^2 = 0.059$) since 1973, Maryland numbers ($r^2 = 0.302$), and in particular Dorchester County ($r^2 = 0.346$), show increasing trends. These data clearly show the influence that Dorchester County's numbers have on Maryland's total counts.

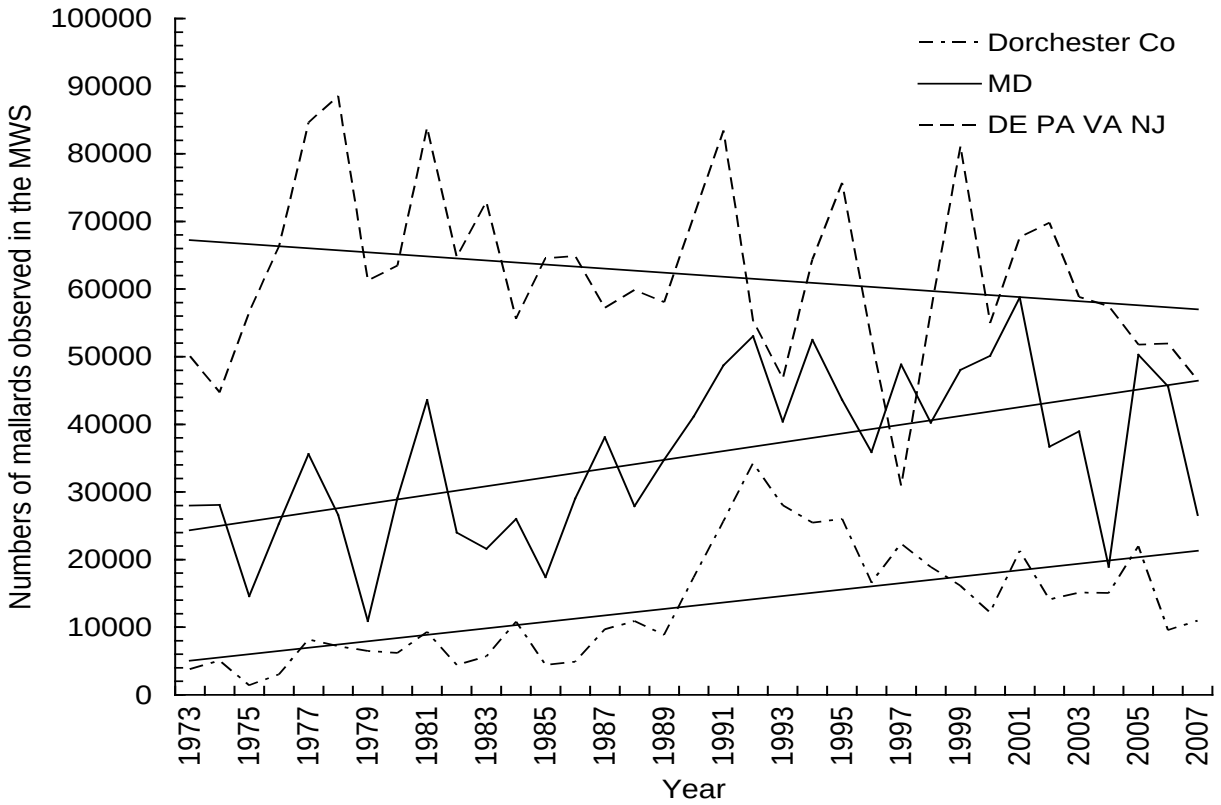

Figure 1. Numbers and trends of mallards observed annually during the Mid-winter Waterfowl Survey in Dorchester County, and its influence on Maryland's total, compared with surrounding States (Delaware, Pennsylvania, Virginia, and New Jersey).

Although it is possible that the trends in Dorchester County, Maryland, and surrounding States reflect a change in the distribution of wintering wild mallards, it seems much more likely that the increases in Maryland, especially since the beginning of large-scale releases of captive-reared mallards in the late 1980s, are the result of counting increasing numbers of captive-reared mallards during the survey. If so, then these same biases from the releases of captive-reared mallards are reflected in the Atlantic Flyway mallard totals.

Thus, the release of large numbers of free-flying captive-reared mallards into areas historically surveyed as part of the MWS confound the data used by biologists and managers to inform them about the status and trends of wild mallards at the State and Flyway levels. Over time, biased indices of

abundance and distribution may influence the capabilities of wildlife agencies to prescribe appropriate management strategies. For example, in the early 1990s, the rapidly growing resident Canada goose population masked the precipitous decline in the Atlantic Population (AP) of Canada geese, which eventually led to a closure of the hunting season to protect the migrant Canada geese in the Atlantic Flyway (Malecki et al. 2001).

Waterfowl Breeding Population Surveys - The release of free-flying captive-reared mallards into areas where States annually conduct waterfowl breeding population surveys may result in another source of bias. In 1989, several States in the Northeast and Mid-Atlantic Regions, including Vermont, New Hampshire, Massachusetts, Connecticut, New York, New Jersey, Pennsylvania, Maryland, and Virginia, established waterfowl breeding-pair surveys (Heusmann and Sauer 2000) to improve knowledge of eastern mallard populations. Results of these surveys are combined with mallard population estimates derived from May aerial surveys in the North-central States, Western and Eastern Canada, and Maine and are used in the Adaptive Harvest Management (AHM) process to set hunting regulations for duck seasons (U.S. Fish and Wildlife Service 2009b). As noted previously, at least 61,600-90,200 captive-reared mallards are present in the Atlantic Flyway when this survey is conducted; if those birds are counted during the survey, the wild mallard breeding population (666,800 in 2009; U.S. Fish and Wildlife Service, unpublished report) is overestimated by at least 10 percent. In addition, large-scale releases of captive-reared mallards at specific locations would almost certainly influence the results of the Breeding Bird Survey conducted by the U.S. Geological Survey (USGS, Patuxent Wildlife Research Center, Laurel, MD).

Banding Programs - Information from the leg-banding and recovery of migratory waterfowl is an important management tool used by Federal/State/Provincial wildlife agencies and researchers to assess distributions, harvest pressure, and survival rates, and to evaluate the effects of hunting regulations on wild waterfowl. The bird-banding program in North America is jointly administered by the USGS Bird

Banding Laboratory (BBL; Patuxent Wildlife Research Center, Laurel, MD) and the Bird Banding Office of the Canadian Wildlife Service (Ottawa, ON, Canada). These agencies issue permits and uniquely-coded, seamed bands to banders and maintain records of species and numbers banded and records of bands recovered by hunters and recoveries obtained from birds recaptured or found dead.

Large-scale releases of banded captive-reared mallards may affect reporting rates of bands on wild ducks near release sites. Reporting rates tend to be lower near sites where large numbers of Federally-banded ducks are marked, presumably because of a loss of "novelty" among hunters about shooting banded birds (Henny and Burnham 1976). The suppression of band-reporting rates caused by the increased frequency of harvesting banded birds makes Federal banding programs less efficient, so more ducks must be banded to get reliable information. This potential bias in reporting rates adds uncertainty to harvest-rate estimates for wild mallards, which affects the development of annual hunting regulations and, more specifically, the population models used in the AHM process. Although current regulations in § 21.13 (b)(3) allow marking of captive-reared mallards with seamless leg-bands, they do not specifically prohibit the use of seamed, non-Federal (i.e., private) bands that are very similar in appearance to Federal bands. The use of seamed bands on captive-reared mallards further exacerbates the reporting rate problem.

Harvest Surveys - Waterfowl harvests are estimated annually by the Service from a Hunter Questionnaire Survey (HQS) and a Parts Collection Survey (PCS), which sample approximately 70,000 hunters each year and collect more than 100,000 waterfowl parts (wings and tails) from hunters to assess the species, sex, and age composition of the harvest (Carney 1992). The randomly selected hunters solicited to participate in these surveys are not asked to exclude captive-reared mallards from their harvest reports or wing submissions, therefore some captive-reared mallards shot on shooting preserves or adjacent properties are reported in the HQS and wings are submitted to the PCS (Chief, Branch of Harvest Surveys, USFWS, personal communication). The total number of harvested, captive-reared mallards that

is reported to these surveys is unknown, but in a study of Maryland's now-discontinued release program, Hindman et al. (1992) found that alula-clipped wings of the Maryland DNR's released birds accounted for an average of 13.9 percent of immature mallard wings and 3 percent of the total duck wings submitted to the PCS from Maryland.

However, the alula-clipping technique is not used routinely to mark captive-reared mallards; and, there is no other completely reliable technique to distinguish captive-reared mallards from wild mallards based on wings submitted to the PCS, nor is there any means for distinguishing them from a hunter's response to the HQS. Wings of captive-reared mallards can sometimes be distinguished from those of wild mallards based on wear patterns, unusual molting patterns, or plumage characteristics, but these determinations are subjective and probably fail to identify many captive-reared mallards (Chief, Branch of Harvest Surveys, USFWS, personal communication). Therefore, the magnitude of survey bias resulting from hunter reports of harvested captive-reared mallards is difficult to assess and likely is not consistent through time.

The problem associated with captive-reared mallards potentially introducing bias into the U.S. harvest-surveys database is probably greatest in the Atlantic Flyway, where there are greater numbers of shooting preserves that release free-ranging birds. The surveys estimated that about 473,000 mallards were harvested in the Atlantic Flyway during the 2001 hunting season (U.S. Fish and Wildlife Service 2007). If all 128,500 captive-reared mallards harvested on shooting preserves in the Atlantic Flyway (Table 4) were included in the estimate, the Flyway's wild mallard harvest was overestimated by about 37 percent. In general, captive-reared mallards included in harvests reported in the HQS inflate the estimates of wild-mallard harvests, but equally important, they also affect the harvest estimates for other species, since the species composition of the PCS wing sample is used to apportion the HQS duck-harvest estimate among species. Also, because the mallards being released on shooting preserves are largely

young-of-the-year birds, these submissions to the PCS will inflate harvest age ratios (young per adult) and estimates of wild mallard productivity.

INTERNATIONAL ISSUES

Protection of migratory waterfowl in North America is provided by Conventions between the United States and Great Britain (for Canada), August 16, 1916; the United Mexican States, February 7, 1936 (amended March 10, 1972); Japan, March, 4, 1972; and the Soviet Union, November 19, 1976. Further, these obligations to protect shared migratory bird populations are implemented in the United States under the Migratory Bird Treaty Act, July 3, 1918. Movement patterns of captive-reared mallards away from release sites have been well-documented using leg-band recoveries in several studies (Dunn et al. 1995, Hindman et al. 1992, Smith 1999, Soutiere 1986, Wielicki 2001). Although most recoveries occur within close proximity to release sites, a smaller percentage (< 20%), usually indirect recoveries of males, occur considerable distances from the site, in other States as well as in Provinces of Canada. Hindman et al. (1992), Soutiere (1986), and RSA owners in Maryland have reported captive-reared mallard recoveries occurring in several Provinces of Canada, particularly Ontario. Dunn et al. (1995) found that only 2 percent of 1,953 direct recoveries of banded captive-reared mallards were reported from Canada, but 9 percent of 605 indirect recoveries were birds shot in Canada. This evidence indicates that some portion of the captive-reared mallards that survive the first hunting season will move longer distances and are integrating into the wild migratory mallard population. Because less than half of the captive-reared mallards released in free-flying conditions are actually harvested on shooting preserves, the majority of these birds begin dispersing greater distances to surrounding areas or establishing migratory patterns similar to wild birds. Many are harvested elsewhere, but an undetermined number become established in the migratory population.

The Canadian Wildlife Service has expressed its strong concern about captive-reared mallards that escape from shooting preserves in the United States, migrate to Canada, and integrate into wild mallard populations (Attachment 18). Canadian regulations and established policy strictly prohibit any bird held under an Aviculture Permit to be shot or released from captivity to the wild without a written application and authorization by Canada's Minister of the Environment. A written application is required to release wild-stock birds and must show qualifications, experience, and suitable facilities to propagate wild-stocks. Further, the applicant must demonstrate that his/her activities comply with an existing environmental review process and will not significantly affect wild stocks of birds or any other natural component. Canadian biologists are particularly concerned about the effects that mallard releases in the eastern U.S. could have on wild populations of black ducks breeding in eastern Canada. Competition and/or hybridization with mallards is felt to be one of the factors leading to the decline of black ducks. Further, the Canadian Wildlife Service has encouraged the Service to broaden its review and implement policy and regulations that will prevent the release or escape of captive-reared waterfowl of any species into wild populations (Attachment 18).

CONCLUSIONS

While the intent of the regulation § 21.13 was to allow privately-operated shooting preserves unlimited opportunity to shoot captive-reared mallards, provided there is a clear distinction from wild mallards and other migratory waterfowl, the Service is legally mandated to safeguard migratory waterfowl protected under the MBTA. Although this issue is largely confined to the eastern United States, and predominately the Atlantic Flyway, the influx of large numbers of captive-reared mallards released annually in a free-flying condition into areas inhabited by wild ducks has raised concerns by the Service, all Flyway Councils, the AFWA, and other conservation organizations.

This review provides evidence to indicate that large-scale releases of captive-reared mallards on shooting preserves increase the risks of several potential conflicts. When captive-reared mallards on shooting preserves are released in a free-flying condition and allowed to intermingle with wild ducks, there is an increased potential for violations of Federal waterfowl hunting regulations involving live decoys, baiting, over-bagging, and take of wild ducks out-of-season. These violations occur both on-site and on properties adjacent to the shooting preserves. Some States do not allow their licensed shooting preserves to operate outside of the dates of their regular Statewide duck seasons because of the high potential for shooting wild ducks on these areas. These State restrictions may decrease the potential for violations, but they also reduce the number of days available to harvest captive-reared mallards permitted under Federal regulations in § 21.13. When season lengths for wild ducks are severely restricted, as they have been at times in the past to protect wild ducks, the days available to shoot captive-reared mallards on shooting preserves are also severely reduced.

The inability to distinguish between captive-reared and wild ducks in flight and the potential for problems caused by misidentification, both on and off shooting preserves, are at the heart of law-enforcement issues regarding releases of free-ranging, captive-reared mallards. Curtailing releases of free-flying, captive-reared mallards on premises operated as shooting preserves is an identifiable way to alleviate the intermixing with wild ducks.

The range of movements by free-flying captive-reared mallards greatly affects the potential for interactions with wild waterfowl, thereby increasing risks of genetic introgression and hybridization, disease transmission, and conflicts with management programs. Smith (1999) reported considerable movements among RSAs and between RSAs and the Blackwater National Wildlife Refuge (and presumably the Fishing Bay WMA), and that movements of captive-reared mallards were positively related to the size and habitat availability on the source shooting preserve. Also, evidence from other

studies (Dunn et al. 1995) suggests that captive-reared mallards that survive the first year will move longer distances in successive years.

Genetic introgression and hybridization, and their effects on genetic diversity of wild ducks, are difficult to demonstrate and quantify at the population level. Pairing and interbreeding of captive-reared mallards with wild mallards, black ducks, and mottled ducks have been documented. Adverse effects have been observed in mottled ducks in Florida, and local breeding black ducks in Maryland are at risk of hybridization with captive-reared mallards. In these particular situations, care should be taken that the release of free-flying captive-reared mallards does not further contribute to the decline of these species. Genetic differences between mallards and black ducks have declined significantly in the past 50 years, probably due to hybridization (Mank et al. 2004), and interbreeding between black ducks and captive-reared mallards is likely contributing to that decline. Although the genetic impacts of interbreeding between captive-reared and wild mallards are unknown, extensive genetic introgression has been documented in wild populations of other game bird species as a result of interbreeding with released captive-reared birds (e.g., Blanco-Aguilar et al. 2008). Thus, it is prudent to avoid any potential for adverse effects of genetic introgression or hybridization with captive-reared mallards wherever possible, and thereby maintain the genetic integrity of wild stocks.

When considering the importance of disease transmission in captive-reared mallard releases, the primary concern is the risk associated with the activity. The potential for disease transmission is the key to this area of conflict, and dictates the precautions necessary for proactive and preventative management strategies. Stemming the increasing impacts and challenges diseases pose for wildlife conservation relies on the active prevention of disease emergence and an active decrease in the factors that provide potential for disease transmission. The interface between captive-reared and wild populations increases the risk of disease transmission and amplification. Measures to prevent or reduce the potential for both existing and emerging diseases to be introduced into either of these populations should be strongly encouraged.

Prevention of disease, rather than reactive responses to disease occurrence, should be the primary focus for addressing wildlife health. Clearly, proactive approaches for combating disease in migratory waterfowl are consistent with Service obligations under the MBTA and require further advancement because of global challenges associated with infectious disease emergence and resurgence.

Large-scale releases of captive-reared mallards in localized areas were found to have a potential for undesirable impacts on waterfowl-management programs (e.g., population monitoring, banding, and harvest surveys) designed to track the status and harvest of migratory waterfowl, mainly in the Atlantic Flyway, and particularly in Maryland. Estimates of wintering and breeding wild mallards, as well as estimates of the harvest of wild mallards, are likely inflated by the presence of captive-reared mallards when and where the surveys that provide those estimates are undertaken. In areas where captive-reared mallards marked with seamed bands are released in large numbers, band reporting rates for wild waterfowl may become depressed as band recoveries become commonplace. These effects may impart additional bias into important databases used by public wildlife-management agencies to manage our waterfowl resources. The less effective these databases become, the more uncertainty these public agencies have in making informed decisions regarding population status and trends, habitat utilization, appropriate waterfowl hunting seasons, and other management issues.

Whether ownership or property rights are relinquished or maintained once captive-reared mallards are released in a free-flying condition is unclear, since these birds are no longer within the possession and control of the respective shooting preserve. Under such conditions, does the status of captive-reared mallards change regarding regulatory statutes to that of a protected class (wild ducks) covered by the MBTA? Such mallards harvested by hunters outside the premises of a shooting preserve are subject to the regulatory statutes that apply to the taking of wild mallards. Also, property rights and regulatory statutes are unclear when free-flying captive-reared mallards released on one shooting preserve are then harvested on another shooting preserve.

The fact that many RSAs releasing free-flying, captive-reared mallards in Maryland are also actively managing their habitats by flooding food crops is further problematic. Such feeding and/or habitat-management practices on shooting preserves tend to attract wild ducks and consequently, increase the potential for conflicts with wild waterfowl. Some hunters have objected to shooting preserves attracting large numbers of wild waterfowl by feeding or by flooding various crops to provide food when the preserve is not hunted (Maryland DNR, personal communication). They maintain that these areas hold wild waterfowl, thus reducing hunting opportunity on surrounding properties. These situations usually occur in areas where shooting preserves that are allowed to release free-flying mallards are permitted to operate in close proximity to habitats occupied by migratory waterfowl. This brings into direct question the appropriateness of the Federal statutes in § 21.13, which allows captive-reared mallards to "be killed by shooting, in any number, at any time, within the confines of any premises operated as a shooting preserve under state license, permit, or authorization," while coincidentally allowing shooting preserves to attract and harvest wild waterfowl protected under the MBTA and Federal/State statutes. If the ducks shot cannot be distinguished until retrieved and in-hand, there is a conflict in terms of what regulations are in effect at the time of shooting.

Results of this review suggest that the language of Federal regulation § 21.13 is ambiguous, particularly as it relates to release methods and control of captive-reared mallards on shooting preserves. Therefore, we believe some corrective action should be taken to limit intermixing of captive-reared mallards with wild waterfowl populations. Canada, with whom we share treaty obligations concerning the welfare of migratory bird populations, has voiced strong opposition to the releasing of captive-reared mallards on shooting preserves. Also, more than 70 percent of the States favor more restrictive Federal regulations controlling the release of free-flying, captive-reared mallards on shooting preserves and preventing them from entering the wild population. This lack of clear definition regarding regulations in § 21.13 was the basis for the series of correspondences between the Service (Attachment 5) and the Maryland DNR (Attachment 6) in 1985. This led to the de facto understanding that the Service would

allow captive-reared mallards on shooting preserves to be released in a free-flying condition and shot in any number, at any time of year under regulations in § 21.13. Previously, these shooting preserves were operated as "tower shoots" using flighted mallards, and precautions were taken to control the captive-reared mallards so they would not become free-ranging on these properties. If captive-reared mallards are released in a flighted method and shot upon release, as is the practice with "tower shoots," the potential risk of violations and liabilities to hunters shooting captive-reared mallards on or near these facilities are reduced substantially or alleviated. More importantly, by minimizing interactions with wild ducks, shooting preserves can operate outside the regular duck-season dates and without regard to daily bag limits, as the regulations in § 21.13 were intended. Also, shooting preserves releasing flighted birds operate more efficiently by harvesting a greater proportion of the birds they release annually. In most cases, less than half of the captive-reared mallards released free-flying on shooting preserves each year are harvested that same year, while the remainder are allowed to move about freely.

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LIST OF ATTACHMENTS

Attachment	Title
1	Notice of Intent to review the release of captive-reared mallards, 1 June 1993 (58 FR 31247-31249)
2	Code of Federal regulations, Title 50, Part 10, Sections 11 and 12
3	Code of Federal regulations, Title 50, Part 21, Section 13
4	Letter dated October 4, 1985 from Representative John Breaux to Ronald Lambertson, Acting Deputy Director, U.S. Fish and Wildlife Service
5	Letter dated October 28, 1985 from Ronald Lambertson to Donald E. MacLauchlan, Director of the Maryland Forest, Park, and Wildlife Service
6	Letter dated November 21, 1985 from Donald E. MacLauchlan to Ronald Lambertson
7	Draft "Fact Sheet on Hunting Captive Reared Mallards" prepared by the U.S. Fish and Wildlife Service in response to a request from Congressman Beryl Anthony
8	Requests and recommendations from the Flyway Councils and International Association of Fish and Wildlife Agencies for the Service to conduct a review of captive-reared mallard releases
9	Memorandum from the Deputy Director, U.S. Fish and Wildlife Service to the Director of Regulatory Affairs, U.S. Fish and Wildlife Service announcing the postponement of the review of captive-reared mallard releases
10	Letter from the International Association of Fish and Wildlife Agencies to the Director, U.S. Fish and Wildlife Service urging the completion of the Service's review of captive-reared mallard releases
11	Letter from the National Flyway Council to the Chief, Division of Migratory Bird Management, U.S. Fish and Wildlife Service urging the completion of the Service's review of captive-reared mallard releases

Attachment	Title
12	Letter to the Chairman, National Flyway Council, requesting that the Council query State agencies about captive-reared mallard release programs in their States
13	Proposal cover letter and abstract from Dr. Frank Rohwer for a study of the effects of releases of captive-reared mallards
14	Title page and abstract of the Ph.D. dissertation resulting from the study of the effects or releases of captive-reared mallards
15	First page and abstract of: Smith, D. B., and F. C. Rohwer. 1997. Perceptions of releases of captive-reared mallards with emphasis on an intensive program in Maryland. Transactions of the North American Wildlife and Natural Resources Conference 62:403-411
16	Questionnaire concerning releases of captive-reared mallards sent to State waterfowl biologists
17	Questionnaire concerning releases of captive-reared mallards sent to Service Regional Offices
18	Letter from the Canadian Wildlife Service concerning the release of captive-reared waterfowl and supporting regulations
19	Memorandum from Assistant Director for Law Enforcement, U.S. Fish and Wildlife Service, regarding the release of free-flying captive-reared mallards and their influence on the enforcement of the MBTA

ATTACHMENT 1

believes that to allow comment periods past the dates specified is contrary to the public interest.

Comment Procedure

It is the policy of the Department of the Interior, whenever practical, to afford the public an opportunity to participate in the rulemaking process. Accordingly, interested persons may participate by submitting written comments to the Chief, Office of Migratory Bird Management, U.S. Fish and Wildlife Service, Department of the Interior, room 634—Arlington Square, Washington, DC 20240. Comments received will be available for public inspection during normal business hours at the Service's office in room 634, Arlington Square Building, 4401 N. Fairfax Drive, Arlington, Virginia. All relevant comments received during the comment period will be considered. The Service will attempt to acknowledge received comments, but substantive response to individual comments may not be provided.

NEPA Consideration

NEPA considerations are covered by the programmatic document, "Final Supplemental Environmental Impact Statement: Issuance of Annual Regulations Permitting the Sport Hunting of Migratory Birds (FSES 88-14)," filed with EPA on June 9, 1988. Notice of Availability was published in the **Federal Register** on June 16, 1988 (53 FR 22582). The Service's Record of Decision was published on August 18, 1988 (53 FR 31341). Copies of these documents are available from the Service at the address indicated under the caption **ADDRESSES.**

Endangered Species Act Consideration

As in the past, hunting regulations this year will be designed, among other things, to remove or alleviate chances of conflict between seasons for migratory game birds and the protection and conservation of endangered and threatened species. Consultations are presently under way to ensure that actions resulting from these regulatory proposals will not likely jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of their critical habitat. It is possible that the findings from the consultations, which will be included in a biological opinion, may cause modification of some regulatory measures proposed in this document. Any modifications will be reflected in the final frameworks. The Service's biological opinions resulting from its consultation under section 7 are considered public documents and are available for public inspection in the Division of Endangered Species and the Office of Migratory Bird Management, U.S. Fish and Wildlife Service, Arlington Square Building, 4401 N. Fairfax Drive, Arlington, Virginia.

Regulatory Flexibility Act; Executive Orders (E.O.) 12291, 12612, 12630, and 12778; and the Paperwork Reduction Act

In the **Federal Register** dated April 9, 1993 (58 FR 19008), the Service reported measures it had undertaken to comply with requirements of the Regulatory Flexibility Act and the Executive Order. These included preparing a Determination of Effects and an updated Final Regulatory Impact Analysis, and publication of a summary of the latter. This information is included in the present document by reference. As noted in the above **Federal Register** reference, the Service plans to issue its Memorandum of Law for the migratory bird hunting regulations at the same time the first of the annual hunting rules is finalized. This rule does not contain any information collection requiring approval by the Office of Management and Budget under 44 U.S.C. 3504.

Authorship

The primary authors of this proposed rule are William O. Vogel and Robert J. Blohm, Office of Migratory Bird Management.

List of Subjects in 50 CFR part 20

Exports, Hunting, Imports, Reporting and recordkeeping requirements, Transportation, Wildlife.

The rules that eventually will be promulgated for the 1993–94 hunting season are authorized under the Migratory Bird Treaty Act (July 3, 1918), as amended, (16 U.S.C. 703–711); the Fish and Wildlife Improvement Act (November 8, 1978), as amended, (16 U.S.C. 712); and the Fish and Wildlife Act of 1956 (August 8, 1956), as amended, (16 U.S.C. 742 a–d and e–j).

Dated: May 14, 1993.

Richard N. Smith

Acting Director, U.S. Fish and Wildlife Service

[FR Doc. 93–12742 Filed 5–28–93; 8:45 am]

BILLING CODE 4310–55–F

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50 CFR Part 21

Release of Captive-reared Mallards

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of intent.

SUMMARY: This document announces the intent of the Fish and Wildlife Service (hereinafter the Service) to review all aspects of the regulations pertaining to the release and harvest of captive-reared mallards. This notice provides the public with background information on potential conflicts arising from this activity. The Service invites public comment and suggestions on possible options for resolving these conflicts.

DATES: Written comments pertaining to regulations governing the release of captive-reared mallards should be received on or before August 2, 1993.

ADDRESSES: Written comments should be sent to: Director (FWS/MBMO), U.S. Fish and Wildlife Service, Department of the Interior, Room 634—Arlington Square, Washington, DC 20240. Comments received will be available for public inspection during normal business hours in Room 634, Arlington Square Building, 4401 N. Fairfax Drive, Arlington, Virginia.

FOR FURTHER INFORMATION CONTACT: Marshall A. Howe, Acting Chief, Office of Migratory Bird Management, U.S. Fish and Wildlife Service, Department of the Interior, Room 634—Arlington Square, Washington, DC 20240, (703) 358–1714.

SUPPLEMENTARY INFORMATION: Under the Migratory Bird Treaty Act (16 U.S.C. 703–711), the Secretary of the Interior has the responsibility for setting appropriate regulations for the hunting of migratory birds, with due regard for maintaining such populations in a healthy state and at satisfactory levels. The Fish and Wildlife Act of 1956 (16 U.S.C. 742 a-d and e-j) more specifically authorizes collection of such information as is necessary and action as may be required to protect wildlife resources.

Background

"Migratory Birds" are defined in 50 CFR 10.12 as meaning any bird, irrespective of its origin in the wild or in captivity, which belongs to the species listed in § 10.13, for the purposes of protection under the Migratory Bird Treaty Act (Act). Mallards are among those species listed. Regulations stated in § 21.13 allow captive-reared mallards, provided they are properly marked prior to 6 weeks of age by removal of hind toe, banding with a seamless metal band, pinioning, or tattooing, to be possessed and disposed of in any number, at any time, by any person, without a permit. Further, these regulations stipulate that such birds may be killed by shooting only in accordance with all applicable hunting regulations governing the take

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of mallard ducks from the wild, with the exception provided; that such birds may be killed by shooting, in any number, at any time, within the confines of any premises operated as a shooting preserve under State license, permit, or authorization. Thus, most regulations regarding migratory bird hunting do not apply to the taking of captive-reared mallards on shooting preserves, except that nontoxic shot is required.

In the past, the Service has not opposed the shooting of captive-reared mallards on shooting preserves to supplement hunting opportunities for the public. This is because prior to 1985, precautions were taken to control these captive-reared mallards and they were not allowed to become free-ranging on the properties where they were released. Interest in the shooting of captive-reared mallards on shooting preserves has increased dramatically since 1985 as numbers of wild ducks have declined and hunting opportunities have become more restricted to protect breeding populations (see September 5, 1985, **Federal Register** at 50 FR 36198). Recently, regulations allowing the shooting of captive-reared mallards detailed in § 21.13, pertaining to shooting preserves, have become more broadly interpreted and captive-reared mallards are being released in free-ranging situations on State-licensed shooting preserves, causing conflicts to arise when these birds are allowed to come in contact with wild ducks.

Description of Existing State-Licensed Programs

Currently, several States allow the permitting or licensing of regulated shooting preserves which are authorized to release captive-reared mallards for shooting purposes. Criteria governing the issuance of these licenses are established by the respective States. Captive-reared mallards are usually purchased from various producers at varying ages and are fed on release sites without containment. Feeding is suspended prior to the time any shooting takes place to alleviate conflicts involving baiting of wild birds. Although regulations allow shooting to occur at any time on these designated areas, in most instances States confine their shooting of released mallards to the regularly-held season dates for wild ducks to avoid the inadvertent but unlawful harvest of any wild mallards.

At present, shooting preserves are not required to obtain their release stocks from certified disease-free suppliers and routine, on-site inspections of either the shooting preserves or suppliers are not mandatory. Disease risks from captive-reared ducks have not been assessed, but are viewed as a potential problem to wild ducks and domestic poultry operations. Health concerns regarding the release of game-farm waterfowl have been expressed in a report developed by the Southeastern Cooperative Wildlife Disease Study (University of Georgia, Athens) for the Louisiana Department of Wildlife and Fisheries in 1989.

Areas of Potential Conflict

As defined in Section 10.12, "migratory bird" means any species listed in § 10.13, whether or not it was raised in captivity. This interpretation implies full protection under the Migratory Bird Treaty Act for all species listed, including captive-reared mallards, and requires the establishment of hunting season frameworks to regulate a legal take. Section 21.13 provides an exception that, once properly marked and within the confines of a State-regulated shooting preserve, captive-reared birds may be taken in any number, at any time, by any person, without a permit. Despite this language, broad interpretation of § 21.13 may be in conflict with existing migratory bird treaties, since it allows taking of free-ranging, treaty-protected birds during closed seasons and without bag limits. Thus an issue arises. At what point do free-ranging captive-reared mallards become wild for purposes of enforcement under the Migratory Bird Treaty Act?

In addition, shooting of wild mallards on shooting preserves is subject to regulations outlined in § 20.21 governing hunting methods, including those restricting the presence of live decoys (§ 20.21 (f)) and bait (§ 20.21 (i)) during the hunting season. The use of live ducks as decoys and baiting for taking waterfowl has been illegal by Federal regulations since 1935 because of their effectiveness in luring wild waterfowl to the gun. Under existing regulations, live decoys are not only defined in the traditional sense as birds pinioned, tethered, wing-clipped, or caged, but also include those capable of free flight. Birds in these situations may exhibit tameness or reluctance to fly or leave an area in the presence of man and hunting activity, because of previous conditioning to humans. However, the question of when unrestrained, captive-reared mallards constitute a "live-decoying" situation during the hunting season is subject to interpretation and may vary on a case-by-case basis, dependent on their behavior in the presence of human activity, as evidenced by Federal court decisions. This situation necessitates a discretionary interpretation by enforcement personnel in the field. Concerns over enforcement problems and inconsistencies in interpretation have been expressed by the Service, State wildlife agencies, and several private hunting clubs.

The influx of large numbers of captive-reared mallards into certain areas inhabited by wild ducks has raised concerns by the Service, Flyway Councils, and the International Association of Fish and Wildlife Agencies over the potential threat of disease transmission to wild populations. The appearance of new diseases in previously unexposed waterfowl populations may result in major health problems. Of particular concern are infectious diseases where survivors of an outbreak become carriers capable of initiating additional outbreaks as they disperse. Highly-infectious diseases, such as duck plague and avian cholera, are capable of causing large-scale losses in wild waterfowl.

Duck plague, also known as duck virus enteritis (DVE), is of particular concern because of its frequency of occurrence in captive, semi-captive, and feral waterfowl. The first appearance of this disease in the United States was in the Long Island domestic duck industry in 1967. In 1973, a major outbreak in wild, migratory waterfowl inflicted heavy losses on ducks, geese, and swans, and was responsible for the death of 40,000 to 50,000 mallards. Avian cholera is another example of a highly-infectious disease that originated in the domestic poultry industry and spread eventually to wild stocks. First appearing in wild waterfowl in the 1940s, avian cholera is presently a disease affecting North American waterfowl.

Currently, captive-reared mallards purchased from game farms do not require State health certification prior to release on shooting preserves. Confined situations allow the rapid spread of diseases through close contact and contamination by waste products. Consequently, contact between captive birds and wild waterfowl and outbreaks involving captive-reared waterfowl scheduled for release into the wild represent an increasing threat to wild waterfowl. Declining waterfowl populations may be sensitive to any increase in frequency of diseases, particularly the introduction and establishment of new diseases. Finally, waterfowl diseases, originating with captive-reared birds, could threaten endangered species and pose a problem for domestic poultry flocks.

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Uncontrolled releases of thousands of free-flighted, captive-reared mallards into habitats now managed for wild birds, render various data-gathering activities by Federal, State, and flyway waterfowl management programs less effective. Specific areas of concern include:

Midwinter waterfowl surveys: The release of thousands of free-flying mallards has increased mallard midwinter survey indices in recent years. The presence of these birds has diminished the usefulness of this survey in guiding management efforts for the mallard in certain areas.

Harvest surveys: There is no reliable method of distinguishing between wild and hand-reared mallard wings in the Service's Waterfowl Parts Collection Survey. As a result, harvest survey information, including harvest estimates and age/sex data, is biased by the release of captive-reared mallards. These biases not only influence State estimates but affect flyway estimates as well, thus compromising harvest management strategies for wild birds at the State and flyway level.

Banding Programs: Recoveries of hunter-shot mallards banded prior to each hunting season by the Service and cooperating States usually provide a direct measure of harvest rates for wild mallards. However, large numbers of captive-reared mallards banded with either State or private bands confuse hunters and bias their reports of banded wild mallards and other ducks. With potential problems in reporting rates, it becomes extremely difficult for the Service to properly assess and interpret harvest pressure on wild mallards.

Population Unit Management: Flyway management of duck populations (i.e., mallards) is, in part, based on information pertaining to unique population units, segments, or reference areas. With large, uncontrolled releases of captive-reared birds, the capability of waterfowl managers to detect discrete populations of wild stocks is made more difficult, thus interfering with the development of reliable databases for this species.

Regulations Development: Databases used to establish annual duck hunting regulations within each flyway, such as population, harvest, and banding information, may be biased due to the presence of large numbers of free-flying mallards. The ability to develop sound management decisions, based on this information, may be compromised to some unknown degree.

Genetic Diversity: Releasing large numbers of captive-reared mallards in certain localities may affect the genetic make-up of wild mallards using those areas. Black ducks, known to hybridize easily with mallards, may be similarly affected. If large releases continue, certain regions of the continent may no longer contain wild-stock mallards or genetically sound black ducks.

Public Comment Invited

Under existing regulations contained in Section 21.13, the release of captive-reared mallards on licensed shooting preserves is subject to broad interpretation. As a result, numerous conflicts with established regulations prohibiting the use of live decoys and baiting have resulted. In addition, aspects involving ownership and control are unclear when flighted, captive-reared birds are allowed to range freely over a wide area. Risks of disease transmission among wild ducks associating with captive-reared mallards may occur.

The Service believes there are a variety of options available to alleviate potential conflicts and resolve management problems associated with captive-reared mallard release programs. Many of these options would require some modification of 50 CFR parts 20 or 21. The Service intends to explore these options and invites public comment on any options that may alleviate this problem. Comments may be sent to the address indicated under the caption ADDRESSES.

List of Subjects in 50 CFR Part 21

Exports, Hunting, Imports, Reporting and recordkeeping requirements, Transportation, Wildlife.

Authority: The Migratory Bird Treaty Act (July 3, 1918), as amended (16 U.S.C. 703–711); the Fish and Wildlife Improvement Act (November 8, 1978), as amended (16 U.S.C. 712); and the Fish and Wildlife Act of 1956 (August 8, 1956), as amended (16 U.S.C. 742 a-d and e-j).

Dated: January 21, 1993.

Richard N. Smith,

Acting Director, U.S. Fish and Wildlife Service.

[FR Doc. 93–12743 Filed 5–28–93; 8:45 am]

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Subpart B—Definitions

§ 10.11 Scope of definitions.

In addition and subject to definitions contained in applicable statutes and subsequent parts or sections of this subchapter B, words or their variants shall have the meanings ascribed in this subpart. Throughout this subchapter B words in the singular form shall include the plural, words in the plural form shall include the singular, and words in the masculine form shall include the feminine.

§ 10.12 Definitions.

Aircraft means any contrivance used for flight in the air.

Amphibians means a member of the class, Amphibia, including, but not limited to, frogs, toads, and salamanders; including any part, product, egg, or offspring thereof, or the dead body or parts thereof (excluding fossils), whether or not included in a manufactured product or in a processed food product.

Animal means an organism of the animal kingdom, as distinguished from the plant kingdom; including any part, product, egg, or offspring thereof, or the dead body or parts thereof (excluding fossils), whether or not included in a manufactured product or in a processed food product.

Birds means a member of the class, Aves; including any part, product, egg, or offspring thereof, or the dead body or parts thereof (excluding fossils), whether or not included in a manufactured product or in a processed food product.

Country of exportation means the last country from which the animal was exported before importation into the United States.

Country of origin means the country where the animal was taken from the wild, or the country of natal origin of the animal.

Crustacean means a member of the class, Crustacea, including but not limited to, crayfish, lobsters, shrimps, crabs, barnacles, and some terrestrial forms; including any part, product, egg, or offspring thereof, or the dead body or parts thereof (excluding fossils), whether or not included in a manufactured product or in a processed food product.

Director means the Director of the United States Fish and Wildlife Service, Department of the Interior, or his authorized representative.

Endangered wildlife means any wildlife listed in § 17.11 or § 17.12 of this subchapter.

Fish means a member of any of the following classes:

(1) Cyclostomata, including, but not limited to, hagfishes and lampreys;

(2) Elasmobranchii, including but not limited to, sharks, skates, and rays; and

(3) Pisces, including but not limited to trout, perch, bass, minnows, and catfish; including any part, product, egg, or offspring thereof, or the dead body or parts thereof (excluding fossils), whether or not included in a manufactured product or in a processed food product.

Fish or wildlife means any wild animal, whether alive or dead, including without limitation any wild mammal, bird, reptile, amphibian, fish, mollusk, crustacean, arthropod, coelenterate, or other invertebrate, whether or not bred, hatched, or born in captivity, and including any part, product, egg, or offspring thereof.

Foreign commerce includes, among other things, any transaction (1) between persons within one foreign country, or (2) between persons in two or more foreign countries, or (3) between a person within the United States and a person in one or more foreign countries, or (4) between persons within the United States, where the fish or wildlife in question are moving in any country or countries outside the United States.

Fossil means the remains of an animal of past geological ages which has been preserved in the earth's crust through mineralization of the object.

Import means to land on, bring into, or introduce into, or attempt to land on, bring into, or introduce into any place subject to the jurisdiction of the United States, whether or not such landing, bringing, or introduction constitutes an importation within the meaning of the tariff laws of the United States.

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Injurious Wildlife means any wildlife for which a permit is required under subpart B of part 16 of this subchapter before being imported into or shipped between the continental United States, the District of Columbia, Hawaii, the Commonwealth of Puerto Rico, or any possession of the United States.

Mammal means a member of the class, Mammalia; including any part, product, egg, or offspring, or the dead body or parts thereof (excluding fossils), whether or not included in a manufactured product or in a processed food product.

Migratory bird means any bird, whatever its origin and whether or not raised in captivity, which belongs to a species listed in §10.13, or which is a mutation or a hybrid of any such species, including any part, nest, or egg of any such bird, or any product, whether or not manufactured, which consists, or is composed in whole or part, of any such bird or any part, nest, or egg thereof.

Migratory game birds: See §20.11 of this subchapter.

Mollusk means a member of the phylum, Mollusca, including but not limited to, snails, mussels, clams, oysters, scallops, abalone, squid, and octopuses; including any part, product, egg, or offspring thereof, or the dead body or parts thereof (excluding fossils), whether or not included in a manufactured product or in a processed food product.

Permit means any document designated as a "permit," "license," "certificate," or any other document issued by the Service to authorize, limit, or describe activity and signed by an authorized official of the Service.

Person means any individual, firm, corporation, association, partnership, club, or private body, any one or all, as the context requires.

Plant means any member of the plant kingdom, including seeds, roots and other parts thereof.

Possession means the detention and control, or the manual or ideal custody of anything which may be the subject of property, for one's use and enjoyment, either as owner or as the proprietor of a qualified right in it, and either held personally or by another who exercises it in one's place and name. Possession includes the act or state of possessing and that condition of facts under which one can exercise his power over a corporeal thing at his pleasure to the exclusion of all other persons. Possession includes constructive possession which means not actual but assumed to exist, where one claims to hold by virtue of some title, without having actual custody.

Public as used in referring to museums, zoological parks, and scientific or educational institutions, refers to such as are open to the general public and are either established, maintained, and operated as a governmental service or are privately endowed and organized but not operated for profit.

Reptile means a member of the class, Reptilia, including but not limited to, turtles, snakes, lizards, crocodiles, and alligators; including any part, product, egg, or offspring thereof, or the dead body or parts thereof, whether or not included in a manufactured product or in a processed food product.

Secretary means the Secretary of the Interior or his authorized representative.

Service means the United States Fish and Wildlife Service, Department of the Interior.

Shellfish means an aquatic invertebrate animal having a shell, including, but not limited to, (a) an oyster, clam, or other mollusk; and (b) a lobster or other crustacean; or any part, product, egg, or offspring thereof, or the dead body or parts thereof (excluding fossils), whether or not included in a manufactured product or in a processed food product.

State means any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, American Samoa, the Virgin Islands, and Guam.

Take means to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect. (With reference to marine mammals, see Part 18 of this subchapter.)

Transportation means to ship, convey, carry or transport by any means whatever, and deliver or receive for such shipment, conveyance, carriage, or transportation.

United States means the several States of the United States of America,

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the District of Columbia, the Commonwealth of Puerto Rico, American Samoa, the Virgin Islands, and Guam.

Whoever means the same as person.

Wildlife means the same as fish or wildlife.

[38 FR 22015, Aug. 15, 1973, as amended at 42 FR 32377, June 24, 1977; 42 FR 59358, Nov. 16, 1977; 45 FR 56673, Aug. 25, 1980; 50 FR 52889, Dec. 26, 1985]

§ 10.13 List of Migratory Birds.

The following is a list of all species of migratory birds protected by the Migratory Bird Treaty Act (16 U.S.C. 703–711) and subject to the regulations on migratory birds contained in this subchapter B of title 50 CFR. The species listed are those protected by the Convention for the Protection of Migratory Birds, August 16, 1916, United States-Great Britain (on behalf of Canada), 39 Stat. 1702, T.S. No. 628; the Convention for the Protection of Migratory Birds and Game Mammals, February 7, 1936, United States-Mexico, 50 Stat. 1311, T.S. No. 912; the Convention for the Protection of Migratory Birds and Birds in Danger of Extinction, and Their Environment, March 4, 1972, United States-Japan, 25 U.S.T. 3329, T.I.A.S. No. 7990; and the Convention for the Conservation of Migratory Birds and Their Environment, United States–U.S.S.R., November 26, 1976, 92 Stat. 3110, T.I.A.S. 9073, 16 U.S.C. 703, 712. The species are listed two ways. In the first part of the List species are arranged alphabetically by English (common) name groups, with the scientific name following the English (common) name. All species of ducks are listed together under the heading "DUCKS". In the second part of the List, species are listed by scientific name arranged in taxonomic order. Taxonomy and nomenclature follows the American Ornithologists' Union's Check-list of North American Birds (6th Edition, 1983).

I. ALPHABETICAL LISTING

Accentor, Siberian, *Prunella montanella*
Albatross:
  Black-footed, *Diomedea nigripes*
  Laysan, *Diomedea immutabilis*
  Short-tailed, *Diomedea albatrus*
  Yellow-nosed, *Diomedea chlororhynchos*
Anhinga, *Anhinga anhinga*
Ani:
  Groove-billed, *Crotophaga sulcirostris*
  Smooth-billed, *Crotophaga ani*
Auklet:
  Cassin's, *Ptychoramphus aleuticus*
  Crested, *Aethia cristatella*
  Least, *Aethia pusilla*
  Parakeet, *Cyclorrhynchus psittacula*
  Rhinoceros, *Cerorhinca monocerata*
  Whiskered, *Aethia pygmaea*
Avocet, American, *Recurvirostra americana*
Barn-Owl, Common, *Tyto alba*
Beardless-Tyrannulet, Northern, *Camptostoma imberbe*
Becard, Rose-throated, *Pachyramphus aglaiae*
Bittern:
  American, *Botaurus lentiginosus*
  Chinese, *Ixobrychus sinensis*
  Least, *Ixobrychus exilis*
  Schrenk's, *Ixobrychus eurhythmus*
Black-Hawk, Common, *Buteogallus anthracinus*
Blackbird:
  Brewer's, *Euphagus cyanocephalus*
  Red-winged, *Agelaius phoeniceus*
  Rusty, *Euphagus carolinus*
  Tawny-shouldered, *Agelaius humeralis*
  Tricolored, *Agelaius tricolor*
  Yellow-headed, *Xanthocephalus xanthocephalus*
  Yellow-shouldered, *Agelaius xanthomus*
Bluebird:
  Eastern, *Sialia sialis*
  Mountain, *Sialia currucoides*
  Western, *Sialia mexicana*
Bluethroat, *Luscinia svecica*
Bobolink, *Dolichonyx oryzivorus*
Booby:
  Blue-footed, *Sula nebouxii*
  Brown, *Sula leucogaster*
  Masked, *Sula dactylatra*
  Red-footed, *Sula sula*
Brambling, *Fringilla montifringilla*
Brant, *Branta bernicla*
Bufflehead (see DUCKS)
Bullfinch:
  Eurasian, *Pyrrhula pyrrhula*
  Puerto Rican, *Loxigilla portoricensis*
Bunting:
  Indigo, *Passerina cyanea*
  Lark, *Calamospiza melanocorys*
  Lazuli, *Passerina amoena*
  McKay's, *Plectrophenax hyperboreus*
  Painted, *Passerina ciris*
  Reed (see Reed-Bunting)
  Rustic, *Emberiza rustica*
  Snow, *Plectrophenax nivalis*
  Varied, *Passerina versicolor*
Bushtit, *Psaltriparus minimus*
Canvasback (see DUCKS)
Caracara, Crested, *Polyborus plancus*
Cardinal, Northern, *Cardinalis cardinalis*
Carib, Green-throated, *Eulampis holosericeus*
Catbird, Gray, *Dumetella carolinensis*
Chat, Yellow-breasted, *Icteria virens*
Chickadee (see Tit):
  Black-capped, *Parus atricapillus*
  Boreal, *Parus hudsonicus*
  Carolina, *Parus carolinensis*

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Stat. 755; 16 U.S.C. 703–711), may, without a permit, take or otherwise acquire, hold in custody, transport, and dispose of migratory birds or their parts, nests, or eggs as necessary in performing their official duties.

(b) State game departments, municipal game farms or parks, and public museums, public zoological parks, accredited institutional members of the American Association of Zoological Parks and Aquariums (AAZPA) and public scientific or educational institutions may acquire by gift or purchase, possess, transport, and by gift or sale dispose of lawfully acquired migratory birds or their progeny, parts, nests, or eggs without a permit: *Provided*, That such birds may be acquired only from persons authorized by this paragraph or by a permit issued pursuant to this part to possess and dispose of such birds, or from Federal or State game authorities by the gift of seized, condemned, r sick or injured birds. Any such birds, acquired without a permit, and any progeny therefrom may be disposed of only to persons authorized by this paragraph to acquire such birds without a permit. Any person exercising a privilege granted by this paragraph must keep accurate records of such operations showing the species and number of birds acquired, possessed, and disposed of; the names and addresses of the persons from whom such birds were acquired or to whom such birds were donated or sold; and the dates of such transactions. Records shall be maintained or reproducible in English on a calendar year basis and shall be retained for a period of five (5) years following the end of the calendar year covered by the records.

[39 FR 1178, Jan. 4, 1974, as amended at 50 FR 8638, Mar. 4, 1985; 54 FR 38151, Sept. 14, 1989]

§21.13 Permit exceptions for captive-reared mallard ducks.

Captive-reared and properly marked mallard ducks, alive or dead, or their eggs may be acquired, possessed, sold, traded, donated, transported, and disposed of by any person without a permit, subject to the following conditions, restrictions, and requirements:

(a) Nothing in this section shall be construed to permit the taking of live mallard ducks or their eggs from the wild.

(b) All mallard ducks possessed in captivity, without a permit, shall have been physically marked by at least one of the following methods prior to 6 weeks of age and all such ducks hatched, reared, and retained in captivity thereafter shall be so marked prior to reaching 6 weeks of age.

(1) Removal of the hind toe from the right foot.

(2) Pinioning of a wing: *Provided*, That this method shall be the removal of the metacarpal bones of one wing or a portion of the metacarpal bones which renders the bird permanently incapable of flight.

(3) Banding of one metatarsus with a seamless metal band.

(4) Tattooing of a readily discernible number or letter or combination thereof on the web of one foot.

(c) When so marked, such live birds may be disposed of to, or acquired from, any person and possessed and transferred in any number at any time or place: *Provided*, That all such birds shall be physically marked prior to sale or disposal regardless of whether or not they have attained 6 weeks of age.

(d) When so marked, such live birds may be killed, in any number, at any time or place, by any means except shooting. Such birds may be killed by shooting only in accordance with all applicable hunting regulations governing the taking of mallard ducks from the wild: *Provided*, That such birds may be killed by shooting, in any number, at any time, within the confines of any premises operated as a shooting preserve under State license, permit, or authorization; or they may be shot, in any number, at any time or place, by any person for bona fide dog training or field trial purposes: *Provided further*, That the provisions:

(1) The hunting regulations (part 20 of this subchapter), with the exception of §20.108 (Nontoxic shot zones), and

(2) The Migratory Bird Hunting Stamp Act (duck stamp requirement) shall not apply to shooting preserve operations as provided for in this paragraph, or to bona fide dog training or field trial operations.

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(e) At all times during possession, transportation, and storage until the raw carcasses of such birds are finally processed immediately prior to cooking, smoking, or canning, the marked foot or wing must remain attached to each carcass: *Provided,* That persons, who operate game farms or shooting preserves under a State license, permit, or authorization for such activities, may remove the marked foot or wing when either the number of his State license, permit, or authorization has first been legibly stamped in ink on the back of each carcass and on the container in which each carcass is maintained, or each carcass is identified by a State band on leg or wing pursuant to requirements of his State license, permit, or authorization. When properly marked, such carcasses may be disposed of to, or acquired from, any person and possessed and transported in any number at any time or place.

[40 FR 28459, July 7, 1975, as amended at 46 FR 42680, Aug. 24, 1981; 54 FR 36798, Sept. 5, 1989]

§ 21.14 Permit exceptions for captive-reared migratory waterfowl other than mallard ducks.

Any person may, without a permit, lawfully acquire captive-reared and properly marked migratory waterfowl of all species other than mallard ducks, alive or dead, or their eggs, and possess and transport such birds or eggs and any progeny or eggs therefrom solely for his own use subject to the following conditions and restrictions:

(a) Such birds, alive or dead, or their eggs may be lawfully acquired only from holders of valid waterfowl sale and disposal permits, unless lawfully acquired outside of the United States, except that properly marked carcasses of such birds may also be lawfully acquired as provided under paragraph (c) of this section.

(b) All progeny of such birds or eggs hatched, reared, and retained in captivity must be physically marked as defined in § 21.13(b).

(c) No such birds or eggs or any progeny or eggs thereof may be disposed of by any means, alive or dead, to any other person unless a waterfowl sale and disposal permit has first been secured authorizing such disposal: *Provided,* That bona fide clubs, hotels, restaurants, boarding houses, and dealers in meat and game may serve or sell to their customers the carcass of any such birds which they have acquired from the holder of a valid waterfowl sale and disposal permit.

(d) Lawfully possessed and properly marked birds may be killed, in any number, at any time or place, by any means except shooting. Such birds may be killed by shooting only in accordance with all applicable hunting regulations governing the taking of like species from the wild. (See part 20 of this subchapter.)

(e) At all times during possession, transportation, and storage until the raw carcasses of such birds are finally processed immediately prior to cooking, smoking, or canning, the marked foot or wing must remain attached to each carcass, unless such carcasses were marked as provided in § 21.25(c)(4) and the foot or wing removed prior to acquisition.

(f) When any such birds, alive or dead, or their eggs are acquired from a waterfowl sale and disposal permittee, the permittee shall furnish a copy of Form 3–186, Notice of Waterfowl Sale or Transfer, indicating all information required by the form and the method or methods by which individual birds are marked as required by § 21.25(c)(2). The buyer shall retain the Form 3–186 on file for the duration of his possession of such birds or eggs or progeny or eggs thereof.

[40 FR 28459, July 7, 1975, as amended at 46 FR 42680, Aug. 24, 1981]

Subpart C—Specific Permit Provisions

§ 21.21 Import and export permits.

(a) *Permit requirement.* (1) Except for migratory game birds imported in accordance with the provisions of subpart G of part 20 of this subchapter B, an import permit is required before any migratory birds, their parts, nests, or eggs may be imported.

(2) An export permit is required before any migratory birds, their parts, nests, or eggs may be exported: *Provided,* that captive-reared migratory

ATTACHMENT 4

U.S. House of Representatives
Committee on
Merchant Marine and Fisheries
Room 1334, Longworth House Office Building
Washington, DC 20515

October 4, 1985

Mr. Ron Lambertson
Associate Director-Wildlife Resources
U.S. Fish and Wildlife Service
Department of the Interior
(AWR) Room 3252
18th & C Streets, N.W.
Washington, D.C. 20240

Dear Ron:

As we discussed, the Maryland Department of Natural Resources has designated a number of non-commercial shooting preserves in Maryland pursuant to regulations contained in 50 CFR 21.13 et seq. You have indicated, and the comments relating to the issuance of waterfowl regulations also indicate, that such an approach is an appropriate way to allow for the harvest of pen-reared mallards. The DNR regulations regarding the harvest of such mallards will only permit the harvest in accordance with established waterfowl regulations, similar to regulations established for similar game preserves in other states.

Since Maryland is concerned that Federal enforcement officials may not recognize the legality of these preserves, it would be helpful if you could confirm this policy in a letter to Mr. Donald MacLauchlan, of the Forest, Parks and Wildlife Service Division of the Department of Natural Resources. His address is Tawes Office Building, 580 Taylor Avenue, Annapolis, Maryland 21401.

As the season opens on October 11, time is of the essence. Thank you for your cooperation in the matter.

Sincerely,

JOHN B. BREAUX
Chairman
Subcommittee on Fisheries
and Wildlife Conservation
and the Environment

JBB/jcgf

ATTACHMENT 5

In Reply Refer
To: FWS/MBMO

OCT 2 4 1985

Mr. Donald E. MacLauchlan
Director, Forest, Park and Wildlife Service
Department of Natural Resources
Tawes State Office Building
Annapolis, Maryland 21401

Dear Mr. MacLauchlan:

Congressman Breaux has asked that the U.S. Fish and Wildlife Service (Service) confirm its position in regard to the establishment of special hunting regulations for captive-reared mallards on certain designated properties.

The Service's position on shooting captive-reared mallards, is as published in Section 21.13 of Title 50 Code of Federal Regulations (CFR) Part 21 (copy enclosed): Captive-reared and properly marked mallard ducks may be killed by shooting only in accordance with all applicable Federal hunting regulations governing the taking of mallard ducks from the wild, with two exceptions. The exceptions are that such birds may be killed by shooting, in any number, at any time, within the confines of any premises operated as a shooting preserve under State license, permit, or authorization; or they may be shot, in any number, at any time or place, by any person for bona fide dog training or field trial purposes.

Wild birds may be killed in such situations only in circumstances that fully comply with the provisions of Section 20, Title 50 CFR, particularly Section 20.21(f) relating to live decoys, and Section 20.21(i) concerning baiting (copy enclosed). We note that full compliance with those laws may be difficult if captive-reared mallards are being fed or used as live decoys.

If you have need for further clarification of these regulations you should contact Clark Bavin, Chief, Division of Law Enforcement, telephone (202) 343-9242.

Thank you for your interest in this matter. Please advise if additional information is needed.

Sincerely,

/sgd/ Ronald E. Lambertson

Acting Deputy Director

Enclosures

cc:
3252 MI - Directorate Reading File and DD Chron
1536 MC - Reading File, MBMO and Regs File
FWS/MBMO:CGEsslinger:gvg:10-09-85:MAC
300 HM - LE

ATTACHMENT 6

Department of Natural Resources
MARYLAND FOREST, PARK & WILDLIFE SERVICE
Tawes Office Building
Annapolis, Maryland 21401

TORREY C. BROWN, M.D.
SECRETARY

DONALD E. MacLAUCHLAN
DIRECTOR

November 21, 1985

Ronald Lambertson
Acting Assistant Director
U. S. Fish & Wildlife Service
Department of the Interior
Washington, DC 20240

Dear Mr. Lambertson:

Thank you very much for your recent letter approving our regulated shooting area laws and regulations for the taking of pen-reared mallards.

We have been anxious to find ways to take more of the pen-reared birds released annually without having to be trammeled by the State-wide waterfowl hunting regulations. Of course we have permitted the shooting of mallards that were flighted, but have never allowed individuals who release mallards to take over their regular daily State-wide bag limit. With this interpretation we will be able to issue regulated shooting area licenses to individuals who want to release mallards for free-flight on their properties. We will be certain that when we issue these licenses to include a copy of the regulations which you sent me so that the landowners are aware of their responsibilities in this activity.

Thanks very much for your help with this situation.

Sincerely,

Don MacLauchlan

Donald E. MacLauchlan
Director

cc: Waterfowl Advisory Commission
E. Hodil
Regional Managers
Steve Schneider
Larry Hindman

DEM/pal

FWS

1085

MBM

Telephone 301-269-3776
TTY FOR DEAF: STATEWIDE 1-800-492-5062; BALTIMORE 269-2609

ATTACHMENT 7

Bob Smith

United States Department of the Interior

cc: Adm. Binder 9/15/86 FS.

FISH AND WILDLIFE SERVICE
WASHINGTON, D.C. 20240

ADDRESS ONLY THE DIRECTOR,
FISH AND WILDLIFE SERVICE

JUL 3 1986

In Reply Refer To:
FWS/LE REG 20-04-06

Memorandum

To: All Regional Directors

From: Director

Subject: Review of Draft Fact Sheet on Hunting Captive Reared Mallards

Congressman Beryl Anthony (Arkansas) recently requested the Fish and Wildlife Service (Service) to prepare a fact sheet providing information to the public about the regulations governing the hunting of captive reared mallard ducks. Congressman Anthony was particularly interested in the regulations dealing with shooting captive reared birds within the confines of a State licensed shooting preserve and the relationship of this activity to the regulations prohibiting the use of live decoys and baiting. The Service advised Congressman Anthony that we would provide him with a document as close to July 1, 1986, as possible.

The Division of Law Enforcement has prepared the attached draft. However, since the release of any fact sheet establishes de facto Service policy, we are forwarding this draft to you for your review. Because of our commitment to Congressman Anthony, we are requesting that you review this document and provide your comments to the Washington Office, Division of Law Enforcement, Attention: Special Agent in Charge Thomas Striegler, by July 11, 1986. To facilitate your response, comments may be submitted by faxform or the LEMIS message switching system.

Thank you for your cooperation in this matter.

Frank Dunkle

Attachment

FWS
AUG 27 1986
MBM

ATTACHMENT 7

DRAFT

HUNTING CAPTIVE REARED MALLARD DUCKS

It is common practice in many areas for hunting clubs and others to purchase mallard ducklings and release them to the wild in the early summer. Often these ducks are fed on the premises. Then in the fall hunters have many questions about whether these mallards can be shot and if so, under what conditions and in what number. This Fact Sheet answers these questions.

Shooting Preserves

Mallard ducks. Within the confines of any premises licensed as a shooting preserve under State license, permit or authorization, captive reared mallard ducks marked as indicated below may be shot in any number and at any time without regard to the Federal migratory bird hunting regulations (50 CFR 20) and the duck stamp requirement.

Marking requirement. In order for mallard ducks to qualify for the exceptions to the hunting regulations on licensed shooting preserves they must be marked prior to reaching six weeks of age by: (1) removal of the hind toe from the right foot, (2) banding of one metatarsus with a seamless metal band, or (3) tattooing of a readily discernible number or letter or combination thereof on the web of one foot.

ATTACHMENT 7

DRAFT

Other than mallard ducks. The shooting of any other species of captive reared waterfowl or the taking of any wild waterfowl within the confines of a licensed shooting preserve must be in compliance with all the provisions of the Federal migratory bird hunting regulations.

Conflicts. If only properly marked, captive reared mallard ducks are hunted on licensed shooting preserves there is no conflict with Federal regulations. But, if properly marked, captive reared mallard ducks and wild ducks are both hunted, there can be a conflict with Federal regulations concerning baiting and live decoys which are applicable.

NON-SHOOTING PRESERVE AREAS

Mallard ducks. Captive reared mallard ducks properly marked as described above must be taken only in accordance with all Federal migratory bird hunting regulations when taken on areas other than licensed shooting preserves. The fact that the birds have been captive reared, marked and released makes no difference when taken outside a licensed shooting preserve. These birds are treated as wild ducks for purposes of the regulations.

Feeding. Captive reared mallard ducks that are released on non-shooting preserve areas may be fed to keep them on the area. However, care must be exercised so that if taken during the hunting season the baiting and/or live decoy regulations are not violated.

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Live Decoys

Regulation. The Code of Federal Regulations concerning live decoys states "No person shall take migratory game birds by the use or aid of live birds as decoys;..." [50 CFR 20.21(f)].

What is a live decoy? Any live bird (does not have to be waterfowl) used in such a manner or under such circumstances so as to constitute a lure, attraction or enticement of migratory birds to a place or area where hunters are attempting to take them is a live decoy. The live decoy does not have to be pinioned (rendered permanently incapable of free flight), teathered or enclosed in a cage. It can be free flying.

The 10-day rule. Any area where tame or captive live ducks or geese are present and migratory waterfowl hunting is occurring, is considered to be a live decoy area; unless the tame or captive ducks and/or geese are and have been confined in an enclosure which reduces the sound of their calls and conceals them from the sight of wild birds for 10 consecutive days prior to hunting; and they must remain confined throughout the entire period that hunting is occurring in the area. It is illegal to hunt migratory waterfowl in these areas during the first 10 days of confinement or at any time if the birds are released from confinement.

Area of influence. Obviously, if live birds are right in front of the blind or place where hunters are located they are being used as an aid to hunting and this is illegal. However, live birds can also be considered

live decoys and hunting would be illegal when located some distance from the blind even if out of shotgun range. The size of the "area of influence" where hunting is illegal depends on many variables: for example, actual distance of the birds from the hunters, number of live birds involved, proximity of birds and blinds to buildings, terrain features, and weather conditions. The basic concept is that live birds, whether free flying or held in captivity, may not be used to aid the hunting of wild migratory birds.

Captive reared mallard ducks. When mallard ducks are reared in captivity, released on a hunting club and fed all summer they generally become very tame. While they may fly to different parts of the farm pond or marsh, they often do not leave the area, or if they do, they return looking for the feed they are accustomed to. If this pattern continues into the hunting season and hunters allow these semi-tame mallards to swim on the pond near their blinds while hunting wild ducks they generally have an illegal live decoy situation.

Baiting

Regulation. It is unlawful to take migratory game birds by the aid of baiting, or on or over a baited area. [50 CFR 20.21(i)].

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Baiting. "Baiting" means "the placing, exposing, depositing, distributing, or scattering of shelled, shucked, or unshucked corn, wheat or other grain, salt or other feed so as to constitute for such birds a lure, attraction or enticement to, on, or over any areas where hunters are attempting to take them."

Baited area. A "baited area" means "any area where shelled, shucked or unshucked corn, wheat or other grain, salt or other feed whatsoever capable of luring, attracting, or enticing such birds is directly or indirectly placed, exposed, deposited, or scattered."

The 10-day rule. The regulation further states that "...such an area (a baited area) shall remain a baited area for 10 days following complete removal of all such corn, wheat or other grain, salt, or other feed." Thus, an area is considered baited for 10 days after the bait has been removed because waterfowl habitually return to the same area for several days after their food supply no longer exists. Hunting over a baited area is illegal throughout the 10-day period.

Responsibility of Hunter

The migratory bird hunting regulations are a part of the Migratory Bird Treaty Act which is a strict liability statute. This means that guilt may be established without having to prove that the hunter had knowledge or intent to violate the law. The hunter has a responsibility to determine if live decoys or a baiting situation exists.

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What can the hunter do to carry out this responsibility? He should first ask if the area is legal. If there is an unusually large concentration of waterfowl present he should always look for live decoys, bait or any other reason which could cause a large concentration of birds.

ATTACHMENT 8

ATLANTIC FLYWAY COUNCIL

Newfoundland-Labrador	Quebec	Maine	Massachusetts	New York	Delaware	West Virginia	Georgia
Prince Edward Island	Ontario	New Hampshire	Rhode Island	Pennsylvania	Maryland	North Carolina	Florida
New Brunswick	Nova Scotia	Vermont	Connecticut	New Jersey	Virginia	South Carolina	PuertoRico

Atlantic Flyway Council
c/o North Carolina Wildlife
Resources Commission
512 N. Salisbury Street
Raleigh, NC 27604-1188

Director
U.S. Fish and Wildlife Service
Interior Building, Rm. 3256
Washington, DC 20240

Dear Director:

The Atlantic Flyway Council, at its July 1993 meeting, again reviewed the potential serious impacts of releases of captive-reared mallards on wild migratory waterfowl and other bird populations. We were pleased to learn that the Fish and Wildlife Service has announced, through the Federal Register, a Notice of Intent to review 50 CFR 21.13 governing the release of captive-reared mallards. The Council wishes to commend the Service for initiating this long anticipated review.

The Council feels that the above mentioned review will illuminate the need to return to the original intent of 50 CFR 21.13 which was to allow limited releases of mallards on state sanctioned or permitted shooting preserves such as "tower shoot" operations and to ensure precautions are taken to prevent released birds from becoming free ranging in significant numbers. The Council strongly supports this position.

As you are aware, the Atlantic Flyway Council has, in the past, expressed serious concerns about the release of captive-reared mallards. The Council continues to oppose the release of captive-reared mallards which may react with wild waterfowl for the following reasons: problems related to wildlife health, wild population survey data reliability, wild population genetic dilution, population unit management, and harvest regulations development.

The Council continues to be concerned about these issues and will closely follow the progress of the regulations review process. If we can be of any assistance, please let me know.

Sincerely,

Charles R Fullwood

Charles R. Fullwood, Jr., Chairman
Atlantic Flyway Council

ATTACHMENT 8

1 A

ATLANTIC WATERFOWL COUNCIL TECHNICAL SECTION
RECOMMENDATION

RECOMMENDATION NUMBER: 23

INITIATED BY: Environmental and Habitat Management Committee

SUBJECT: Review of Regulations Governing the Release and Harvest of Captive-reared Mallards.

RECOMMENDATION: That the Council forward a letter to the Fish and Wildlife Service commending the initiation of a review of regulations governing the the release and harvest of captive-reared mallards and suggesting that the original intent of 50 CFR 21.13 be reflected in strengthened wording in a revised regulation to ensure that captive-reared mallards released on officially sanctioned hunting preserves not be allowed to become free ranging so as to minimize interaction with wild waterfowl.

ARGUMENTS IN SUPPORT:

1. Council approved recognition of the potential problems associated with releases of pen-raised waterfowl in 1991, 1992, and 1993.

2. Council requested in 1992 and 1993 that the Fish and Wildlife Service issue a Notice of Intent to review regulations governing the release of captive-reared mallards.

3. All Flyway Councils have urged the FWS to perform this review.

ARGUMENTS IN OPPOSITION:

1. None.

ATTACHMENTS: Letter to FWS Director

ACTION BY TS:

APPROVED BY: Patrick O. Gen 22 July 93
Chairman, Technical Section Date

Charles R. Sullivan 7-30-93
Chairman, Atlantic Flyway Council Date

ATTACHMENT 8

Atlantic Waterfowl Council

April 1, 1993

Atlantic Flyway Council
N. C. Wildlife Resources Commission
512 N. Salisbury Street
Raleigh, NC 27604-1188

Mr. John F. Turner, Director
U.S. Fish and Wildlife Service
Interior Building 1849 C St. NW
Washington, DC 20240

Dear Mr. Turner:

The Atlantic Flyway Council, at its March 1993 meeting, again reviewed the potential impacts of releases of captive-reared mallards on wild migratory waterfowl and other bird populations. The purpose of the Council's review was to investigate anticipated progress by the Service in developing a new national policy which addresses this issue.

After review, the Council now understands that the Notice of Intent to review the captive-release issue, as proposed by the Service in early 1992, was never released and has now been revised to a proposed "Notice of Involvement" process. Council feels the issue has been reviewed by its Technical Section and by other Flyway Councils and states since 1991 and the proper next step in considering the formulation of a new policy would be the acceptance of public comment.

The Atlantic Flyway Council, therefore, strongly urges the U.S. Fish and Wildlife Service to complete its review of this issue and to promptly commence with the release of a Notice of Intent for public comment for the purpose of developing a new policy on captive-reared mallards on state licensed shooting preserves.

Sincerely,

Charles R. Fullwood

Charles R. Fullwood, Chairman
Atlantic Flyway Council

cc: Atlantic Flyway Council Representatives

ATTACHMENT 8

MISSISSIPPI FLYWAY COUNCIL

3

Recommendation No. 9

Subject:

Modification of FWS regulations on release and hunting of captive-reared Mallards

Recommendation:

That the MFC reiterates its positions of opposition to the release of pen-reared or wild-strain, captive-reared mallards into the wild and that CFR 21.13 be revised to apply only controlled "tower shoots" through comment to the Fish and Wildlife Service.

Justification:

The FWS has published a Notice of Intent to review regulations pertaining to the release and hunting of captive-reared mallards. The MFC has passed resolutions regarding the release of pen-reared and hand-reared mallards on 19 March 1989, and 30 July 1990. Further, in March 1992 the Council passed a recommendation from the Law Enforcement Committee that CFR 21.13 apply only to restrictive situations such a tower shoots; when mallards are free-flying they would be afforded full protection under the Migratory Bird Treaty Act.

Action:

Approved by Technical Section July 27, 1993 Date

Approved by Council July 29, 1993 Date

ATTACHMENT 8

Recommendation No. 7

Pertaining to: 4

Release and harvest of captive-reared mallards

Recommendation:

The Central Flyway Council supports the Fish and Wildlife Service review of regulations governing the release and harvest of captive-reared mallards.

Justification:

The June 1, 1993, Federal Register announced the intent of the Fish and Wildlife Service to review all aspects of the regulations pertaining to the release and harvest of captive-reared mallards.

The Council shares the Service's concerns about the effects of captive-reared mallard releases and the harvest of these birds on the Mid-winter Waterfowl Survey, harvest surveys, banding programs, population unit management, regulations development, disease potentials and the genetic diversity of mallards, black ducks and mottled ducks.

The Council supports this review and encourages the Service to implement regulations which will adequately protect wild migratory bird resources and migratory game bird hunting. The Council has no specific recommendations at this point, but looks forward to assisting the Service in any way possible during this review and the subsequent implementation of improved regulations.

Adopted by:

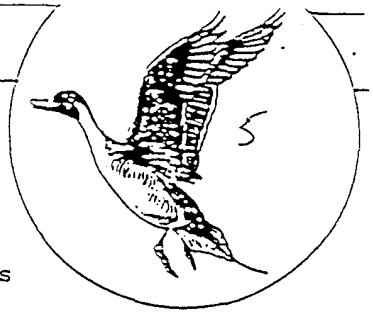
Central Flyway Waterfowl Technical Committee
Great Falls, Montana
July 28, 1993

Tom Keng

Central Flyway Council
Great Falls, Montana
July 30, 1993

ATTACHMENT 8

PACIFIC FLYWAY COUNCIL



Recommendation No.: 15

Title: Captive-Reared Mallard Release Programs

Recommendation:

The Pacific Flyway Council recommends that the USFWS ban by rule all free-flying, captive-reared mallard release programs.

Justification:

The USFWS is currently seeking public comment on rules and regulations pertaining to captive-reared mallard release programs.

The Council adopted a moratorium last year against the establishment of new captive-reared programs in the Flyway until the Service addresses policies and rules governing these activities. Issues addressed last year by the Council included:

1. disease threats to wild populations
2. regulation conflicts dealing with baiting and live decoy prohibitions
3. biases in interpreting population data when wild and captive-reared birds mix
4. genetic integrity of wild stocks of mallards

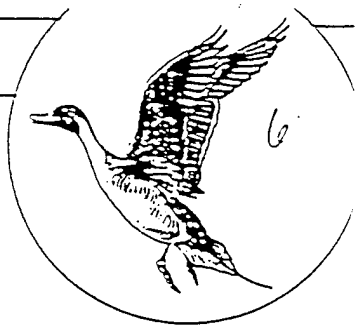
Captive-reared programs, of all kinds, still pose threats to management programs and those programs dealing with the release of free-flying birds that can come into contact with wild populations need to be prohibited.

Adoption: PFS Comm./WMUGB Tech. Comm. 7/27/93 TA

Pacific Flyway Council Approved 7/29/93

ATTACHMENT 8

PACIFIC FLYWAY COUNCIL



July 28, 1993

Mollie Beattie, Director
U.S. Fish and Wildlife Service
Department of the Interior
Room 634-Arlington Square
Washington, DC 20240

Dear Ms. Beattie:

On behalf of the Pacific Flyway Council (Council) I would like to comment on captive-reared mallard release programs. We appreciate that the Service is reviewing rules and regulations governing the release of captive-reared mallards.

The Council has been on record for the past year as having concerns with the proliferation of captive-reared mallards programs. We have adopted a moratorium against the establishment of new programs in the Flyway until the Service addresses policies and rules governing these activities.

While the intentions of captive-reared mallard program supporters may be to keep hunters interested in the sport of waterfowling, these programs are jeopardizing a valuable public resource. Once free-flying birds are released they then become a threat to the public's wild stock of birds, especially since many of these captive-reared birds are not killed immediately. We concur with the Service that the main issues involved with these programs are disease threats to wild waterfowl populations, regulation interpretations dealing with baiting and live decoy prohibitions, biases in interpreting population data when wild and captive-reared birds mix, and genetic integrity of wild stocks of mallards and black ducks.

The decline in many waterfowl populations across the continent remains the primary concern to waterfowl managers in the Pacific Flyway but shooting programs dealing with captive-reared mallards is also of great concern. The interest of waterfowl enthusiasts should be focused on maintaining and creating habitats to assist in the recovery and maintenance of wild stocks of birds. The proliferation of captive-reared mallards shifts the focus away from true population management problems.

While not appealing to everyone, the use of "tower shooting" of captive-reared mallards helps to ensure that these birds do not become established in the wild thus minimizing the impacts on wild populations. If tower shoots are allowed to continue, strict

ATTACHMENT 8

operating and permit criteria must be outlined to protect wild waterfowl populations.

The Council recommends that the Service ban by rule any free-flying, captive-reared mallard release programs and that current programs be stopped. This is the only reasonable way to ensure the protection of wild waterfowl populations and related management activities. A quick decision on this issue would be appreciated.

The Council would also ask the Service to review the issue and develop policies related to all captive-reared waterfowl release programs. For example, the practice of taking eggs from the wild and raising birds from these eggs for release back into the wild carries some of the same disease threats as do captive-reared mallard programs.

Thank you for this opportunity to comment on this important issue.

Sincerely,

Tim Provan
Chairman

LTR Faxed 7/29/93

ATTACHMENT 8

Proceedings of the 80th Convention, 1990

International Association of Fish and Wildlife Agencies

(with reports from March and December 1990 meetings)

September 8-12, 1990

Monteleone Hotel
New Orleans, Louisiana

ATTACHMENT 8

IAFWA Resolution No. 11, September 12, 1990

POSITION ON HAND-REARED WATERFOWL/POPULATION AUGMENTATION

WHEREAS, wild waterfowl populations respond to the presence or absence of good breeding habitat; and

WHEREAS, hand-reared ducks, released into the wild, will be subject to the same limiting factors that are currently depressing duck recruitment; and

WHEREAS, studies have demonstrated inferior survival and reproduction in released hand-reared ducks; and

WHEREAS, costs of a hand-reared duck release program may detract from habitat management programs that benefit many species;

NOW, THEREFORE, BE IT RESOLVED that the International Association of Fish and Wildlife Agencies opposes the release of hand-reared waterfowl into the wild as an intended population augmentation practice.

ATTACHMENT 9

MAR 10 1994

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Washington, D.C. 20240

TAKE PRIDE IN AMERICA

ADDRESS ONLY THE DIRECTOR
FISH AND WILDLIFE SERVICE
In Reply Refer To:
FWS/MBMO 94-00541

MAR 7 1994

Memorandum

To: Director, Office of Regulatory Affairs

From: Deputy Director

Subject: Regulatory Review -- Captive-reared Mallards (1018-AB77)

The Fish and Wildlife Service (Service) announced its intent to review the regulations governing the release and harvest of captive-reared mallards (50 CFR 21.13) on June 1, 1993. That Notice of Intent generated considerable response.

Along with the public comments received, Congress made it very clear that precipitous action on a proposed rule would not be appropriate from their perspective. The language in the FY 1994 Appropriations Bill reflects this:

> Senate Report (p. 16): "The Service should terminate any revisions to, or promulgation of additional regulations, related to the release and harvest of captive-bred mallards in regulated shooting areas (RSA's) until the 3 year study of duck release programs, partially funded by the Service, is completed and its results provided to the Committees on Appropriations."
>
> Conference Report (p. H8038): "The managers urge the Fish and Wildlife Service to complete its review of the regulations governing the release and harvest of captive-reared mallards on State licensed regulated shooting areas. The Service should review all data bases on this issue, including its current study on duck release programs as well as other studies in progress, and present its findings to the Committees on Appropriations and other interested parties before considering any changes in regulations."

As a result of the public and Congressional comments, the Service realized that additional data-gathering and analysis were needed prior to the development of any proposed rule. These activities have begun and will continue through the 1993-94 hunting season.

As a consequence, the regulatory schedule established by the Service earlier in the year is no longer valid. We intend to prepare a supplemental notice of intent to announce the findings of our investigations, to summarize public comments received, and announce any further plans for regulatory action and corresponding schedules.

ATTACHMENT 9

A proposed rule on health certification will be published at the same time. We have listed projected dates below for the supplemental notice of intent:

07/01/94 Regulatory Alert Form
07/15/94 Internal Review
08/01/94 External Review
08/22/94 Director or Assistant Secretary Signature
09/09/94 Office of Regulatory Affairs
09/30/94 Office of Management and Budget
10/28/94 Publication in Federal Register

I hope that the change in plans does not create any inconvenience. This issue will likely continue to be controversial; however, we believe that the approach we are currently following will provide the best foundation for future regulatory decisions.

Bruce Blanchard for Richard Smith

cc: MIB/FWS 3012 Directorate Read File
MIB/FWS 3249 ARW
634 ARLSQ/FWS Ops Read File, MBMO SURNAME
Atlantic Flyway Representative
FWS/MBMO:WOVOGEL:trs:358-1838:02/09/94:LETTERS/FORGIVE.CRM
re:PGERTLER:prh:02/25/94

ATTACHMENT 10

International Association of Fish and Wildlife Agencies

Representing Fish and Wildlife Agencies since 1902

Hall of the States, 444 North Capitol Street, NW, Suite 544, Washington, DC 20001
Telephone (202) 624-7890 • Fax (202) 624-7891 • E-mail: iafwa@sso.org • Web Page: www.sso.org/iafwa

President Robert L. McDowell, New Jersey
Executive Vice-President R. Max Peterson
Secretary/Treasurer C. Thomas Bennett, Kentucky
Vice-President George E. Meyer, Wisconsin

November 23, 1999

Ms. Jamie Rappaport Clark
U.S. Fish and Wildlife Service
1849 C Street, NW
MailStop 3012 MIB
Washington, DC 20240

Dear Ms. Clark:

At the International Association of Fish and Wildlife Agencies (IAFWA) annual meeting in Killington, Vermont in September, the Migratory Wildlife Committee of the IAFWA, as well as the Waterfowl Subcommittee, were informed that the FWS had not released a report on the possible adverse effects of releasing captive-reared mallards into the wild for hunting purposes. We understand that the report, which was due five years ago, has yet to be completed. We also understand that the Atlantic Flyway Council has repeatedly asked the FWS to complete and release this report.

While this issue has been controversial for a number of years, addressing the release of captive-reared mallards has now become critical. As you know, the National Wildlife Health Center has documented Duck Viral Enteritis virus in captive and released mallards on the eastern shore of Maryland. Should this virus spread to and through wild waterfowl populations, the net result could be devastating. With the large number and high density of waterfowl that winter in the Chesapeake Bay area the potential for the virus to move rapidly in the wild is very high and could affect other populations along the Atlantic Coast.

I would strongly urge you to address this issue immediately by completing and releasing the report before the end of this year.

Sincerely,

David Waller

David Waller, President
International Association of Fish and Wildlife Agencies

ATTACHMENT 11

JOINT FLYWAY COUNCIL MEETING
Memphis, Tennessee
July 23-28, 2000

JON ANDREW
CHIEF DIVISION OF MIGRATORY BIRD MANAGEMENT
US FISH AND WILDLIFE SERVICE
ARLINGTON SQUARE ROOM 634
ARLINGTON VA 22203

SUBJECT: FLYWAY COUNCILS JOINT RECOMMENDATION 13

DATE: November 29, 2000

Dear Jon:

Attached is a copy of the Flyway Councils' Joint Recommendation 13 requesting the U.S. Fish and Wildlife Service complete the evaluation of the effects of releasing captive mallards under Federal Regulations 50 CFR 20 and 21 and a copy of the letter to Director Clark that accompanied Recommendation 13. This Recommendation was passed by all four Flyway Councils during the summer 2000 Joint Meeting. The Councils look forward to receiving your analysis as soon as possible.

Sincerely,

Thomas M. Hauge, Chair
National Flyway Council

Enclosures

ATTACHMENT 11

JOINT FLYWAY COUNCIL MEETING
Memphis, Tennessee
July 25-28, 2000

Flyway Councils Joint Recommendation

RECOMMENDATION NUMBER: 13

SUBJECT:

Completion by the U.S. Fish and Wildlife Service of the Evaluation of the Effects of Releasing Captive Mallards under Federal Regulations 50 CFR 20 and 21.

RECOMMENDATION:

That the Flyway Councils send a letter to the Director of the U.S. Fish and Wildlife Service requesting that the Service complete its evaluation of the effects of releasing captive mallards under 50 CFR 20 and 21 as proposed in its notice of intent (FR 1993: 58 (103)). This action has been requested repeatedly by letter from the Atlantic Flyway Council and in November 1999 by the International Association of Fish and Wildlife Agencies.

JUSTIFICATION:

(1.) Releasing large numbers of captive reared mallards may affect the genetic identity of wild mallard stocks and may increase interbreeding with other species such as the black duck and mottled duck.

(2.) Release of large numbers of captive reared mallards may introduce or transmit diseases such as duck plague or fowl cholera to wild waterfowl populations. DVE (duck plague) was identified in Maryland in 1998 in captive and released mallard populations.

(3.) Current interpretation of these regulations may seriously compromise the ability of wildlife professionals to monitor wild mallard populations through aerial surveys, harvest surveys and banding programs.

(4.) Databases used to establish harvest regulations within each flyway may be biased due to the presence of large numbers of released mallards and management decisions may be compromised to some degree

ATTACHMENT 11

JOINT FLYWAY COUNCIL MEETING
Memphis, Tennessee
July 23-28, 2000

Recommended by:

Atlantic Flyway Council Technical Section — Date 7/28/00

Mississippi Flyway Council Technical Section — Date 7/28/00

Central Flyway Council Technical Committee — Date 7/28/00

Pacific Flyway Council Study Committee — Date

Approved by:

Atlantic Flyway Council — Date 7/28/00

Mississippi Flyway Council — Date 7/28/00

Central Flyway Council — Date 7/28/00

Pacific Flyway Council — Date

ATTACHMENT 11

JOINT FLYWAY COUNCIL MEETING
Memphis, Tennessee
July 23-28, 2000

Ms. Jamie Rappaport Clark, Director
U.S. Fish and Wildlife Service
Main Interior Bldg., Room 3256
1846 C Street N.W.

Dear Ms. Clark

The Flyway Councils are concerned over potential adverse effects of releasing captive reared mallards into the wild for sport hunting purposes. This activity is increasing and has been a controversial issue for many years. The issue is of special concern at this time due to documentation by the National Wildlife Health Center of duck viral enteritis virus in captive and released mallards on the Eastern Shore of Maryland in 1998.

The U.S. Fish and Wildlife Service published a notice of intent on June 1,1993 to review Federal Regulation 50CFR: 21 governing the release of captive mallards for hunting. The purpose of the Notice was to solicit public comment and to gather information concerning the possible adverse effects of releasing unlimited numbers of mallards for hunting purposes. Areas of concern included potential for transmission of disease to wild waterfowl, the confounding of waterfowl harvest and population surveys, possible confusion and bias introduced into banding programs, contamination of wild mallard gene pools and competition and hybridization with wild black duck and mottled duck stocks. Questions were also raised regarding the ability of managers to identify discrete populations of wild waterfowl and conduct population management on a flyway basis or to develop regulations for wild waterfowl due to the presence of large numbers of released birds. Concerns were also raised about legal questions regarding live decoys and baiting covered in 50CFR: 20. A report was due in the fall of 1994. Unfortunately, the report has yet to be completed in spite of repeated requests.

The Flyway Councils request that you expedite the effort to complete this report and make it available for review as soon as possible.

Sincerely

ATTACHMENT 12

In Refer Reply To:
FWS/AMBS-DMBM

Frank Montalbano
Division of Wildlife
FL Game & Fresh Water Fish Commission
620 S. Meridian Street
Tallahassee, Florida 323699-1600

Dear Mr. Montalbano:

Recently, all four Flyway Councils and the International Association of Fish and Wildlife Agencies (IAFWA) urged the U.S. Fish and Wildlife Service to resume its review of the potential effects of releasing free-flighted mallards on State-licensed shooting preserves, also known as regulated shooting areas. The Service has agreed to this request and intends to complete its review of the Federal Regulations (50 CFR 21.13) governing the release and harvest of captive-reared mallards on shooting preserves operated under State license or permit, as published in the June 1993 Notice of Intent (58 FR 31247). However, as a first step, we request your assistance in updating our baseline information on captive-reared mallard releases by States in your flyway.

Although the Service initiated its review and solicited input from State wildlife agencies in 1993, this effort was suspended because of provisions attached to the 1994 Congressional Appropriations Bill requesting the Service to withhold any promulgation of new regulations until further studies were completed. Since then, studies conducted by Louisiana State University and the National Wildlife Health Center have been completed and results are available for consideration in this review. Although this review initially was specific to licensed shooting preserves, we now plan to also include data on other captive-reared mallard release programs. A primary focus will be to assess the potential effects of these releases on the status and management of wild-stock migratory waterfowl.

Accordingly, we are requesting that you provide information from the most recent year available to complete the attached questionnaire. In addition, we would appreciate knowing the views of State agencies about, and/or problems associated with, these programs. **Please complete and forward information to:** ***Jerry Serie, Atlantic Flyway Representative, Division of Migratory Bird Management, U.S. Fish and Wildlife Service, 12100 Breech Forest Drive, Suite 224, Laurel, MD 20708-4038 or by e-mail to: Jerry_Serie@fws.gov.***

ATTACHMENT 12

Thank you in advance for this information. We appreciate the Flyways' continued partnership in the management of our nation's waterfowl resources. If you have any questions, please contact the Service's Flyway Representative for your Flyway.

Attachments

Sincerely,

Jon Andrew, Chief
Division of Migratory Bird Management

S:\MBMO\BRSURVEY\COR\covermemo captivemall survey.wpd

ATTACHMENT 13

THE UNIVERSITY OF MARYLAND
CENTER FOR ENVIRONMENTAL AND ESTUARINE STUDIES
Appalachian Environmental Laboratory

January 17, 1989

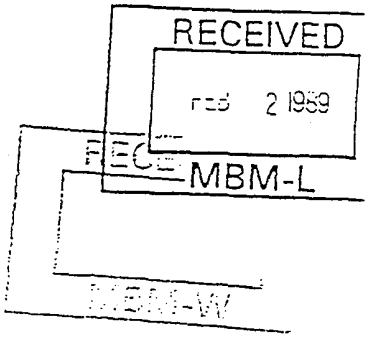
Dr. Rollin T. Sparrow, Chief
Office of Migratory Bird Management
United States Fish and Wildlife Service
Washington, D.C. 20240

Dear Dr. Sparrow:

Enclosed is a grant proposal that I hope you will consider for partial funding support. The proposal outlines research designed to thoroughly evaluate the release of captive-reared Mallards. I have subdivided the proposal into three somewhat discrete packages. This was done to make it easier to go to several groups for funding. The Maryland DNR is unable or unwilling to fund the entire research proposal.

I know you are aware of how little we know about the effects of the released birds on wild waterfowl, especially Black Ducks. An evaluation of the Maryland release programs (both state and private) would also be of great interest and importance to groups outside the state. The drought induced acceleration of population declines has lead to a nationwide interest in release programs as a quick fix to the problem. A variety of influential people are calling for releases of captive waterfowl. Expenditure of public or private funds on such programs is certainly a setback for other worthy causes, notably the North American Waterfowl Management Plan.

Please do not hesitate to contact me if you need additional information about any aspect of the proposed research or funding. I would be delighted to discuss this proposal with you or anyone else in Migratory Birds. I would also be happy to provide my C.V. and names of references who could provide a frank assessment of my abilities as a researcher. Finally, I might mention that I sent this same proposal to Dr. Trauger at Patuxent.



Sincerely,

Dr. Frank C. Rohwer
Avian Ecologist

Gunter Hall, Frostburg, Maryland 21532

ATTACHMENT 13

Title:	Evaluation of State and private releases of captive-reared Mallards. Stage II. Reproductive performance of released Mallards
Submitted to:	Department of the Interior U.S. Fish and Wildlife Service
Submitted by:	Appalachian Environmental Laboratory Center for Environmental and Estuarine Studies University of Maryland Frostburg, MD 21532
Principle Investigator:	Dr. Frank C. Rohwer
Amount Requested:	$33,405
Proposed Duration:	August 1989 - August 1992

Frank C. Rohwer, Assistant Professor
Appalachian Environmental Laboratory

Kent B. Fuller, Professor and Head
Appalachian Environmental Laboratory

ATTACHMENT 13

Table of Contents

ATTACHMENT 13

Abstract

This proposal outlines research designed to evaluate the effects of Mallard release programs conducted by the Maryland Forest, Parks and Wildlife Service and private individuals, primarily on registered shooting areas (RSAs) in Maryland. This proposal is divided into subproposals that address three stages in the annual cycle of the released birds. The first stage focuses on the period from release of young birds until early fall and the influx of wild migrants. Research during this phase (proposal stage I) will determine estimates of survival rates, movements, and habitat use of released birds. These data will depend on an intensive monitoring of large numbers of radio-telemetered Mallards. During the second period in the annual cycle (proposal stage II) research will focus on the fall and winter ecology of released birds and wild waterfowl, which may interact with the released Mallards. Again, much research effort will be placed on tracking the movements and habitat use of both State released and private released Mallards. In addition, the use of RSAs by wild ducks and their susceptibility to hunting on RSAs will also be assessed. These data will require observation of RSAs and surveys of harvests of captive-reared and wild birds. To assess the threat of transmission of infectious diseases I will periodically search RSAs for dead birds These carcasses and those recovered from the telemetry work will be submitted to the Animal Health Laboratory for disease testing, especially for duck virus enteritis and avian cholera. The stage III subproposal deals with the reproductive period of the annual cycle. Because of early pairing of Mallards and Black Ducks the research begins in November, but intensive monitoring of the surviving captive-reared Mallards will begin in late January. Through radio-tracking I will determine what fraction of birds pair and who they pair with, whether survivors leave the area, and the reproductive success of the released Mallards that breed in the region.

ATTACHMENT 14

SURVIVAL, BEHAVIOR, AND MOVEMENTS OF CAPTIVE-REARED MALLARDS RELEASED IN DORCHESTER COUNTY, MARYLAND

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
In partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

Wildlife and Fisheries Science

By
David Benjamin Smith
B. S., Auburn University, 1985
M. S., University of Miami, 1991
December, 1999

ATTACHMENT 14

ABSTRACT

Private landowners with regulated shooting areas (RSA) and the Maryland Department of Natural Resources (DNR) have released up to 120,000 hand-reared mallards (Anas platyrhynchos) a year. Duck harvest on Wildlife Management Areas (WMAs) included 30, 18, and 6 percent state mallards and 6, 10, and 4 percent RSA mallards in 1991, 1992, and 1993, respectively. Kaplan-Meier survival estimates for radio-marked mallards released on RSAs were 81-85% for mid-August to mid-October, but declined to 32.5% ± 13.7 (95% C.I.) by the end of the hunting season in 1992 and 54.3% ± 22.8% in 1993. Hunting accounted for 71% of all mortalities of RSA mallards in 1992 and 45% in 1993. Survival of DNR mallards at 7 weeks post-release was 23.0 ± 10.6% and 28.4% ± 17.8% for 1992 and 1993. Supplemental feeding of mallards released by DNR appeared to increase ($P < 0.001$) their survival to 7 weeks post-release (survival = 0.915 ± 0.10). This result suggests that the low survival of mallards released by DNR was the result of energetic and/or nutritional deficiency. RSA mallards preferentially use the habitat on the RSA where they were released ($P<0.01$). Characteristics of the source RSA affected the choice of property types used, although the source RSA was always among the most preferred types. Home range sizes and maximum distances moved from the release site were positively related to the size of the source RSA ($P<0.05$). Mallards released on RSAs composed primarily of marsh habitats moved farther and had larger home ranges than those released on upland properties ($P<0.05$). I recorded pair status and origin of 772 American black ducks (Anas rubripes) and 4,960 mallards in 1992

ATTACHMENT 14

and 1993. Black ducks paired earlier than mallards, and wild mallards paired earlier than released captive-reared mallards. Pairing was highly assortative, only 3 of 229 female black ducks (1.3%) were paired with drake mallards. Three of 492 paired female mallards were paired with hybrid black duck x mallard males. In contrast, there were 8.4% hybrids among the black duck population based on hunter bag checks at WMAs. There was also assortative mating between wild and captive-reared mallards.

ATTACHMENT 15

Perceptions of Releases of Captive-reared Mallards, with Emphasis on an Intensive Program in Maryland

David B. Smith and **Frank C. Rohwer**
School of Forestry, Wildlife, and Fisheries
Louisiana Agricultural Experiment Station
Louisiana State University Agricultural Center
Baton Rouge

The release of captive-reared mallards historically has been a popular response to declining waterfowl populations. In the early 1990s, Maryland was the only state to have a legislatively mandated mallard release program and a large private release program in state licensed Regulated Shooting Areas (RSAs) (Maryland annotated Code 10-906). At their peak in the late 1980s, the Maryland Department of Natural Resources (MDNR) and private groups released about 40,000 and 100,000 mallards per year, respectively. Dorchester County had the highest number of mallard releases on RSAs (82,000) (L. Johnson personal communication: 19??) and on public wetlands (7,400) (L. Hindman personal communication: 19??) in Maryland.

Maryland Department of Natural Resources

The MDNR began operational releases of mallards in 1974 under a legislative mandate that authorized Maryland's duck stamp. Fifty percent of the proceeds from the sale of state duck stamps was earmarked for the MDNR mallard release program, with the goals of improving local hunting and, secondarily, increasing local production (Hindman et al. 1992). MDNR released up to 40,000 birds annually between 1974 and 1993, when the program was ended. MDNR purchased five- to seven-week-old ducklings that were nonstop trucked to Maryland (24 hours), unloaded, given access to water and distributed to releases sites within 24 hours. Birds were released in groups of up to 400 per site in late July to mid-August on estuarine marshes. They received no supplemental food or care after release (Hindman et al. 1992).

Regulated Shooting Areas are private properties where captive-reared birds are banded, released and harvested by RSA owners and their guests (Maryland DNR Title 08, Subtitle 03, Chapter 09). The U.S. Fish and Wildlife Service (USFWS) allows such regulated releases under Federal Regulation 50 CFR 21.13. Releases on RSAs may be of flighted or free-flying mallards. The flighted mallards are typically released from a tower and shot immediately; whereas the free-flying mallards are released weeks to months before shooting takes place. Released mallards must be toe clipped before four weeks of age and banded or marked in some other approved manner. Prior to issuance of an RSA permit, the MDNR is responsible for determining that the operation of an RSA will not conflict with any reasonable prior public interest. RSAs must be at least 50 acres (20.2 ha) to have flighted mallard releases and at least 200 acres (80.9 ha) to release and harvest free-flying mallards or upland game.

ATTACHMENT 16

Please provide the following information regarding captive-reared mallard releases in your State:

This survey pertains only to mallard release programs intended to supplement hunting or shooting (not dog trials). Please provide information from the most recent year available for your State. If this information is not available, you may wish to contact the shooting preserves or private organizations directly. These results will be used to update the survey conducted by the Service in 1993. Also, please indicate your State's view regarding mallard release programs and/or any problems associated with these activities.

Flyway:

State: **Contact Person:**

I. Questions relating to State-licensed shooting preserves/regulated shooting areas:

A. Number of licensed shooting preserves in your State: _____

B. Number of preserves shooting captive-reared mallards: _____

C. Mallard release method (# of preserves using method):

C.1 tower-type (release and recapture) method _____

C.2 free-flighted (free-ranging) method _____

C.3 other methods (specify) _____

D. Number of mallards released annually (approx.)

D.1 tower-type _____

D.2 free-flighted _____

D.3 other _____

E. Number of captive-reared mallards harvested annually (approx.)

E.1 tower-type _____

E.2 free-flighted _____

E.3 other _____

F. Do you permit shooting preserves to harvest captive-reared mallards in any number, at any time, including outside the regular duck season for wild ducks? (Yes/No) _____

G. Do you limit the locations of shooting preserves releasing captive-reared mallards relative to the distribution of wild ducks? (Yes/No) _____

ATTACHMENT 16

II. Questions relating to other mallard releases

A. Number of other organizations, private clubs, or individuals in your State (e.g. waterfowl associations, FFA) releasing captive-reared mallards _____

B. Number of mallards released annually (approx.) _____

C. Are non-FWS bands put on released birds? (Yes/No) _____

D. What is the harvest rate (if known)? _____

E. Are captive-reared mallards allowed to be released on State lands? (Yes/No) _____

III. Questions about captive-reared mallard programs

A. Does your State agency view captive-reared mallard releases as positive, negative, or neutral? Give specifics in comment section. _____

B. Have there been any documented cases of disease problems associated with captive-reared mallards released in your State? (Yes/No) Provide any specifics in comment section. _____

C. Do you have any information pertaining to enforcement problems associated with captive-reared mallard releases? (Yes/No) Give specifics in comment section. _____

D. Does your agency favor more restrictive Federal regulations controlling the release of captive-reared mallards into the wild for shooting? (Yes/No) _____

General Comments (attach additional sheets if needed):

_____

_____

_____

_____

_____

_____

_____

_____

ATTACHMENT 17

CRM Refuge Questions:

Please provide answers to the following questions based on the most recent information available on your specific National Wildlife Refuge.

1. Are you aware of any captive-reared mallard releases occurring in the vicinity or close proximity (10 miles) surrounding a particular National Wildlife Refuge (list group or organization)?

2. If so, what evidence do you have that captive-reared mallards actually occur or otherwise make usage of the refuge on a seasonal or continuing basis (give relative numbers)?

3. Are you aware of any adverse impacts that occurs as a direct result of captive-reared mallards frequenting the refuge (i.e. habitat, pairing with black ducks or mottled ducks, nuisance)?

4. Do you have any evidence of disease interactions between captive-reared mallards and wild-stock migratory waterfowl (duck plaque, cholera, etc.)?

5. Do captive-reared mallards interfere with existing population monitoring and banding activities directed toward management of wild-stock migratory waterfowl (breeding and midwinter surveys, banding operations)?

ATTACHMENT 18

Environment Canada / Environnement Canada

Ottawa, Ontario
Canada
K1A 0H3

Dr. Bob Blohm
Acting Chief, Division of Migratory Birds Management
U.S. Fish & Wildlife Service
Arlington Square, Room 634
4401 N. Fairfax Drive
Arlington, VA
USA 22203

August 26, 2002

Dear Dr. Blohm:

Thank you for the opportunity to comment on the USFWS's "Review of Captive-Reared Mallard Regulations On Shooting Preserves". CWS views the release into the wild of captive-reared mallards as a serious conservation issue.

Let me first describe the regulations and policy in Canada which prohibit the raising and release of waterfowl for the purpose of shooting. The Migratory Birds Convention Act (which implements our joint Migratory Birds Convention) allows for holding and breeding of migratory birds in captivity. However, an Avicultural Permit, issued by CWS on behalf of the Minister of the Environment, is always required, for all species. There are a number of conditions to be fulfilled prior to, and following, the receipt of an Avicultural Permit (see Section 20 of the *Migratory Birds Regulations* [MBRs] in Attachment A).

The MBRs make it clear that no birds held under an Avicultural Permit may be shot, nor may they be released from captivity. It is specified that "*the holder of an avicultural permit may kill migratory birds held by him ... in any manner except shooting, ...* ", and that "*no person shall release into the wild a migratory bird held under authority of an avicultural permit unless authorized by the Minister*" (Subsection 4). The conditions under which releases to the wild would be permitted are described in the CWS Permit Policy (see Attachment B) which states that *"A written application from an aviculturalist, to take migratory birds from or release them to the wild, must show that he has the qualifications, experience and suitable facilities to propagate wild-captured stock, as part of a research or management project approved by the CWS"*. Release for the purpose of shooting would not be approved by CWS. Further, *"all birds held under authority of an Avicultural Permit must be wing-clipped, pinioned or kept in an enclosure to prevent their escape to the wild"* , and "*The applicant must demonstrate that his acitivities ..... will not significantly affect wild stocks of birds ....*" (Attachment B).

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ATTACHMENT 18

The purpose of stringent restrictions on the possession and release of captive-reared birds is to address our primary concern, that is, the effect on wild birds of the integration of captive-reared birds into wild populations. The Review by the USFWS provides evidence for many of these potential effects, including; dissemination of avian diseases, reduction or loss of genetic integrity of wild stocks through hybridization, and competition for resources. Additional issues include increasing nuisance problems, and effects on natural migration movements. While there is evidence that each of these effects may be occurring, we believe that even the simple probability of their occurrence is enough to warrant control measures because of the seriousness of the effects.

We are particularly concerned about the effect that releases of mallards in the eastern U.S. could have on wild populations of black ducks breeding in eastern Canada. Competition and/or hybridization with mallards is felt to be one of the factors leading to the decline of black ducks. We are also very concerned about the effect of these large scale releases on monitoring programs. Surveys to estimate population sizes and trends, estimates of harvest and studies of survival and recovery rates based on banding are all confounded by the presence of captive-reared mallards in wild populations. Captive-reared waterfowl, released into the wild either accidentally or purposefully for shooting or other reasons do become integrated into wild migratory populations. Although we do not keep comprehensive records, bands from captive-reared birds have been reported from at least 5 Canadian provinces.

The Review is restricted to the subject of releases in a free-flighted or free-ranging condition on licensed shooting preserves, and recommends that tower-type releases be required. The reason for this is that fewer birds survive and escape tower shoots. Nevertheless, birds do survive and become integrated into wild populations (the Review indicates that only about 44% of free-flighted birds are harvested, while about 70% are harvested in the tower shoot situation). While the number of survivors of tower shoots may be fewer, the potential seriousness of their effects is the same.

In Canada, tower shooting is also prohibited under the MBRs described above, as well as by the Criminal Code of Canada. Specifically, Section 446 subsections (f) and (g) contribute to our shared conservation goals by preventing the release of captive birds:

> *446. (1) Everyone commits an offence who ...*
> *(f) promotes, arranges, conducts, assists in, receives money for or takes part in any meeting, competition, exhibition, pastime, practice, display or event at or in the course of which captive birds are liberated by hand, trap, contrivance or any other means for the purpose of being shot when they are liberated; or*
> *(g) being the owner, occupier, or person in charge of any premises, permits the premises or any part thereof to be used for a purpose mentioned in paragraph (f).*

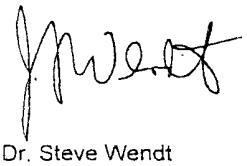
Canada and the United States are obligated to protect shared wild migratory populations under the *Migratory Birds Convention*. We note that the recommendations of this Review relate only

/..3

ATTACHMENT 18

to the release of captive-reared mallards in a free-flying state on licensed shooting preserves. Nevertheless, the conclusions are relevant to releases of any kind. While we agree with the recommendations of the Review, CWS encourages the USFWS to broaden its view and implement policy and regulations that will prevent the release or escape of captive-reared waterfowl of any species into wild populations. While some organizations and individuals wish to increase hunting opportunity artificially, a sustainable long-term visionary approach is to improve the quality and distribution of waterfowl habitat in North America.

Sincerely,



Dr. Steve Wendt
Chief, Migratory Birds Conservation
Canadian Wildlife Service

ATTACHMENT 18

ATTACHMENT A - Excerpted from the Migratory Birds Regulations

AVICULTURAL PERMIT

20. (1) No person shall

(*a*) buy, sell, possess or transport live migratory birds or their eggs for avicultural purposes except under an avicultural permit issued by the Minister;

(*b*) take migratory birds or their eggs for avicultural purposes, from the wild, except under authority of a permit issued by the Minister; and

(*c*) subject to subsection (2), kill migratory birds that are bought, sold, taken, possessed or transported pursuant to an avicultural permit.

(2) The holder of an avicultural permit may kill migratory birds held by him pursuant to his avicultural permit, in any manner except shooting, for consumption by himself or other persons but not for sale or any other purpose.

(3) Every person to whom a permit referred to in subsection (1) is issued shall

(*a*) keep books and records that correctly show at all times the following, namely:

(i) the number and species of migratory birds in his possession,

(ii) the number and species of eggs of migratory birds in his possession, and

(iii) full details of all dealings in migratory birds or parts thereof, or their eggs, whether by sale, barter, loan or gift, including the full name and address and the permit number of every person who receives such migratory birds or parts thereof, or their eggs; and

(*b*) on or before January 31st next following the end of each calendar year in which he held a permit referred to in subsection (1), make a report in writing to the Minister in respect of the calendar year for which the permit was issued, stating

(i) the number of birds of each species reared by him during that calendar year,

(ii) the number of migratory birds of each species killed by him during that calendar year,

(iii) the number of live migratory birds of each species and the number of eggs of each species sold by him during that calendar year together with the full name and

ATTACHMENT 18

address and the permit number of each person to whom such birds or eggs were sold,

(iv) the number of live migratory birds of each species and the number of eggs of each species purchased by him during that calendar year together with the full name and address and the permit number of each person from whom such birds or eggs were purchased,

(v) the number of live migratory birds of each species and the number of eggs of each species given away by him gratuitously during that calendar year together with the full name and address and the permit number of each person to whom such birds or eggs were given,

(vi) the number of live migratory birds of each species and the number of eggs of each species in his possession at the end of that calendar year, and

(vii) such other information as the Minister may require.

(4) No person shall release into the wild a migratory bird held under the authority of an avicultural permit unless authorized by the Minister. SOR/79-544, s. 9; SOR/79-800, s. 1(F); SOR/81-641, s. 4.

ATTACHMENT 18

ATTACHMENT B

CANADIAN WILDLIFE SERVICE

SERVICE CANADIEN DE LA FAUNE

PERMIT POLICY

POLITIQUE EN MATIÈRE DE PERMIS

Replace: New

Remplace: Nouvelle

Forecasted revision: 1993

Révision prévue: 1993

Approval: Approved by the CWS Executive Committee. October 30, 1990.

Approbation: Approuvé par Le comité éxécutif du SCF 30 octobre 1990.

Director General, CWS

Directeur général, SCF

CONTACT:
LEGISLATION, REGULATION AND LAW ENFORCEMENT DIVISION

CONTACT:
DIVISION DE LEGISLATION, REGLEMENTATION ET APPLICATION DE LA LOI

ATTACHMENT 18

SCOPE

This policy applies to all officers issuing permits listed in schedule II of the Migratory Birds Regulations.

PURPOSE

To establish a uniform policy through which the Canadian Wildlife Service and agencies acting on its behalf shall issue permits listed under Schedule II of the Migratory Birds Regulations.

To define the responsibilities of staff involved in permit issuance.

REFERENCES AND RELATED AUTHORITIES

References

Migratory Birds Convention Act R.S., 1985, c. M-7 and amendments.

Migratory Birds Regulations C.R.C., c. 1035 and amendments.

Migratory Bird Sanctuary Regulations C.R.C., c. 1036 and amendments.

COSEWIC - Definitions - April 1990.

COSEWIC - List of species with designated status - April 1989.

Policy for the Issuance of Scientific Collecting Permits - Canadian Museum of Nature - December 17, 1987.

DEFINITIONS

Definitions

Association: Any organized group of persons with a common goal. (Association)

Aviculture: The raising of birds and especially wild birds in captivity. (Aviculture)

Auxiliary marker: Any device or marker other than the regular metal band supplied by CWS or a colored leg band. (Marqueur auxiliaire)

PORTÉE

La présente politique s'applique à tous les agents qui délivrent les permis énumérés à l'annexe II du Règlement sur les oiseaux migrateurs.

OBJET

Établir une politique uniforme en vertu de laquelle le Service canadien de la faune et les organismes qui oeuvrent en son nom délivreront les permis énumérés à l'annexe II du Règlement sur les oiseaux migrateurs.

Préciser les responsabilités des employés qui s'occupent de délivrer les permis.

RÉFÉRENCES ET RÈGLEMENTS

Références

Loi sur la Convention concernant les oiseaux migrateurs, S.R. (1985), ch. M-7, et ses modifications.

Règlement sur les oiseaux migrateurs, C.R.C., ch. 1035, et ses modifications.

Règlement sur les refuges d'oiseaux migrateurs, C.R.C., ch. 1036, et ses modifications.

CSEMDC - Définitions - avril 1990.

CSEMDC - Liste des espèces avec leur statut désigné - avril 1989.

Politique concernant la délivrance des permis autorisant les prises à des fins scientifiques - Musée canadien de la nature - 17 décembre 1987.

DÉFINITIONS

Définitions

Agents émetteurs: Personnes autorisées par le ministre, en vertu d'une délégation de pouvoir ou des règlements applicables, à délivrer des permis, y compris les personnes qui délivrent des permis conformément à une entente conclue entre le gouvernement canadien et une autre partie. (Issuing officer)

Association: Groupe organisé dont les membres ont un but commun. (Association)

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Capture: Taking possession of a living bird, and retaining it for any period of time. (Capturer)

Club: See Association. (Club)

Damage: Loss of value in relation to an objective. (Dommage)

Educational purpose: Any use by a recognized organisation where the individuals of specimens are actively used for systematic instruction or training and to promote conservation of migratory birds. (Fins éducatives)

Enclosure: An area surrounded by a fence in such a manner as to prevent birds from escaping from it and protecting them from predators. (Enclos)

Endangered species: Any indigenous species of migratory bird that is threatened with imminent extinction or extirpation throughout all or a significant portion of its Canadian range. (Espèce en danger)

Extinct species: Any species of migratory bird formerly indigenous to Canada but no longer known to exist anywhere. (Espèce disparue)

Extirpated species: Any indigenous species of migratory bird no longer known to exist in the wild in Canada but occurring elsewhere. (Espèce disparue au Canada)

Exceptional circumstances: An unexpected and unusual situation requiring temporary and urgent action. (Circonstances exceptionnelles)

Issuing officer: A person authorized by the Minister by way of delegation of authority or by the Regulations to issue a permit including those persons who issue permits in accordance with an agreement between the Government of Canada and another party. (Agents émetteurs)

Migratory bird: All migratory birds as defined in the Migratory Birds Regulations, their eggs, nest or parts thereof. (Oiseaux migrateurs)

Permit Review Committee: Any formal committee designated by the Director General CWS, or a delegate or, a Regional Director,

Aviculture: Élevage en captivité des oiseaux, particulièrement les oiseaux sauvages. (Aviculture)

Capturer: S'emparer d'un oiseau vivant et le garder en captivité pendant un certain temps. (Capture)

Circonstances exceptionnelles: Situation imprévue et inhabituelle qui réclame des mesures d'urgence temporaires. (Exceptional circumstances)

Club: Voir "Association". (Club)

Comité de révision des permis: Tout comité officiel créé par le directeur général du SCF, un de ses mandataires ou un directeur régional du SCF, dans le but de réviser les modalités d'octroi des permis. (Permit Review Committee)

Directeur régional: Un des directeurs régionaux du SCF. (Regional director)

Dommage: Perte de valeur par rapport à un objectif donné. (Damage)

Enclos: Espace clôturé de manière à empêcher les oiseaux de s'en échapper et à les protéger contre les prédateurs. (Enclosure)

Espèce disparue au Canada: Toute espèce indigène d'oiseaux migrateurs qui n'existe plus à l'état sauvage au Canada, mais qui subsiste encore ailleurs. (Extirpated Species)

Espèce en danger: Toute espèce indigène d'oiseaux migrateurs qui est menacée d'extinction imminente ou qui risque de disparaître dans l'ensemble ou une partie importante de son habitat canadien. (Endangered species)

Espèce disparue: Toute espèce d'oiseaux migrateurs que l'on trouvait autrefois au Canada, mais qui semble ne plus exister nulle part dans le monde. (Extinct species)

Espèce menacée: Toute espèce indigène d'oiseaux migrateurs dont la survie au Canada risque d'être en danger. (Threatened species)

Espèce rare: Toute espèce indigène d'oiseaux qui est peu nombreuse dans l'ensemble ou une

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CWS, to review permit issuance. (Comité de révision des permis)

Permittee (Permit holder): A person to whom a permit is issued and those working on his behalf mentioned on the permit and those assisting under direct supervision. (Permissionnaire)

Rare species: Any indigenous species of bird not common throughout all or a significant portion of its Canadian range. (Espèce rare)

Regional Director: A Regional Director of the CWS. (Directeur régional)

Take: Seizing, taking possession or killing with any part of the body or with any instrument or weapon. (Prendre)

Taxidermist: Any person who engages in the business (for a remuneration) of the preservation or mounting of migratory birds or their eggs. (Taxidermiste)

Threatened species: Any indigenous species of migratory bird that could possibly become endangered in Canada. (Espèce menacée)

Vulnerable species: Any indigenous species of migratory bird that is particularly at risk because of low or declining numbers, occurrence at the fringe of its range or in restricted areas, or some other reason, but is not at present a threatened species. (Espèce vulnérable)

partie importante de son habitat canadien. (Rare species)

Espèce vulnérable: Toute espèce indigène d'oiseaux migrateurs qui risque éventuellement de disparaître à cause d'une population faible ou en diminution, parce qu'elle se retrouve à la limite de son habitat ou dans des zones restreintes, ou pour quelque autre raison, mais qui ne représente pas pour l'instant une espèce menacée. (Vulnerable species)

Fins éducatives: Toute forme d'utilisation par un organisme accrédité, consistant à se servir de spécimens dans un but de formation ou d'enseignement systématique, ou afin de promouvoir la conservation des oiseaux migrateurs. (Educational purpose)

Marqueur auxiliaire: Dispositif ou marqueur autre que la bande métallique ordinaire fournie par le SCF ou qu'une bande de couleur se posant autour de la patte. (Auxiliary marker)

Oiseaux migrateurs: Cette appellation désigne tous les oiseaux migrateurs tels que définis par le Règlement sur les oiseaux migrateurs, incluant leurs oeufs et leurs nids, en tout ou en partie. (Migratory bird)

Permissionnaires (titulaires d'un permis): Personnes à qui on a délivré un permis, de même que les employés qui travaillent en leur nom indiqués sur le permis et ceux qui les aident, sous une surveillance directe. (Permittee)

Prendre: Saisir, capturer ou tuer un spécimen avec une partie du corps, un instrument ou une arme quelconque. (Take)

Taxidermiste: Toute personne dont l'occupation (rémunérée) consiste à empailler ou monter, aux fins de préservation, les oiseaux migrateurs ou leurs oeufs. (Taxidermist)

TYPE OF PERMIT

Types of Permits

Migratory Game Bird Hunting Permit.

Scientific Permits, including:

(a) take;
(b) capture and band;
(c) salvage;

TYPES DE PERMIS

Permis de chasse aux oiseaux migrateurs. Types de permis

Permis scientifique, notamment aux fins suivantes:

(a) prise
(b) capture et baguage
(c) sauvetage

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(d) educational;
(e) rehabilitation.

Avicultural Permits including:
(a) possession;
(b) capture;
(c) release.

Migratory Bird Damage Permit.

Airport-Kill Permit.

Taxidermist Permit.

Eiderdown Permit.

Special Permit.

BACKGROUND

The Migratory Birds Convention between Great Britain on behalf of Canada and the United States was signed in 1916. The Convention established the mechanism for the protection of migratory birds shared by Canada and the United States. In 1917, the Migratory Birds Convention Act was passed in Canada to implement the Convention.

This Act authorizes the Governor in Council to make such regulations as are deemed expedient to protect the migratory birds that inhabit Canada during the whole or any part of the year. Subsection 4(1) of the Migratory Birds Regulations authorizes the issuance of permits referred to in these Regulations.

ISSUANCE POLICY

Hunting Permit

The Canadian Wildlife Service will ensure that the Migratory Game Bird Hunting Permit is available for sale to any person not prohibited from applying for and holding such a permit. Indian and Inuit people are exempted from this regulation.

Other Permits

The Canadian Wildlife Service may issue permits, other than hunting permits, to an individual or representative of an organization who satisfies the criteria for a specific type of permit.

(d) éducation
(e) réhabilitation

Permis d'aviculture, incluant:
(a) possession
(b) capture
(c) remise en liberté

Permis pour cause de dommages par les oiseaux migrateurs.

Aéroports - permis de tuer.

Permis de taxidermiste.

Permis de cueillette de duvet.

Permis spécial.

CONTEXTE

La Convention sur les oiseaux migrateurs, conclue entre les États-Unis et la Grande-Bretagne, au nom du Canada, a été ratifiée en 1916. Cette convention établissait un mécanisme visant à protéger les oiseaux migrateurs communs au Canada et aux États-Unis. En 1917, le Parlement canadien a adopté la Loi sur la Convention concernant les oiseaux migrateurs dans le but de mettre en oeuvre la Convention.

Cette loi autorisait le gouverneur en conseil à promulguer les règlements qu'il jugerait pertinents afin de protéger les oiseaux migrateurs qui passent une partie ou l'ensemble de l'année au Canada. Le paragraphe 4(1) du Règlement sur les oiseaux migrateurs autorise la délivrance des permis mentionnés dans ce Règlement.

POLITIQUE RÉGISSANT L'ÉMISSION DE PERMIS

Permis de chasse

Le Service canadien de la faune veillera à ce que quiconque ayant le droit de demander et de détenir un permis de chasse aux oiseaux migrateurs gibier puisse acheter un tel permis. Les Amérindiens et les Inuits sont exemptés de ce règlement.

Autres permi

Le Service canadien de la faune peut délivrer des permis autres que pour la chasse à des particuliers ou aux représentants d'organismes qui répondent aux critères d'admissibilité s'appliquant à un type de permis en particulier.

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Restrictions

The Canadian Wildlife Service will not issue permits for the following purposes:

- to serve migratory game birds for fund raising dinners or campaigns;
- to sell or auction off mounted migratory birds for fund raising dinners or campaigns;
- for personal use of a migratory nongame bird or a migratory insectivorous bird.

Le Service canadien de la faune ne délivrera pas de permis aux fins suivantes: Restrictions

- servir des oiseaux migrateurs en guise de gibier lors de repas ou de campagnes visant à recueillir des fonds;
- vendre ou offrir aux enchères des oiseaux migrateurs empaillés pour des repas ou des campagnes visant à recueillir des fonds;
- utilisation personnelle d'un oiseau migrateur non-gibier ou d'un oiseau migrateur insectivore.

MIGRATORY GAME BIRD HUNTING PERMIT

PERMIS DE CHASSE AUX OISEAUX MIGRATEURS GIBIER

Sale of Hunting Permits

Approximately 320,000 Migratory Game Bird Hunting Permits are issued throughout Canada annually. These permits provide a sampling frame which allows assessment of the species composition of the total harvest of migratory game birds. A Wildlife Habitat Conservation Stamp is affixed to the Hunting Permit to make it valid. The purchase of the stamp is a condition of the permit.

À chaque année, quelque 320 000 permis de chasse aux oiseaux migrateurs gibier sont délivrés dans l'ensemble du Canada. Ces permis fournissent un cadre d'échantillonnage qui permet d'évaluer la composition par espèces de l'ensemble des oiseaux migrateurs gibier qui sont chassés. Un timbre de conservation de l'habitat naturel est apposé sur le permis de chasse pour le valider. L'achat de ce timbre est une condition indispensable à l'obtention d'un permis.

Possession of a Migratory Game Bird Hunting Permit is required to hunt migratory game birds during the periods established by the Migratory Birds Regulations. Indian and Inuit people are the only persons exempted from purchasing a permit. The hunter must have it on his or her person while hunting or while in possession of migratory game birds.

Pour avoir le droit de chasser les oiseaux migrateurs gibier durant les périodes fixées par le Règlement sur les oiseaux migrateurs, il faut posséder un permis de chasse aux oiseaux migrateurs gibier. Seuls les Amérindiens et les Inuits n'ont pas à acheter un tel permis. Les chasseurs doivent avoir ce permis sur eux lorsqu'ils chassent ou qu'ils sont en possession d'oiseaux migrateurs gibier.

Since 1966, Post Offices sell hunting permits from August 1 until the close of the hunting season in each area.

Depuis 1966, les bureaux de poste de toutes les régions vendent des permis de chasse à partir du 1er août jusqu'à la clôture de la saison de chasse.

Permits may also be sold by hunting lodges and outfitters or provincial government outlets as defined in a federal-provincial agreement. Detailed procedures are revised annually.

Les camps de chasse et les pourvoyeurs, de même que les services des gouvernements provinciaux, selon les termes d'une entente fédérale-provinciale, peuvent également vendre des permis. Les détails de la procédure font l'objet d'une révision annuelle.

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OTHER PERMITS

Issuance of Other Permits

All other permits will be issued only to individuals or representatives of an organization upon a request which satisfies the requirements for the permit he is requesting.

GENERAL CRITERIA

Application

In other than exceptional circumstances, permits will only be issued upon the receipt of a complete written application. The applicant must meet the general criteria and the specific ones associated with the type of permit he is demanding. The following criteria apply to all permits (except MGBHP):

Project Description

The applicant must demonstrate the value of his project and the necessity for taking, scaring, capturing or possessing migratory birds to meet the project's objectives.

For taking or capturing migratory birds the applicant must demonstrate that there are no other practical methods to do the project.

The applicant must demonstrate he has the knowledge, skills and facilities needed to ensure adequate care and utilisation of the birds.

Activities

The applicant must indicate in the application what species of birds, number of each species, location of relevant type of facilities where they will be kept and method of release or disposal of the specimens at the end of the project.

Impact of the Activities

The applicant must demonstrate that his activities comply with the Environmental Assessment Review Process (EARP) and will not significantly affect wild stocks of birds or any other natural component.

When a provincial permit is not required, the applicant must demonstrate that the species is not identified as rare, threatened or endangered by the provincial authorities.

AUTRES PERMIS

Délivrance autres permis

Tous les autres permis ne pourront être délivrés qu'à des particuliers ou à des représentants d'organismes dont la demande satisfait aux exigences du permis en question.

CRITÈRES GÉNÉRAUX

Demande

Sauf dans des cas exceptionnels, pour obtenir un permis, il faut soumettre une demande écrite en bonne et due forme. Le demandeur doit répondre aux critères généraux et aux conditions spécifiques pour le type de permis sollicité. Les critères ci-dessous s'appliquent à tous les permis (sauf le permis de chasse aux oiseaux migrateurs gibier).

Description du projet

Le demandeur doit démontrer la validité de son projet, et la nécessité de prendre, effrayer, capturer ou posséder des oiseaux migrateurs pour atteindre les objectifs du projet.

Pour obtenir le droit de prendre ou capturer des oiseaux migrateurs, le demandeur doit prouver qu'il n'y a aucune autre possibilité pratique de réaliser le projet.

Le demandeur doit prouver qu'il dispose des connaissances, des compétences et des installations nécessaires pour bien s'occuper et se servir des oiseaux.

Activités

Le demandeur doit préciser dans sa demande les espèces d'oiseaux concernées, le nombre de spécimens de chaque espèce, l'emplacement des installations où ils seront gardés, de même que la façon dont les oiseaux seront libérés ou la manière dont on en disposera une fois le projet terminé.

Impact des activités

Le demandeur doit prouver que ses activités n'affecteront pas de manière significative la population d'oiseaux sauvages ni aucun autre élément naturel. Il doit de plus se conformer au Processus d'examen des évaluations environnementales.

Si aucun permis provincial n'est exigé, le demandeur doit démontrer que les espèces en cause ne sont pas considérées comme rares, menacées ou en danger par les autorités provinciales.

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	SPECIFIC CRITERIA	CRITÈRES SPÉCIFIQUES	
	In addition to the general criteria, the issuance of each type of permit is subject to specific criteria.	Outre les critères généraux, la délivrance de chaque type de permis obéit à des critères spécifiques.	
Scientific Permits	The applicant for any scientific permit must submit a testimonial letter from two individuals who are qualified to confirm the validity of the project and the ability and integrity of the individual requesting the permit. This requirement may be waived if the applicant can demonstrate he has previously held a scientific permit in Canada or USA.	Le demandeur d'un permis scientifique quelconque doit soumettre une lettre d'attestation rédigée par deux personnes ayant les qualifications nécessaires pour confirmer la validité du projet, de même que la compétence et l'intégrité de la personne qui sollicite le permis. Cette exigence pourra être levée si le demandeur peut prouver qu'il a déjà eu un permis scientifique au Canada ou aux États-Unis.	Permis scientifiques
Capture and Band Permits	Individuals proposing to band birds and use auxiliary markers must have prior approval from an Animal Care Committee, and those using radio transmitters must have approval from the federal Department of Communications before conducting field work.	Les particuliers qui envisagent de baguer des oiseaux et d'utiliser des marqueurs auxiliaires doivent d'abord obtenir l'autorisation d'un comité de protection des animaux; ceux qui recourent à des radio-émetteurs doivent obtenir l'autorisation du ministère fédéral des Communications avant d'effectuer des travaux sur le terrain.	Permis de capture et de baguage
Salvage Permits	Salvage permits may be issued to possess migratory birds not taken under an MGBH permit for scientific or educational purposes, provided these have come into possession legally and are not bought or sold.	On peut accorder un permis de sauvetage permettant de garder, à des fins scientifiques ou éducatives, des oiseaux migrateurs qui ne sont pas pris grâce à un permis de chasse aux oiseaux migrateurs gibier, pourvu que les intéressés en obtiennent possession par voie légale, et que les spécimens ne soient pas achetés ni vendus.	Permis de sauvetage
Avicultural Permits	A written application from an aviculturist, to take migratory birds from or release them to the wild, must show that he has the qualifications, experience and suitable facilities to propagate wild-captured stock, as part of a research or management project approved by CWS.	Dans sa demande écrite, un aviculteur qui souhaite prendre ou remettre en liberté des oiseaux migrateurs à l'état sauvage doit prouver qu'il dispose des compétences et de l'expérience nécessaires ainsi que d'installations convenables pour la reproduction en captivité d'oiseaux sauvages, dans le cadre d'un projet de recherche ou de gestion des ressources approuvé par le SCF.	Permis d'aviculture
Damage Permits	The applicant for a damage permit must demonstrate that the conditions are extraordinary and that these events are temporary and occur on land he owns or manages.	Le demandeur d'un permis pour cause de dommages par les oiseaux migrateurs doit prouver qu'il s'agit d'incidents exceptionnels et de nature temporaire, qui se produisent sur une terre dont il est propriétaire ou administrateur.	Permis pour cause de dommages

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Eiderdown Permits	The applicant for an eiderdown permit must show that he owns or has written permission to enter the property where the down collecting will be done.	Le demandeur d'un permis de cueillette de duvet d'eider doit prouver qu'il est propriétaire des terrains où se fera la récolte de duvet d'eider ou qu'il possède une autorisation écrite lui donnant accès aux lieux.	Permis de cueillette de duvet
	CONDITIONS	CONDITIONS	
Conditions	The conditions of the permit must not replace regulations. All conditions of the permit must be related to the administration of the Regulations or the protection and management of the migratory birds. In some cases they could be related to public safety (e.g.: use of cannon net).	Les conditions afférentes aux permis ne remplacent en aucun cas les règlements. Toutes les conditions d'un permis sont soumises à l'application des règlements touchant la protection et la gestion de la ressource que représentent les oiseaux migrateurs. Dans certains cas, elles pourraient avoir trait à la sécurité du public (ex.: filet lancé par canon).	Conditions
General Conditions	The general conditions listed in Appendix III must be included on all permits issued (except the MGBHP), in addition to the specific conditions of each permit.	Les conditions générales énumérées à l'annexe III doivent figurer sur tous les permis délivrés (sauf le permis de chasse aux oiseaux migrateurs gibier), en plus des conditions propres à chaque permis.	Conditions générales
Capture and Band Permits	Species of birds protected under provincial or territorial legislation can be banded only if the bander possesses an authorization from the appropriate province or territory.	Avant de baguer des oiseaux d'une espèce protégée par une loi provinciale ou territoriale, le détenteur de permis doit obtenir une autorisation du gouvernement provincial ou territorial concerné.	Permis de capture et de baguage
Avicultural Permits	All birds held under the authority of an Avicultural Permit must be wing-clipped, pinioned or kept in an enclosure to prevent their escape to the wild. Free-flying birds are not considered captive stock and therefore are not the property of the permittee.	Tous les oiseaux gardés en captivité en vertu d'un permis d'aviculture doivent avoir les ailes taillées, rognées ou demeurer dans un enclos pour ne pas qu'ils puissent s'enfuir dans la nature. Les oiseaux libres de voler ne sont pas considérés comme captifs; ils n'appartiennent donc pas au permissionnaire.	Permis d'aviculture
Taxidermy Permits	All specimens in the possession of a taxidermist must be tagged and accompanied by a written statement signed by the owner indicating the authority under which the bird was taken or possessed and any other information the Regulations may require.	Tous les taxidermistes qui possèdent des spécimens doivent être étiquetés et s'accompagner d'une attestation écrite indiquant le type d'autorisation grâce à laquelle les oiseaux ont été pris ou acquis, de même que tout autre renseignement exigé par les règlements.	Permis de taxidermie
	Mounted migratory birds, their parts or eggs may not be bought, sold, traded or bartered.	Il est interdit de vendre, acheter, négocier ou troquer des oiseaux migrateurs empaillés, leurs parties ou leurs oeufs.	
Airport Kill Permits	Airport managers must consult with CWS before killing vulnerable, threatened or endangered birds. Accidental kills of these species must be immediately reported to CWS. Other birds should be killed only as a last resort when other techniques have failed.	Les gérants d'aéroport doivent consulter le SCF avant de tuer des oiseaux d'une espèce vulnérable, menacée ou en danger. Il faut prévenir immédiatement le SCF lorsqu'un tel spécimen est tué accidentellement. On peut tuer les oiseaux d'autres espèces uniquement en dernier recours, quand les autres moyens ont échoué.	Aéroports - permis de tuer

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Other Conditions	Additional conditions will be added only where necessary for public safety or the protection and management of the birds.	Des conditions supplémentaires ne pourront s'ajouter que si la sécurité du public ou la protection et la conservation des oiseaux migrateurs l'exigent.	Conditions supplémentaires
	ADMINISTRATION/RESPONSIBILITIES	ADMINISTRATION/ATTRIBUTIONS	
Chief Legislation and Enforcement	The Chief, Legislation and Law Enforcement is responsible for organizing, functionally supervising, assessing and reporting, to the Executive Committee, on the national implementation of this policy. He is also responsible for analysing problems, preparing and issuing bulletins or notes to help issuing officers.	Le chef de la Législation et de l'Application de la loi s'occupe d'organiser, de contrôler et d'évaluer la mise en oeuvre à l'échelle nationale de la présente politique, pour laquelle il fait rapport au comité exécutif. Il est également chargé d'analyser les problèmes, de rédiger et de diffuser des bulletins ou des notes de service pour aider les agents émetteurs.	Chef de la Législation et de l'Application de la loi
Regional Director	Each CWS Regional Director will designate a regional coordinator to adapt, organize and functionally supervise the regional implementation of this policy.	Chaque directeur régional du SCF doit désigner un coordonnateur régional pour adapter, organiser et surveiller la mise en oeuvre de cette politique au niveau régional.	Directeur régional
Minister	The Minister delegates the issuance of a permit to issuing officers recommended by the Director General, CWS Regional Directors or other persons identified by an agreement signed by the Government of Canada.	Le Ministre délègue le pouvoir de délivrer des permis aux agents émetteurs recommandés par le directeur général, les directeurs régionaux du SCF ou les autres personnes désignées dans le cadre d'une entente conclue avec le gouvernement fédéral.	Ministre
Issuing Officer	The issuing officer is responsible for evaluating requests, consulting with experts, other governments and other regions, issuing permit, monitoring and following up on permit conditions.	L'agent émetteur a pour tâche d'évaluer les demandes, de consulter des experts, d'autres gouvernements et régions, de délivrer les permis, de contrôler le respect des conditions afférentes et d'exercer un suivi.	Agent émetteur
	When an issuing officer is aware that a request will be covering more than one region, he is responsible for coordinating with other regions. He may ask HQ to coordinate the issuance and monitoring of the permit.	Quand un agent émetteur sait qu'une demande porte sur plusieurs régions, il doit alors assurer la coordination avec les autres régions. Il peut en l'occurrence demander à l'administration centrale de coordonner la délivrance et le contrôle du permis.	
	The issuing officer is also responsible to ensure that requirements of the EARP are met.	L'agent émetteur veille également au respect des exigences imposées en vertu du Processus d'examen des évaluations environnementales.	
	The issuing officer may choose to issue a permit for a period exceeding one year if:	L'agent émetteur peut délivrer un permis couvrant une période qui dépasse un an, à condition que:	
	– it is possible to collect any annual fee; and	– l'on puisse percevoir une redevance annuelle;	
	– the impact on bird populations will be minimal.	– cela ait un impact minime sur la population d'oiseaux.	

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The issuing officer is responsible for maintaining files on all requests for permits (including those not approved) and for ensuring compliance with financial procedures.

L'agent émetteur doit tenir à jour un dossier sur toutes les demandes de permis (y compris celles qui sont rejetées) et veiller à l'application des procédures financières.

Content of the Permit

The issuing officer must ensure that all permits issued specify:

- method and time of disposition/release of the birds;
- period and location of validity;
- activities authorized;
- type and date of report (if required);
- type of registry (if required).

Renseignements sur le permis

L'agent émetteur doit s'assurer que tous les permis délivrés précisent:

- le mode et le moment de remise en liberté/abandon des oiseaux;
- la période de validité et l'endroit où s'applique le permis;
- les activités autorisées;
- la nature et la date du rapport (s'il y a lieu);
- le type d'enregistrement (s'il y a lieu).

Refusal and Restrictions

The issuing officer can refuse a permit application or give a restricted approval. When a permit is denied or restricted the applicant shall be informed in writing of the reasons for denial or restriction.

Refus et restrictions

L'agent émetteur peut rejeter une demande de permis ou accorder une autorisation restreinte. Dans un tel cas, il doit informer par écrit le demandeur des raisons qui motivent ce refus ou ces restrictions.

If it becomes necessary to cancel, amend or suspend any permit, written notice must be given to the permit holder, giving the reasons therefore.

S'il s'avère nécessaire d'annuler, de modifier ou de suspendre un permis quelconque, il faut alors en aviser par écrit le titulaire du permis, en précisant les raisons qui motivent une telle mesure.

When the conditions which led to the cancellation, amendment or suspension have been rectified, the permit shall be reissued or revalidated and returned forthwith to the permittee.

Si l'intéressé remédie aux facteurs ayant entraîné l'annulation, la modification ou la suspension de son permis, il faut immédiatement lui délivrer un nouveau permis ou le revalider et lui renvoyer aussitôt.

Appeal

A person who has been denied a permit or had their permit cancelled, amended or suspended, may request a review by the Director General CWS, or his delegate.

Droit d'appel

Une personne à qui on a refusé la demande ou dont on a annulé, modifié ou suspendu le permis peut solliciter une révision de la part du directeur général du SCF ou de son délégué.

Special permits

All requests for special permits (Section 36 a,b) will be reviewed by the issuing officer and sent with his recommendations to the Director General or his delegate for approval.

Permis spéciaux

L'agent émetteur examinera toutes les demandes de permis spéciaux (articles 36 a et b) et les transmettra, avec ses recommandations, au directeur général ou à son délégué aux fins d'approbation.

ATTACHMENT 19

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Office of Law Enforcement
4401 N. Fairfax Drive, Room 520
Arlington, VA 22203

AUG 20 2001

In Reply Refer To:
FWS/LE REG 21-04

Paul Schmidt

To: Assistant Director for Migratory Birds and State Programs

From: Assistant Director for Law Enforcement K Adams

Subject: MBTA Enforcement and Regulated Shooting Areas (RSA)

The Atlantic Flyway representative for the Service, Mr. Jerry Serie, recently asked for the Division of Law Enforcement's opinion regarding the release of free-flighted captive-bred mallards and their influence on enforcement of the Migratory Bird Treaty Act (MBTA). Mr. Serie's questions are listed below, followed by a response that collectively addresses his concerns.

1. How does the practice of releasing free-flighted mallards on RSAs complicate the enforcement of regulations established to protect wild stock migrants under MBTA, i.e., live-decoys, over-bagging, and baiting, etc.? [captive-reared mallards are classified as migratory birds under MBTA but are exempted by regulations contained in 50 CFR 21.13]

2. How does the practice of releasing free-flighted mallards on RSAs affect, and/or compromise (put at risk), hunters shooting on adjacent properties? [are these hunters at higher risk of violating the laws designed to protect wild mallards?]

3. What other LE problems are created by the practices of releasing free-flighted mallards on RSAs?

4. Can the LE problems associated with free-flighted release practices be reduced by requiring releases on RSAs to be "Tower-type" releases?

The release of captive-bred free-flight mallards generally causes law enforcement issues in areas where waterfowl hunting occurs and captive-reared mallards and wild ducks intermix or influence each other. The unlawful waterfowl hunting practices associated with these releases usually stem from the take of wild ducks in close proximity to captive reared mallards. These unlawful practices may include:

Take by the aid of live birds as decoys (50 CFR 20.21(f));
Take by the aid of bait (50 CFR 20.21(i));
Take or possession of migratory game birds during the closed season (50 CFR 20.22, 20.32);

ATTACHMENT 19

Take in excess of daily bag limit (50 CFR 20.24);
Take by the aid of motor driven land or water vehicle used for rallying (50 CFR 20.21(h)); and
Take with an unplugged shotgun (50 CFR 20.21(b)).

With the exception of "take by the aid of bait," these prohibitions are strict liability offenses that do not require the element of "knowledge" on the part of the violator. Federal regulations listed in 50 CFR 21.13 exempt the shooting of captive-reared mallards on any area operated as a State licensed shooting preserve (or RSA) from all of the prohibitions listed above. If a hunter happens to take a wild duck on an RSA, all of the waterfowl hunting prohibitions will apply to that "take."

RSAs typically conduct waterfowl hunting during the fall, the historic season for hunting wild ducks. In areas where wild ducks migrate, the RSA hunter may often be confronted with both wild ducks and captive-reared mallards. To compound the problem, distinguishing a wild mallard from a captive mallard on the wing may be impossible in many situations. Low light or inclement weather conditions also make it difficult for the inexperienced or unwary hunter to differentiate captive mallards from black ducks or other species on the wing.

Waterfowl hunters who hunt near RSAs may also experience increased liability due to the release of free-flight captive-reared mallards. These ducks often "trade-up" between different RSAs and surrounding areas. Although the variables for each hunting situation are unique, some degree of potential usually exists for non-RSA hunters to shoot both captive-reared mallards and wild ducks off the RSA. The possibility of hunting by the aid of live decoys may also exist if all the elements of the violation are present.

In short, the potential for violations of the Federal waterfowl hunting regulations is greatly increased when waterfowl hunting in areas where captive-reared and wild ducks intermix, especially in State licensed shooting preserves or RSAs. It should be noted that State regulations may or may not further restrict waterfowl hunting practices on RSAs. Any further restrictions by the State may decrease the potential for violations of Federal regulations on RSAs. If "tower releases" help hunters identify their targets and confine the flight of the ducks to a specific area, they may alleviate much of the liability currently associated with waterfowl hunting on and near RSAs.

We hope this information proves useful. Please contact Senior Special Agent Steve Oberholtzer of my staff for any clarification that may be needed.