

**Joint Legislative Committee on Performance
Evaluation and Expenditure Review (PEER)**

Report to
the Mississippi Legislature



The Department of Wildlife, Fisheries, and Parks' Management of Selected Wild Game Programs

The Public Trust Doctrine holds that certain natural resources, including wildlife, are entrusted to the government to be managed on behalf of the public. Through the common law of the state and statutes, Mississippi has adopted the Public Trust Doctrine and requires the management of wildlife resources for the benefit of the public. Mississippi law makes the Department of Wildlife, Fisheries, and Parks (DWFP) responsible for conserving, managing, developing, and protecting wildlife and the Commission on Wildlife, Fisheries, and Parks responsible for rulemaking for wildlife conservation. Because the goal of wildlife management programs is to protect the respective species, each of the department's programs should be based on science, with the goal of sustaining the wildlife population.

PEER reviewed the department's waterfowl, turkey, and deer programs to determine whether DWFP has managed these programs in a manner consistent with its responsibilities as a public trustee. PEER found that DWFP employs scientifically sound management practices with regard to the state's duck and turkey populations, in accordance with state law's mandate to conserve and protect this wildlife resource in the interest of the public.

Generally, DWFP also employs scientifically sound management practices with regard to the state's deer population. However:

- The department's regulations and practices regarding privately owned enclosures for white-tailed deer are not authorized by statute and PEER believes that permitting such enclosures is not in keeping with the Public Trust Doctrine.
- DWFP's lack of a unified, "top-to-bottom" tracking system for deer enclosure inspections exacerbates the health and environmental risks inherent in the use of these enclosures.
- Minutes and records of the Commission on Wildlife, Fisheries, and Parks do not reflect that the commission's decisions regarding permitting of deer enclosures were supported by scientific evidence. PEER found no evidence that the practice of enclosing native species is supported by science and that such actions are consistent with the purposes of the public trust.

April 19, 2013

PEER: The Mississippi Legislature's Oversight Agency

The Mississippi Legislature created the Joint Legislative Committee on Performance Evaluation and Expenditure Review (PEER Committee) by statute in 1973. A joint committee, the PEER Committee is composed of seven members of the House of Representatives appointed by the Speaker and seven members of the Senate appointed by the Lieutenant Governor. Appointments are made for four-year terms, with one Senator and one Representative appointed from each of the U. S. Congressional Districts and three at-large members appointed from each house. Committee officers are elected by the membership, with officers alternating annually between the two houses. All Committee actions by statute require a majority vote of four Representatives and four Senators voting in the affirmative.

Mississippi's constitution gives the Legislature broad power to conduct examinations and investigations. PEER is authorized by law to review any public entity, including contractors supported in whole or in part by public funds, and to address any issues that may require legislative action. PEER has statutory access to all state and local records and has subpoena power to compel testimony or the production of documents.

PEER provides a variety of services to the Legislature, including program evaluations, economy and efficiency reviews, financial audits, limited scope evaluations, fiscal notes, special investigations, briefings to individual legislators, testimony, and other governmental research and assistance. The Committee identifies inefficiency or ineffectiveness or a failure to accomplish legislative objectives, and makes recommendations for redefinition, redirection, redistribution and/or restructuring of Mississippi government. As directed by and subject to the prior approval of the PEER Committee, the Committee's professional staff executes audit and evaluation projects obtaining information and developing options for consideration by the Committee. The PEER Committee releases reports to the Legislature, Governor, Lieutenant Governor, and the agency examined.

The Committee assigns top priority to written requests from individual legislators and legislative committees. The Committee also considers PEER staff proposals and written requests from state officials and others.

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The Mississippi Legislature

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April 19, 2013

Honorable Phil Bryant, Governor
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On April 19, 2013, the PEER Committee authorized release of the report entitled
**The Department of Wildlife, Fisheries, and Parks' Management of Selected
Wild Game Programs.**

A handwritten signature in cursive script that reads "Ray Rogers".

Representative Ray Rogers, Chair

This report does not recommend increased funding or additional staff.

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The Department of Wildlife, Fisheries, and Parks' Management of Selected Wild Game Programs

Executive Summary

Introduction

Problem Statement

Questions have arisen over the Mississippi Department of Wildlife, Fisheries, and Parks' management of selected wild game in Mississippi (i. e., the waterfowl, turkey, and deer management programs). Also, some citizens have questioned the expanded use of privately owned pens for deer management and whether the use of such is consistent with state law.

To address these matters, the PEER Committee reviewed the department's stewardship of these three wildlife management programs to determine whether it has managed these programs to ensure that these resources are conserved for the benefit of all Mississippians.

Scope and Purpose

This report sets out the unique characteristic of wildlife in the state as being the subject of a public trust and the obligations that arise relative to the public trust. In view of this legal status, the report seeks to answer the following question relative to wild game management:

- Does the Department of Wildlife, Fisheries, and Parks manage the state's waterfowl, turkey, and deer in a manner consistent with its responsibilities as a public trustee?

In determining whether these trust duties are accomplished, PEER looks to whether the department's efforts at game management--including monitoring of populations, habitat maintenance, and other activities--are in accordance with the best scientific evidence available to ensure that the animals (subject to the trust) and the people of Mississippi (beneficiaries of the trust) are served. Additionally, PEER applies legal doctrine from both statutory and common law to determine whether certain actions of the department comport with the duties of a public trustee.

This review does not address fisheries, parks, or issues of non-game animal management that fall within the jurisdiction of the Department of Wildlife, Fisheries, and Parks.

Responsibility for Mississippi's Wildlife Resources

The Public Trust Doctrine holds that certain natural resources, including wildlife, are entrusted to the government to be managed on behalf of the public. Through the common law of the state and statutes, Mississippi has adopted the Public Trust Doctrine and requires the management of wildlife resources for the benefit of the public.

The Public Trust Doctrine holds that certain natural resources, including water, fish, and wildlife, are entrusted to the government to be managed on behalf of the public. Consequently, governmental institutions do not own trust resources, nor do individuals; rather, these resources are owned by the public and are entrusted in the care of government to be safeguarded for the public's long-term benefit.

Mississippi law makes the Department of Wildlife, Fisheries, and Parks (DWFP) responsible for conserving, managing, developing, and protecting wildlife and the Commission on Wildlife, Fisheries, and Parks responsible for rulemaking for wildlife conservation. Because the goal of wildlife management programs is to protect the respective species, each of the department's programs should be based on science, with the goal of sustaining the wildlife population.

The Department's Management of Mississippi's Waterfowl Population

DWFP employs scientifically sound management practices with regard to the state's duck population, in accordance with state law's mandate to conserve and protect this wildlife resource in the interest of the public.

In order to ensure a thriving duck population, DWFP focuses on techniques such as habitat improvements, water control, plant identification and control, and hunting management. Also, the department participates in a research agreement with Mississippi State University whereby the university analyzes data and proposes scientifically based recommendations to the department to improve habitat resources.

DWFP participates in the federal Migratory Bird Harvest Information Program and cooperates with federal and state agencies regarding harvest of ducks and proposals

· While the department has responsibility for all waterfowl, PEER focused on the programs for ducks, as they are the most significant of the waterfowl for Mississippi sportsmen.

for duck-hunting regulations, hunting seasons, bag limits, and population management.

Using generally accepted criteria for management of wildlife programs as a standard, PEER reviewed DWFP's duck management program and found that it adheres to scientifically defensible objectives designed to conserve and protect the duck population and is in accordance with the mandate of law.

The Department's Management of Mississippi's Turkey Population

DWFP employs scientifically sound management practices with regard to the state's turkey population, in accordance with state law's mandate to conserve and protect the wildlife resource in the interest of the public.

DWFP staff, along with cooperators, the Mississippi Forestry Commission, and the U. S. Forest Service, conduct and analyze surveys to monitor the turkey population and make decisions in the best interest of the turkey population and hunters.

Using generally accepted criteria for management of wildlife programs as a standard, PEER reviewed DWFP's turkey management program and found that it adheres to scientifically defensible objectives designed to conserve and protect the turkey population and is in accordance with the mandate of law.

The Department's Management of Mississippi's Deer Population

Generally, DWFP employs scientifically sound management practices with regard to the state's deer population. However, the department's regulations and practices regarding privately owned enclosures for white-tailed deer are not authorized by statute and PEER believes that the department's permitting of such enclosures is not in keeping with the Public Trust Doctrine. Also, DWFP's lack of a unified, "top-to-bottom" tracking system for enclosure inspections exacerbates the health risks inherent in the use of these enclosures. Minutes and records of the Commission on Wildlife, Fisheries, and Parks do not reflect that the commission's decisions regarding permitting of deer enclosures were supported by scientific evidence.

Legal and Policy Issues Regarding Deer Enclosures

DWFP's regulations and practices regarding enclosures for white-tailed deer are not authorized by statute. MISS. CODE ANN. Sections 49-7-58.1 through 49-7-58.4 (1972) establish a comprehensive approach for DWFP to regulate certain deer enclosures, but do not explicitly derogate the state's public policy or the tenets of the Public Trust Doctrine (i. e., state law does not specifically permit the conversion of wildlife from public to private resources to be confined and hunted in enclosures). In view of the fact

that the state owns such deer for the use and benefit of its citizens, there is considerable doubt as to whether the state could legalize such enclosures.

It is the position of the scientific community that enclosure of native wildlife stocks is not the most effective means of accomplishing the goals of wildlife management. Given the increased risk of disease transmission and genetic risks, more traditional land stewardship practices and management techniques should be used to accomplish the same goals in a more healthy and sustainable way.

In regard to DFWP's oversight of the deer enclosures within the state, PEER found evidence of limited investigation and inspection for health-related risks and a lack of a unified, "top-to-bottom" tracking system to ensure safety of the facilities. Such weaknesses exacerbate the health risks of deer enclosures set forth in this report.

The Commission's Adoption of Policy Regarding Management of the Deer Population

The Commission on Wildlife, Fisheries, and Parks and the Department of Wildlife, Fisheries, and Parks are responsible for ensuring that the wildlife resources of the state are managed in the best interest of the people of Mississippi. Documenting the commission's basis for making its decisions, particularly the scientific basis, would support the credibility of these decisions. However, minutes and records of the commission do not reflect that the commission's decisions regarding permitting of deer enclosures were supported by scientific evidence.

Recommendations

1. The Commission on Wildlife, Fisheries, and Parks, working through the Department of Wildlife, Fisheries, and Parks, should develop a policy regarding deer enclosures that will bring the commission's policies in conformity with state statutes and the Public Trust Doctrine. Such policies should address the removal of white-tailed deer from enclosures that are not established for the specific purposes provided for in statute law. Any removal of deer should be in conformity with the best scientific advice and guidance available to the department through Mississippi State University or any other source deemed appropriate by the commission and department. In the event that any litigation is filed regarding the department's authority to regulate enclosures of native white-tailed deer, the department

should take no action until such litigation is ultimately resolved.

2. Because the Commission on Wildlife, Fisheries, and Parks and the Department of Wildlife, Fisheries and Parks manage wildlife for the benefit of the people of Mississippi, the commission should ensure that:
 - it documents its basis for making policy decisions;
 - its decisions are based on the best scientific information available; and,
 - policy changes can be directly linked to a scientific basis for making such change.

For More Information or Clarification, Contact:

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The Department of Wildlife, Fisheries, and Parks' Management of Selected Wild Game Programs

Introduction

Authority

The PEER Committee reviewed the Mississippi Department of Wildlife, Fisheries, and Parks' management of selected wild game programs (i. e., waterfowl, turkey, and deer programs). The Committee acted in accordance with MISS. CODE ANN. Section 5-3-51 et seq.

Problem Statement

Questions have arisen over the Mississippi Department of Wildlife, Fisheries, and Parks' management of selected wild game in Mississippi (i. e., the waterfowl, turkey, and deer management programs).

Also, some citizens have questioned the expanded use of privately owned pens (i. e., enclosures) for deer management and whether the use of such is consistent with state law.

To address these matters, the PEER Committee reviewed the department's stewardship of these three wildlife management programs to determine whether it has managed these programs to ensure that these resources are conserved for the benefit of all Mississippians.

Scope and Purpose

This report sets out the unique characteristic of wildlife in the state as being the subject of a public trust and the obligations that arise relative to the public trust.

In view of this legal status, the report seeks to answer the following relative to wild game management:

- Does the Department of Wildlife, Fisheries, and Parks manage the state's waterfowl, turkey, and deer in a

manner consistent with its responsibilities as a public trustee?

In determining whether these trust duties are accomplished, PEER looks to whether the department's efforts at game management--including monitoring of populations, habitat maintenance, and other activities--are in accordance with the best scientific evidence available to ensure that the animals (subject to the trust) and the people of Mississippi (beneficiaries of the trust) are served. Additionally, PEER applies legal doctrine from both statutory and common law to determine whether certain actions of the department comport with the duties of a public trustee.

This review does not address fisheries, parks, or issues of non-game animal management that also fall within the jurisdiction of the Department of Wildlife, Fisheries, and Parks.

Method

During the course of this review, PEER:

- reviewed the statute and common law of Mississippi relative to the state's duty to conserve wildlife and the Department of Wildlife, Fisheries, and Parks' specific responsibilities relative to game management;
- reviewed the department's Policy W-3780 and Public Notice A2-3183;
- reviewed scientific information regarding the management of waterfowl, turkey, and deer populations;
- interviewed personnel of the Mississippi Board of Animal Health;
- reviewed minutes of the Commission on Wildlife, Fisheries, and Parks from January 2002 to June 2012;
- reviewed the regulations of the Department of Wildlife, Fisheries, and Parks; and,
- interviewed personnel of the Department of Wildlife, Fisheries, and Parks and of Mississippi State University's Department of Wildlife, Fisheries, and Aquaculture within the College of Forest Resources.

Responsibility for Mississippi's Wildlife Resources

The Public Trust Doctrine holds that certain natural resources, including wildlife, are entrusted to the government to be managed on behalf of the public and Mississippi has adopted this doctrine. State law makes the Department of Wildlife, Fisheries, and Parks responsible for conserving, managing, developing, and protecting wildlife and the Commission on Wildlife, Fisheries, and Parks responsible for rulemaking for wildlife conservation. Because the goal of wildlife management programs is to protect the respective species, each of the department's programs should be based on science, with the goal of sustaining the wildlife population.

Wildlife: A Public Trust

The Public Trust Doctrine holds that certain natural resources, including water, fish, and wildlife, are entrusted to the government to be managed on behalf of the public.

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Respecting the ownership of wildlife, the American application of the Public Trust Doctrine dates back to the nineteenth century, when many courts of the United States found in their jurisdiction's common law a public ownership doctrine. Some cited the English common law as a source, while some traced the origin of the state's ownership of wildlife back to Roman law.

This legal concept was first apparent in the United States via the U. S. Supreme Court's decision in the 1842 case *Martin v. Waddell*, 41 US 367 (1842).¹ Subsequent Supreme Court rulings firmly embedded the Public Trust Doctrine in U. S. law. Traditionally, the Public Trust Doctrine only

¹ In the case of *Martin v. Waddell*, a landowner on New Jersey's Raritan River claimed to own both the shoreline areas and the land beneath the river, tracing his title to a grant from King Charles to the Duke of York in 1664 that purported to convey "all the lands, islands, soils, rivers, harbors, mines, minerals, quarries, woods, marshes, waters, lakes, fishings, hawkings, and fowlings." The U. S. Supreme Court in *Martin* held that the "dominion and property in navigable waters, and in the lands under them" were held as a public trust by the state for the public's common use and benefit.

protected public interests related to navigation, commerce, and fishing. However, a clear, unequivocal statement of the doctrine as applied to wildlife was announced in *Geer v. Connecticut* 161 US 519 (1896), overruled by *Hughes v. Oklahoma* 441 US 322 (1979). In *Geer*, the court was faced with an attack on a Connecticut statute that prohibited the interstate shipment of game from the state. The petitioner alleged that such regulations were violations of Congress's exclusive power to regulate interstate commerce. The court rejected this position, noting that there are exceptions in which local regulations may be paramount over Congress's power. Game regulation was one such area. In so concluding, the court took the opportunity to set out the legal basis of the state's public ownership of wildlife.

In summary, the *Geer* court noted:

- Roman, French, and English authorities held that animals *ferae naturae* (i. e., wild animals) are not owned by individuals until they are caught or killed.
- To the extent that they can be owned, they are owned by the state and their use by private citizens is subject to the regulation of the state for the use of its citizens and their common benefit.

The court went on to find that the public ownership doctrine offered a valid basis for the state's enactment of a statute prohibiting the sale of game outside of the state of Connecticut, despite the fact that such movement of game was a form of interstate commerce subject to the regulation of Congress.

Ultimately, in *Hughes v. Oklahoma*, *supra*, when confronted with the same issue of whether an Oklahoma game statute that discriminated against out-of-state persons violated the commerce clause, the Supreme Court overruled *Geer* on the narrow point of whether such regulations violated the commerce clause. Nonetheless, courts of the states reviewing the law post-*Hughes* have concluded that the *Hughes* decision has no effect on the public trust or public ownership doctrine. One commentator has noted that to date, courts in the states have read *Hughes* narrowly and restricted its scope to the constitutional question. States have continued to conclude that the public still owns wildlife. Since *Hughes* was handed down in 1979, several courts have held that the Public Trust Doctrine is still applicable to the questions of the state's ownership of game.

Application of the Public Trust Doctrine to Mississippi's Wildlife Resources

Through the common law of the state and statutes, Mississippi has adopted the Public Trust Doctrine and requires the management of wildlife resources for the benefit of the public.

In Mississippi, an early case, *Ex Parte Fritz*, 86 Miss 210, 38 So. 723 (1905), made clear that the Public Trust Doctrine was part of the common law of Mississippi. While specifically dealing with fish, the *Fritz* court dealt with a petitioner's claim that the DeSoto County Board of Supervisors' regulation of the taking of fish by seine from Horn Lake violated the Mississippi and United States constitutions. Specifically, the petitioner contended that these regulations constituted unconstitutional takings in violation of due process.

The court, after citing numerous authorities from other jurisdictions, concluded that the ordinance deprived the petitioner of property without due process and that it constituted a taking of property and was not well founded. In so concluding, the court noted:

It is held with practical unanimity in all jurisdictions that animals ferae naturae are not the subject of private ownership until reduced to actual possession; that the ownership of such animals, so far as they are capable of ownership, is in the state, not as proprietor, but in its sovereign capacity as representative and for the benefit of all of its people in common.

While the case specifically dealt with a claim arising out of fishing, the court made clear that the doctrine of public ownership applied to animals *ferae naturae*, thus extending the doctrine to all wildlife. (See also *Dycus v. Sillers*, 557 So. 2d 486 [Miss, 1990].) From a review of legal encyclopedias, it appears that Mississippi follows a tenet of black letter law in declaring wildlife to be owned by the state for the benefit of the people; see C.J.S, Game, Section 2, page 6; Am. Jur. 2d Fish and Game, Section 1, p 577. For a summary of the Public Trust Doctrine, see Freyfogle and Gobel, *Wildlife Law: A Primer*, 2009, pp. 21 through 35.

PEER notes that while there are no cases from Mississippi specifically dealing with deer, the unequivocal language in *Ex Parte Fritz*, *supra*, would lead a reasonable reader to believe that wildlife are subject to public ownership for the benefit of the people. In view of this statement of public trust ownership, PEER would review any statutes allegedly allowing individuals to possess or own wild animals strictly to determine whether they were intended to derogate the common law of the state.

Through the common law of the state and statutes (see following section), Mississippi has adopted the Public Trust Doctrine and requires the management of wildlife resources for the benefit of the public. PEER notes that former Department Regulation, Public Notice 2877, effective January 28, 1989, Superseded July 1, 2008, generally prohibited the possession of game and fur-bearing animals consistent with the doctrine.

While some states such as Missouri have recently relaxed their approach to the Public Trust Doctrine and for a short period of time one state--Vermont--abrogated the doctrine (although it was reinstated in 2011), the doctrine exists in one form or another in other state jurisdictions of the United States.

This doctrine holds great portent for the management of wildlife in Mississippi, as it creates a duty on the part of the state to conserve and foster the stock of wild game within Mississippi.

Statutory Authority for Management of Mississippi's Wildlife Programs

State law makes the Department of Wildlife, Fisheries, and Parks responsible for conserving, managing, developing, and protecting the wildlife of the state. Rulemaking for wildlife conservation is the responsibility of the Commission on Wildlife, Fisheries, and Parks.

Subsequent to the above-discussed cases, enactments of the Mississippi Legislature have contained language that supplements the duty of the state to conserve its wildlife for the benefit of the people of Mississippi. MISS. CODE ANN. Section 49-4-1 (1972) specifically provides:

It is hereby declared to be the intent of the Legislature to conserve, manage, develop and protect our natural resources and wildlife for the benefit of this and succeeding generations by reorganizing the natural resource and wildlife conservation functions of state government into the Mississippi Department of Environmental Quality and the Mississippi Department of Wildlife, Fisheries and Parks thereby providing more effective organizations through which the methods of conserving, managing, developing and protecting our natural resources and wildlife can be analyzed, coordinated and implemented.

Additionally, Section 49-4-8 states:

The Department of Wildlife, Fisheries and Parks shall have the following powers and duties: (a) To conserve, manage, develop and protect the wildlife of the State of Mississippi.

. [and](c) To cooperate with other entities and agencies in developing and implementing such plans as necessary for the conservation, protection, beautification and improvement of the quality of the environment and living natural resources.

Rulemaking for wildlife conservation in the state is the responsibility of the Commission on Wildlife, Fisheries, and Parks. Created by MISS. CODE ANN. Section 49-4-4 (1972), the five-member commission is specifically empowered by law to carry out a variety of functions related to wildlife conservation, including the oversight of the above-mentioned Department of Wildlife, Fisheries, and Parks. Specifically, this section provides:

(3) The commission shall adopt rules and regulations governing times and places for meetings and governing the manner of conducting its business. Each member of the commission shall take the oath prescribed by Section 268 of the Constitution, and shall enter into bond in the amount of Thirty Thousand Dollars (\$30,000.00) to be approved by the Secretary of State, conditioned according to law, and payable to the State of Mississippi before assuming the duties of office. Any member who shall not attend three (3) consecutive regular meetings of the commission shall be subject to removal by a majority vote of the commission members.

...

(5) The commission shall have the power to adopt, amend and repeal such regulations and rules as may be necessary for the operation of the department.

(6) The commission shall have the power and authority to issue all licenses and permits under the jurisdiction of the department.

(7) In the furtherance of its duties and responsibilities, the commission may conduct hearings, gather testimony and perform other functions required to carry out its powers and duties as prescribed by statute....

Further, Section 49-1-29 provides certain specific duties regarding rulemaking for wildlife conservation. This section provides:

The commission may promulgate rules and regulations, inaugurate studies and surveys,

and establish any services it deems necessary to carry out wildlife laws. A violation of any rules or regulations promulgated by the commission shall constitute a misdemeanor and shall be punished as provided in Section 49-7-101.

Thus it is the commission's responsibility to address legislative mandates through rulemaking and set policy for wildlife conservation in the state, consistent with laws governing such.

Criteria for Management of Mississippi's Wild Game Resources

The goal of wildlife management programs is to protect the respective species that the program is designed to help. Each program should be based on science, with the goal of sustaining the population of wildlife.

As noted above, MISS. CODE ANN. Section 49-4-8 (1972) makes the Department of Wildlife, Fisheries, and Parks responsible for managing wildlife resources for the benefit of the people of the state.

To determine standards by which wildlife management programs should be reviewed, PEER sought both legal and scientific standards for reviewing the programs. Pages 3 through 6 of this report contain a discussion of the legal standards, particularly the Public Trust Doctrine. To determine what prudent management would be in a scientific sense, PEER sought guidance from faculty and staff of Mississippi State University (MSU), which employs numerous wildlife biologists and provides consulting services to the Department of Wildlife, Fisheries, and Parks (DWFP). PEER chose MSU as a research source for guidance on sound scientific wildlife management principles based on its history and experience with wildlife issues within the state, its nationally recognized wildlife programs, and its impartiality to both the issue of publicly run wildlife management programs and the agency responsible for these programs' administration.

PEER notes that DWFP works in cooperation with many scientific organizations--specifically, Mississippi State University's Department of Wildlife, Fisheries, and Aquaculture--in conducting its wildlife programs. Begun in 1976, the research cooperative between Mississippi State University and the Department of Wildlife, Fisheries, and Parks is an agreement through which the department works in partnership with Mississippi State University to provide the most modern and scientifically accurate testing and monitoring program for the state's wildlife populations. The department is able to enlist the talents of several Ph.D.s, their graduate programs, and university equipment/resources, while the university gains research

topics and data records for the state to use in dissertations and other academic activities.

According to wildlife biologists at Mississippi State University, the goal of all wildlife management programs is to protect the respective species that the program is designed to help. Each program should be based on science, with the goal of sustaining the population of wildlife. To accomplish this, wildlife managers should employ the following three techniques:²

- Keepers of the land (i. e., private and public lands) must make harvests of the animal populations located on the respective properties.
- Cooperators (e. g., landowners, lease holders, hunting clubs) must make proper land management decisions when utilizing the resources located within a specific land tract.
- People (e. g., harvesters, observers, and opponents) must be made aware of the goals of a specific management technique and the means by which it is to be accomplished and the part each group can and should play in the process.

This report contains discussions of how the department has managed three specific wild game resources in Mississippi--waterfowl, turkeys, and deer--in accordance with these criteria.

² The three criteria are derived from an interview with Dr. Bruce Leopold, Head of the Department of Wildlife, Fisheries, and Aquaculture at Mississippi State University. While not codified directly in this form in literature, Dr. Leopold explains that these three criteria, with the goal of science-based decisionmaking and population sustainability, are the core and consensus principles of any wildlife management program. While other programs, universities, or departments might assign different steps, factors, or emphasis, all might be distilled into these three program criteria.

The Department's Management of Mississippi's Waterfowl Population

Waterfowl³ such as wild ducks are a significant wildlife asset of the state. This chapter addresses the question:

- Does the Department of Wildlife, Fisheries, and Parks manage the state's principal waterfowl resource--ducks--in a manner consistent with its responsibilities as a public trustee?

DWFP employs scientifically sound management practices with regard to the state's duck population, in accordance with state law's mandate to conserve and protect this wildlife resource in the interest of the public.

DWFP's Duck Habitat Management and Monitoring

In order to ensure a thriving duck population, DWFP focuses on techniques such as habitat improvements, water control, plant identification and control, and hunting management. Also, the department participates in a research agreement with Mississippi State University whereby the university analyzes data and proposes scientifically based recommendations to the department to improve habitat resources.

Waterfowl are a diverse group of birds that are highly mobile and with diverse habitat needs that vary dramatically. In order to ensure a thriving duck population, DWFP focuses on techniques such as habitat improvements, water control, plant identification and control, and hunting management.

Each year, federal, Canadian provincial, and U. S. state agencies conduct monitoring activities of duck populations, such as aerial surveys and hunter questionnaires, to provide information on harvest levels, population size, and habitat conditions. DWFP conducts aerial transect surveys during the winter in the Delta, which is the time of year when ducks migrate in southern regions, in order to estimate duck populations because the Delta's wetlands are the places where ducks stop on their migratory path. In conducting these surveys, DWFP staff count birds within known-width strips in randomly selected transects. DWFP identifies all ducks within that strip and records that information, as well as locations.

³ While the department has responsibility for all waterfowl, PEER focused on the programs for ducks, as they are the most significant of the waterfowl for Mississippi sportsmen.

After conducting these aerial surveys, the department's staff analyzes the data and creates duck distribution maps.

Through a research agreement with DWFP, Mississippi State University staff analyze data and propose scientifically based recommendations to the department to improve habitat resources. For example, in 2007 MSU recommended an aerial survey design for continued monitoring of wintering ducks in western Mississippi, as well as suggested habitat management techniques (e. g., the inclusion of complexes of seasonally flooded cropland and moist-soil, forested, and permanent wetlands designed to increase wintering duck numbers in western Mississippi on public and private lands).

DWFP also provides free technical guidance to private landowners who are interested in help with wetlands management and attracting ducks. Additional responsibilities of the program include avian influenza testing, wood duck banding, and representing the interests of Mississippi sportsmen on national committees.

DWFP's Implementation of Federal Duck Management Programs

DWFP participates in the federal Migratory Bird Harvest Information Program and cooperates with federal and state agencies regarding harvest of ducks and proposals for duck-hunting regulations, hunting seasons, bag limits, and population management.

DWFP is also subject to responsibilities imposed by the federal government on state wildlife agencies. 50 CFR §20.20 establishes the Migratory Bird Harvest Information Program, which is a fully cooperative federal-state program that requires licensed migratory game bird hunters to register annually in each state in which they hunt. In implementing this program, DWFP is responsible for collecting name, address, and date of birth from each migratory bird hunter; asking each hunter a series of general screening questions about hunting success the previous year; and sending all of this information to the U.S. Fish and Wildlife Service. DWFP is also responsible for providing migratory bird hunters with proof of compliance with the federal Migratory Bird Harvest Information Program to carry while they are hunting. The Fish and Wildlife Service then randomly selects a sample of those hunters and asks them to provide information on the kind and number of migratory birds they harvest during the hunting season.

The Flyway Councils,⁴ other states' wildlife management agencies, and the U. S. Fish and Wildlife Service collect and

⁴ The *Flyway Councils* are collaborative efforts between state, Canadian provincial, and federal authorities that manage migratory birds.

analyze data from the aerial surveys and hunter questionnaires and use the information to develop reliable estimates of the total harvest of all migratory birds throughout the country and proposals for duck-hunting regulations, hunting seasons, bag limits, and population management. Because migratory bird seasons may only occur during season frameworks established by the U. S. Fish and Wildlife Service, duck hunting season dates, season lengths, and bag limits are subject to annual change.

Conclusion Regarding DWFP's Duck Management Program

Using generally accepted criteria for management of wildlife programs as a standard, PEER reviewed DWFP's duck management program and found that it adheres to scientifically defensible objectives designed to conserve and protect the duck population and is in accordance with the mandate of law.

As noted on page 9 of this report, the following are generally accepted criteria for management of wildlife resources:

- Keepers of the land (i. e., private and public lands) must make harvests of the animal populations located on the respective properties.
- Cooperators (e. g., landowners, lease holders, hunting clubs) must make proper land management decisions when utilizing the resources located within a specific land tract.
- People (e. g., harvesters, observers, and opponents) must be made aware of the goals of a specific management technique and the means by which it is to be accomplished and the part each group can and should play in the process.

PEER reviewed DWFP's duck management program in light of the above criteria and found the following.

- DWFP encourages duck hunting within the state for both recreational and animal management purposes as stated in statute. This is accomplished through the provision of technical guidance and wetland management recommendations to landowners.
- DWFP informs and advises cooperators on wetland management decisions and offers assistance in maximizing resource utilization. This is accomplished through the provision of technical guidance and wetland management recommendations to landowners.
- Through reporting of its monitoring activities (e. g., aerial surveys and hunting questionnaires conducted in cooperation with Mississippi State University and the U. S. Fish and Wildlife Service), DWFP disseminates the knowledge needed by landowners, hunters, and

interested parties to stay abreast of trends of the state's wildlife populations and what each party can do to maximize the enjoyment of each resource.

PEER believes that DWFP's management of the state's duck population adheres to the objectives of a scientifically defensible wildlife management program designed to conserve and protect the duck population according to the mandate of law.

In assessing the success of the department in fostering the growth of the duck population, it is important to remember the migratory nature of ducks. Because ducks rely upon the wetlands of many states as a habitat, Mississippi's efforts are only one component in an overall strategy for fostering duck populations that include the efforts of other states, as well as other nations.

According to surveys conducted by the U. S. Fish and Wildlife Service and the Canadian Wildlife Service, overall, the North American total breeding duck populations have increased seven percent from 2011 from approximately 45.6 million to over 48.6 million birds. Consequently, it may be said that the concerted efforts of all involved jurisdictions have contributed to the increase in the estimated population. Additionally, the efforts of the DWFP set out above appear to be consistent with scientifically sanctioned practices for management of such migratory birds.

The Department's Management of Mississippi's Turkey Population

As with ducks, turkeys are a major game resource of the state. This chapter addresses the question:

- Does the Department of Wildlife, Fisheries, and Parks manage the state's turkey population in a manner consistent with its responsibilities as a public trustee?

DWFP employs scientifically sound management practices with regard to the state's turkey population, in accordance with state law's mandate to conserve and protect the wildlife resource in the interest of the public.

DWFP's Management and Monitoring of the Turkey Population

DWFP staff, along with cooperators, the Mississippi Forestry Commission, and the U. S. Forest Service, conduct and analyze surveys to monitor the turkey population and make decisions in the best interest of the turkey population and hunters.

As noted previously in this report, DWFP manages its turkey program in cooperation with and with the blessing of scientists at Mississippi State University. In addition, DWFP collects information on the turkey population and its condition through spring gobbler hunting surveys and summer brood surveys. The spring gobbler hunting survey provides biological information about the status of the turkey population observed by cooperating hunters during their spring gobbler hunts. This information assists DWFP in monitoring the turkey population and making management decisions in the best interest of the turkey population and turkey hunters.

Personnel from DWFP, the Mississippi Forestry Commission, the U. S. Forest Service, and other cooperators conduct the summer brood surveys every June, July, and August through observations of hens and broods seen during daily field duties. The department compiles data from this survey and uses it as a means of judging reproductive output on both a statewide and regional basis. Additional information can be assessed by estimating the overall percentage of the female population observed with young and the average number of individual poults within each brood.

Conclusion Regarding DFWP's Turkey Management Program

Using generally accepted criteria for management of wildlife programs as a standard, PEER reviewed DFWP's turkey management program and found that it adheres to scientifically defensible objectives designed to conserve and protect the turkey population and is in accordance with the mandate of law.

As noted on page 9 of this report, the following are generally accepted criteria for management of wildlife resources:

- Keepers of the land (i. e., private and public lands) must make harvests of the animal populations located on the respective properties.
- Cooperators (e. g., landowners, lease holders, hunting clubs) must make proper land management decisions when utilizing the resources located within a specific land tract.
- People (e. g., harvesters, observers, and opponents) must be made aware of the goals of a specific management technique and the means by which it is to be accomplished and the part each group can and should play in the process.

PEER reviewed DFWP's turkey program in light of the above criteria and found that in its management of the state's turkey population, DFWP is in keeping with the objectives of a scientifically defensible wildlife management program.

- DFWP has encouraged and continues to encourage the harvesting of turkey within the state for both recreational and animal management purposes as stated in statute.
- Through use of the spring gobbler hunter survey program and advisement on best land use techniques, DFWP is informing the laypersons of the proper land management decisions and offering assistance in maximizing resource utilization on a given land area.
- Through the spring gobbler hunter survey program, coordination with Mississippi State University, and its own outreach programs, DFWP is disseminating the knowledge needed by landowners, hunters, and interested parties to stay abreast of trends of the state's wildlife populations and what each party can do to maximize the enjoyment of each resource.

The department provided the following recent statistics to PEER regarding the state's turkey population:

- Overall, total turkey observations in 2011 were higher than in 2010.

- During 2011, seasonal gobbling activity was slightly lower than observed during 2010.
- Statewide harvest rates were slightly lower than those reported in 2010.
- The age structure of harvested turkeys in 2011 was somewhat older than that observed in recent years.
- During 2011, turkey reproduction across most of Mississippi dropped significantly from the strong hatch of 2010 and the Poults Per Hen index was well below its five- and ten-year average. Overall, 38% of hens were seen with a brood, which was similar to last year; however, the average brood size dropped by nearly 12% from 2010, suggesting that overall declines in reproduction may have been fueled by low poult survival.

While some of the above indicators took a slight downturn from the previous year, DWFP believes that the decline was due to unusual climate conditions (e. g., hurricanes, drought, flooding) over the past few years that would negatively impact the numbers. However, this is not to say that the turkey population is in trouble or that the efforts of DWFP are having no positive impacts. According to the department, the turkey population has been relatively stable over the last five years as evidenced by poult counts and the number of gobblers.

The Department's Management of Mississippi's Deer Population

According to Mississippi State University's Department of Wildlife, Fisheries, and Aquaculture, Mississippi currently has the second highest deer population and the highest deer density in the nation. This chapter addresses the question:

- Does the Department of Wildlife, Fisheries, and Parks manage the state's deer population in a manner consistent with its responsibilities as a public trustee?

Generally, DWFP employs scientifically sound management practices with regard to the state's deer population, in accordance with state law's mandate to conserve and protect the wildlife resource in the interest of the public. However, the department's regulations and practices regarding privately owned enclosures for white-tailed deer are not authorized by statute and PEER believes that the department's permitting of such enclosures is not in keeping with the Public Trust Doctrine. Also, minutes and records of the Commission on Wildlife, Fisheries, and Parks do not reflect that the commission's decisions regarding permitting of deer enclosures were supported by scientific evidence.

DWFP's Management and Monitoring of the Deer Program

DWFP's Deer Program is a comprehensive program consisting of data collection and cooperator education.

The Department of Wildlife, Fisheries, and Parks considers white-tailed deer to be Mississippi's only native deer population. DWFP's White-Tailed Deer Program is designed to provide a quality population statewide and offer maximum outdoor recreational opportunity to the public without negatively affecting the resource. Biologists provide deer-related technical guidance to managers on private and public lands, conduct seminars, speak publicly, write articles for professional publications, conduct statewide disease surveillance, and assist Mississippi State University with deer research projects.

Deer Management Assistance Program

Through the Deer Management Assistance Program, DWFP tries to put landowners/cooperators in a better position to manage lands for a healthy deer herd while maintaining habitat integrity.

The cornerstone of the DWFP's deer management program is the Deer Management Assistance Program (DMAP), which is a comprehensive deer management program consisting of data collection and cooperator education. Through this program, DWFP tries to put the landowner/cooperator in a better position to manage lands for a healthy deer herd while maintaining habitat integrity. The department uses data from the program to develop site-specific harvest recommendations and has had numerous research projects to help better understand deer biology. Annually, over 600 DMAP cooperators help to cover more than 2.5 million acres in Mississippi.

The starting point of DMAP is goal/objective setting by the cooperator. After analyzing data collected from harvested deer (e. g., weight, antler measurement) and in some cases from limited habitat evaluation, the biologist meets with the landowner/cooperator to discuss harvest strategies that are designed to meet the specific goals within the limitations of maintaining a healthy habitat.

Deer management goals vary among landowners/cooperators and range from emphasizing total number of deer to having fewer deer and allowing them to reach their "trophy" potential. Deer program biologists, in consultation with landowner/cooperators, can tailor deer harvest recommendations to achieve the entire range of deer management goals.

The landowner/cooperative receives a harvest summary report after each hunting season. This report contains a detailed analysis of the current year's harvest as well as graphs and charts that help show trend directions while facilitating data interpretation. Progress toward the desired goals and objectives is continuously evaluated. A telephone conversation or a meeting with their respective biologist is usually an annual follow-up to answer the questions that arise. Ideally, the biologist attempts to schedule at least one meeting with each club or, at a minimum, all the clubs from each county each year.

In addition to working with private landowners, DWFP's deer program biologists also provide technical assistance on various local, state, and federal public lands across the state. Some of the assistance provided to the Wildlife Management Area (WMA) program includes habitat modification recommendations, deer harvest analysis, spring herd health evaluations, population surveys, deer disease surveillance, and regulation recommendations.

Enclosure Management Assistance Program

DWFP designed its Enclosure Management Assistance Program for private landowners that have deer enclosures.

Since the late 1990s, the Legislature has considered several bills addressing the ownership of game enclosures. By 2007, the commission had adopted a policy on such enclosures. The Commission on Wildlife, Fisheries, and Parks and the Department of Wildlife, Fisheries, and Parks adopted Policy W-3780, which outlined the requirements and obligations of landowners who sought to have native deer enclosed in a high fence area for personal use. Under Policy W-3780, enclosure owners must obtain an annual Facility Permit from DWFP and enroll in the Enclosure Management Assistance Program (EMAP), which requires DWFP wildlife biologists to regulate the enclosure. DWFP's goal for enclosures is to help achieve the owner's goals without compromising the wildlife resource. The department estimates that at present, approximately 18,000 deer (including native, exotic, and nonnative species) live within enclosures in Mississippi.

PEER notes that DWFP does not directly manage enclosures; however, according to Public Notice W-3780 and the department's website, enclosures are listed as a conservation strategy/tool for private landowners. The Enclosure Management Assistance Program allows the enclosure owner to establish goals and objectives necessary to manage the white-tailed deer herd within the enclosure. Once goals and objectives are set, the owner collects biological data from harvested white-tailed deer (i.e., weights, antler measurements, doe lactation data). After analyzing the harvest data and evaluating the habitat, a DWFP biologist discusses harvest strategies with the enclosure owner to meet specific goals within the limitations of maintaining a healthy habitat. The biologist must submit annual EMAP deer harvest data to DWFP. EMAP cooperators receive a harvest summary report after each hunting season, which provides analysis of current and historical harvest, as well as graphs and charts that show trend directions while facilitating data interpretation. Progress toward the goals and objectives stated in the annual management plan is continuously evaluated using this report.

According to Policy W-3780, all permitted high-fenced enclosures must contain a minimum of 300 contiguous acres, of which at least half must contain suitable habitat for deer that is not susceptible to flooding under normal conditions. However, DWFP may waive the requirement for enclosures constructed prior to the adoption of the public notice on July 1, 2008. In addition, the enclosure fence must have a minimum height of 8 feet and a minimum gauge wire of 12½. The Commission on Wildlife, Fisheries, and Parks may waive these requirements if the effect of

the existing fence is to restrict the free ingress and egress of wild animals.

DWFP permits controlled breeding of deer within an enclosure. Breeding pens, whereby animals or poultry are confined for the purpose of producing purebred stock, must be contained within a permitted enclosure and cannot exceed a total confined area of five acres. The pen's owner must annually submit a breeding plan and pen inventory to DWFP.

Conclusion Regarding DWFP's Deer Management Program

Using generally accepted criteria for management of wildlife programs as a standard, PEER reviewed DWFP's deer management program and found that generally, DWFP employs scientifically sound management practices with regard to the state's deer population, in accordance with state law's mandate to conserve and protect the wildlife resource in the interest of the public. However, PEER has legal and policy concerns regarding DWFP's regulation of privately owned enclosures.

As noted on page 9 of this report, the following are generally accepted criteria for management of wildlife resources:

- Keepers of the land (i. e., private and public lands) must make harvests of the animal populations located on the respective properties.
- Cooperators (e. g., landowners, lease holders, hunting clubs) must make proper land management decisions when utilizing the resources located within a specific land tract.
- People (e. g., harvesters, observers, and opponents) must be made aware of the goals of a specific management technique and the means by which it is to be accomplished and the part each group can and should play in the process.

PEER reviewed DWFP's deer program in light of the above criteria and found that in its management of the state's deer population, with the exception of the practice of permitting deer enclosures (see pages 21 through 33) and the commission's practices in adopting policy regarding management of the deer population (see pages 33 through 35), DWFP adheres to the objectives of a scientifically defensible wildlife management program designed to conserve and protect the deer population in accordance with the law, as follows:

- DWFP has and continues to encourage the harvesting of deer within the state for both recreational and animal management purposes as stated in statute.
- Through use of the Deer Management Assistance Program, DWFP informs the cooperators of proper land

management decisions related to the deer population and offers assistance in maximizing resource utilization for a given land area.

- Through the Deer Management Assistance Program, coordination with Mississippi State University, and outreach programs administered by DWFP, the department disseminates the knowledge needed by landowners, hunters, and interested parties to stay abreast of trends of the state's wildlife populations and what each party can do to maximize the enjoyment of each resource.

Observations by DWFP biologists of habitat and deer herd conditions across the state have led to the conclusion that the deer herd in most areas of the state is expanding despite varied and harsh weather conditions during 2009-2010 (e. g., excessive rains in late summer and early fall and hard freeze in late December and early January). Although the deer herd population is healthy, it has increased to a level that currently poses a nuisance to humans (e. g., increasing number of complaints of crop damage and vehicle collisions).

While the department's management and monitoring activities have generally benefited the conservation of game for the benefit of Mississippians, PEER has concerns regarding DWFP'S use of deer enclosures.

Legal and Policy Issues Regarding Deer Enclosures

DWFP's regulations and practices regarding enclosures for white-tailed deer are not authorized by statute and PEER believes that the department's permitting of such enclosures is not in keeping with the Public Trust Doctrine.

The subject of deer enclosures has received considerable attention in recent years. As noted at page 22 of this report, there are numerous enclosures in the state containing deer. Of overriding concern is the legality of these enclosures.

Regarding legal and policy issues related to enclosures that contain white-tailed deer, PEER posed the following questions:

- Has the Legislature enacted any law that specifically authorizes the enclosure and hunting of native white-tailed deer in enclosures?
- If the Legislature has not specifically authorized the enclosure of native white-tailed deer for hunting, could the Legislature make such conduct legal and be in conformity with the Public Trust Doctrine described on page 3 of this report?

- If the enclosure of native white-tailed deer for hunting is legalized, would abrogation of the Public Trust Doctrine be sound public policy?

Pages 22 through 31 of this report address these three questions.

Has the Legislature enacted any law that specifically authorizes the enclosure and hunting of native white-tailed deer in enclosures?

No. DWFP regulations and practices regarding enclosures for white-tailed deer are not authorized by statute. MISS. CODE ANN. Sections 49-7-58.1 through 49-7-58.4 (1972) establish a comprehensive approach for DWFP to regulate certain deer enclosures, but do not explicitly derogate the state's public policy or the tenets of the Public Trust Doctrine (i. e., state law does not specifically permit the conversion of wildlife from public to private resources to be confined and hunted in enclosures).

Recently, tensions between the authority of the public trust and the rights of private property owners toward wildlife have manifested as a result of the proliferation of wildlife enclosure facilities--e. g., deer enclosures. Although the Public Trust Doctrine dictates that wildlife is held in trust by the government for the benefit for the public (see page 3), a basic tenet of United States property law is that landowners control access to their property and, thus, the public's access to wildlife resources on private lands. The current status of the Public Trust Doctrine puts public rights at odds with private property rights and the quest for profit derived from wildlife.

DWFP regulations and practices regarding enclosures for white-tailed deer are not authorized by statute. Policy W-3780 authorizes DWFP to regulate white-tailed deer enclosures through the issuance of permits and by conducting annual inspections. Since the public notice went into effect on July 1, 2008, the number of statewide white-tailed deer enclosures that have received permits has grown and as of June 2012, there were 102 white-tailed deer enclosures in the state.

In 1997, the Legislature passed S. B. 2699, codified as a series of amendments to MISS. CODE ANN. Sections 49-11-1 through 49-11-29 (1972). These sections established the size limits on commercial enclosures and further provided that such enclosures must allow for the ingress and egress of native species. Subsequent amendments clarified the department's authority to regulate the hunting of nonnative cervids⁵ in such enclosures. Subsequently, the Legislature adopted provisions banning the importation of certain species and placing restrictions on and clarifying the department's regulatory authority over enclosures that in some way restrict the movement of native white-tailed deer.

⁵ *Cervids* are hoofed mammals of the family *Cervidae*, which includes deer and elk.

MISS. CODE ANN. Sections 49-7-58.1 through 49-7-58.4 (1972) establish a comprehensive approach for DWFP to regulate enclosures, but the sections do not specifically derogate the tenets of the Public Trust Doctrine or the state's public policy iterated in Section 49-7-1.1-i. e., these sections do not permit the conversion of deer from public to private resources to be caged and hunted in enclosures.

- MISS. CODE ANN. Section 49-7-58.1 requires, under penalty of law, owners of enclosures containing white-tailed deer to register with DWFP and comply with department-sanctioned testing for chronic wasting disease (CWD).
- MISS. CODE ANN. Section 49-7-58.2 sets out DWFP's power to develop and implement a program for inspecting, monitoring, testing for, and preventing CWD.
- MISS. CODE ANN. Section 49-7-58.3 authorizes the commission to regulate the hunting of nonnative cervids in noncommercial wildlife enclosures.
- MISS. CODE ANN. Section 49-7-58.4 authorizes DWFP to regulate facilities that prevent the free ingress and egress of native and nonnative cervids.

From an analysis of these provisions, it appears that the Legislature has not specifically adopted any legislation that derogates the articulated policy of the state and the common law Public Trust Doctrine respecting the public ownership of white-tailed deer. Consequently, PEER does not find in these sections any language unequivocally making legal the penning of white-tailed deer or the licensing of any facility established for the purpose of penning white-tailed deer, except for the limited purposes set out above--e. g., instances wherein white-tailed deer become enclosed in pens established for nonnative species.

Of note specifically, CODE Section 49-7-58.4 provides the following:

*1) The Commission on Wildlife, Fisheries and Parks and the Department of Wildlife, Fisheries and Parks shall have plenary power to regulate all commercial and noncommercial wild animal enclosures **in order to conserve and protect native wildlife for all citizens to enjoy and to protect our recreational economy dependent on native wildlife resources.***

(2) The Commission on Wildlife, Fisheries and Parks shall regulate any facility that prevents the free ingress and egress of native or nonnative cervids as the same are defined by the commission. The commission

may promulgate rules and regulations requiring the issuance of permits and the payment of a reasonable fee therefor. Regulations promulgated under this authority must have a majority vote of the commission to be adopted.

[PEER emphasis in bold type]

PEER believes that this section was adopted for the purpose of ensuring that the department has the power to devise a strategy for dealing with native deer that had been captured in the process of constructing enclosures for nonnative game species, which at the time were legal but had the unintended consequence of capturing native deer. This construction should be particularly compelling in view of the dubious status of any legislation that would attempt to abrogate the Public Trust Doctrine (see following section beginning on this page).

PEER notes that any section of law alleged to give DWFP authority to license native white-tailed deer must be construed strictly. As such animals are held in trust for the people of Mississippi, they are the property of the state. Any statute that is alleged to derogate the sovereignty of the state is to be construed strictly against the position that the state's rights have been derogated. See *City of Jackson v. State Building Commission*, 350 So. 2d 63 (Miss, 1977), citing several other cases from this jurisdiction holding such. Under a strict construction, these provisions clearly do not authorize the licensure of enclosures for native white-tailed deer, as they do not make clear that the statute's purpose is to transfer, or attempt to transfer, a trust asset to private possession.

The effect of this legislation and resulting regulation has been the conversion of public resources to the hands of private individuals for personal gain and enjoyment.

If the Legislature has not specifically authorized the enclosure of native white-tailed deer for hunting, could the Legislature make such conduct legal and be in conformity with the Public Trust Doctrine described at page 3 of this report?

No. In view of the fact that the state owns such deer for the use and benefit of its citizens, there is considerable doubt as to whether the state could legalize such enclosures.

Logically, proponents of the use of enclosures would ask whether the Legislature could adopt laws that would allow the abrogation of the trust by allowing persons to reduce live native species to possession in enclosures.

In reviewing recently published authorities on the subject, PEER has found no instances in which the Supreme Court of any state has addressed the abrogation of the doctrine

by allowing individuals to possess deer or other wild animals native to the state.

In attempting to answer the question, PEER reviewed case law dealing with other forms of public trusts and further presents the work of recent commentators on the Public Trust Doctrine or Public Ownership Doctrine who have considered this issue.

Public Trust Doctrine in Other Substantive Areas of Law

Wildlife is not the only thing held in public trust for the use and benefit of Mississippians. In this state, the courts have dealt with instances wherein public trust affects the government's ability to alienate property or limit public use and access to property:

- tidelands and navigable waters; and,
- sixteenth section lands.

These are discussed below.

The Tidelands and Navigable Waterways

While most property in Mississippi may be sold or transferred, there are exceptions. Through statute and case law from the Mississippi Supreme Court, it is clear that the tidelands and the navigable waterways of the state are held in trust for the public. Under what is known as the "Equal Footing Doctrine," Congress, when adopting legislation bringing a new state into the union, transfers to that state tidelands and navigable waterways for the use and benefit of that state's people. This transfer is made because Congress wanted to place all states on an equal footing with the original thirteen states which, when entering the union, retained their tidelands and navigable waterways for the use and enjoyment of their people. These lands are held in trust for the benefit of the public. (See *Ryals v. Piggott*, 580 So. 2d 1140, 1147 [Miss, 1990] and *Cinque Bambini Partnership v. State*, 491 So. 2d 508, 512 [Miss, 1986].)

Respecting such lands, Mississippi's courts have consistently held that such lands may only be transferred if such transfer is for a higher purpose and that the transfer will not be detrimental to the purposes of the public trust. Such transfers must be authorized by the Legislature and must be consistent with the purposes of the public trust. (See *Molpus v. Wiesenbergh*, 633 So. 2d 983 [Miss, 1994].)

The burden of establishing such purposes would be quite difficult. By example, in *Treutting v. Bridge and Parks Commission*, 199 So. 2d 627 (Miss. 1967), the Mississippi Supreme Court found the state's transfer of submerged acreage around Deer Island to the City of Biloxi to be

consistent with the public trust but only after the transferee could establish the ultimate public purpose for the transfer. In upholding the transfer as being consistent with the common law of public trust, the court concluded:

In short, because the overall purposes of the proposed development of Deer Island promote a large number of public interests and uses, the incidental private ownership of parts of the development is not inconsistent with the public trust in the submerged lands. In essence it is an effectual development and discharge of this trust.

The public purposes advanced were tourism and recreation in the Gulf Coast area.

Sixteenth Section Lands

Sixteenth section lands are held by school districts for the benefit of local education. Regarding the nature of the relationship of the land to the state and its political subdivisions, the Mississippi Supreme Court set out the trust relationship in *Turney v. Marion County Board of Education*, 481 So. 2d 770 (Miss, 1985). In *Turney*, the court specifically stated:

The Board of Education derives its authority to manage sixteenth section land from Miss. Code Ann. Sec. 29-3-1(1) which reads:

Sixteenth section school lands, or lands granted in lieu thereof, constitute property held in trust for the benefit of the public schools and must be treated as such. The board of education under the general supervision of the state land commissioner, shall have control and jurisdiction of said school trust lands and of all funds arising from any disposition thereof heretofore or hereafter made. It shall be the duty of the board of education to manage the school trust lands and all funds arising therefrom as trust property. Accordingly, the board shall assure that adequate compensation is received for all uses of the trust lands, except for uses by the public schools.

It is clear from a reading of the history of sixteenth section lands, along with the above-quoted statute, that various governmental authorities are involved with federally donated trust lands. The lands were granted by the United States to Mississippi in trust, but the United States "has a continuing interest in the administration of both the lands and the

funds which derive from them. The grant involved here thus expressly requires the Attorney General of the United States to maintain whatever proceedings may be necessary to enforce its terms.” Lassen v. Arizona, 385 U.S. 458, 87 S.Ct. 584, 17 L.Ed. 515 (1967). Title to the trust lands rests in the State of Mississippi as trustee. The state official responsible for Mississippi’s public lands is presently the Secretary of State.

Alienability of Things Held in Public Trust Is Extremely Unlikely

The precedents established for overseeing tidelands, navigable streams, and sixteenth section land tend to restrict considerably the state’s ability to alienate trust lands. Applying the case law to the matter of wildlife, it would appear that there would have to be some showing that the alienation of the public resource serves the overall purpose of the trust--e .g., the alienation of the resource would in some way have to advance the management of the resource and foster public use and benefit in order for such to be legal.

The above-cited authorities would lead to the conclusion that once something is the subject of a public trust, it would be difficult to legally alienate such from the public’s ownership.

Duties of the Trustee

Despite this, several commentators have noted some difficulty respecting the scope of the public trust as it applies to wildlife. They cite the fact that unlike the private trust, no document clearly sets out the duties of the trustee to his beneficiaries; consequently, there is no basis for concluding what the trustee must do and when the trustee must act. Directly related to this issue is the fact that the trust relationship is a product of the common law in this state and in many others. Generally, common law doctrines may be abrogated through statutory action by a legislature.

PEER would note that the same criticisms could be leveled against trusts as they apply to tidelands, navigable waters, and school trust lands. In these areas, the scope of the trust has evolved over time through court decisions that have adapted the trust doctrine to changing times and needs. (See *Cinque Bambini Partnership v. State*, supra.) Doubtless the same could occur in the area of wildlife trusts.

If the enclosure of native white-tailed deer for hunting is legalized, would abrogation of the Public Trust Doctrine be sound public policy?

No. It is the position of the scientific community that enclosure of native wildlife stocks is not the most effective means of accomplishing the goals of wildlife management. Given the increased risk of disease transmission and genetic risks, more traditional land stewardship practices and management techniques should be used to accomplish the same goals in a more healthy and sustainable way.

Clearly, following the common law, there would have to be some showing that the legalization of white-tailed deer enclosures would in some way advance the purposes of the public trust. In view of the fact that the penning itself results in private ownership of deer, it seems doubtful that any legislation allowing white-tailed deer enclosures would be legal.

Further, the scientific community has serious doubts regarding the wisdom and prudence of allowing the penning of native species.⁶ The following sections include discussions of risks associated with the maintenance of enclosures for deer:

- the spread of disease;
- behavioral changes;
- genetic risks; and,
- effects on other species and habitats.

Disease Spread

In general, confining any animal in conditions that are unnatural (i. e., too many animals for the carrying capacity of the land, confining solitary animals in herd conditions) increases the spread of disease. By confining animals in unnaturally high concentration numbers, the vector for disease distribution is positively motivated--i. e., the higher the number of animals per area, the higher the chance for disease transmission. While some of these diseases are naturally occurring, in the case of chronic wasting disease, the first recorded incident occurred within an enclosure in

⁶ In developing this section, PEER relied on information produced by the Wildlife Society. Founded in 1937, the Wildlife Society is an international organization whose mission is to “represent and serve the professional community of scientists, managers, educators, technicians, planners, and others who work actively to study, manage, and conserve wildlife and habitats worldwide.” Through the use of scientific information, the Wildlife Society works to create a conservation regime in which humans and wildlife co-exist. It is the goal of the Wildlife Society that wildlife and their habitats are conserved through management techniques that take into consideration accepted and relevant scientific information. The society accomplishes this through the involvement of wildlife managers, dispersing wildlife science, advocating wildlife policy and law, and informing the citizenry.

another state. According to the Board of Animal Health, Mississippi has had no reported cases to date of CWD in the deer population.

Accumulation of urine and fecal material within enclosures, coupled with increased animal density within the enclosures, creates an environment that unnaturally fosters a more disease-ripe environment.

The most obvious and recognized risk associated with ungulate⁷ enclosures is that of disease and disease transmission. When any animal is maintained in a high-density area, facilitating the transmission of pathogens, infectious diseases are a concern. High-density populations of any animal species subject to nutritional, environmental, or social stressors may reduce an animal's ability to produce a normal immune response.

As stated previously, the result of this high-density enclosure practice on ungulate health can impact both the health of the enclosure habitat/animals as well as those in the surrounding area. In certain circumstances, infectious diseases may occur in animal agriculture due to direct morbidity and mortality and associated lost productivity and economic loss. These diseases may result in trade restrictions on animal and animal parts and cause an impact on public health. Further, diseases may influence local animal populations outside the enclosure and not to be understated is the risk that may arise out of the safety for consumption of ungulate products by humans in infected areas.

The list of possible disease outbreaks that scientists fear could occur in unnatural environments such as enclosures is great; while not unique to enclosures, the high-density nature of these enclosures provides a high-risk environment for their spread. These diseases include:

- Chronic Wasting Disease;
- Bovine Tuberculosis;
- Meningeal Worm;
- Paratuberculosis;
- Cervid Adenoviruses;
- Giant Liver Fluke; and,
- Septicemic Pasteurellosis.

Appendix A, page 37, includes a short description of each of these diseases.

The preceding is not an exhaustive list of diseases that may occur in both captive and wild ungulate populations

⁷ *Ungulates* are hoofed animals such as deer, horses, and cattle.

and new diseases or variants of existing diseases are being discovered in laboratories across the country.

Additionally, cervids are susceptible to many highly infectious diseases that affect domestic livestock in the country. Thus, the importance of disease surveillance in populations of captive and wild ungulates cannot be understated, both for the health of wildlife and domestic livestock and for the health of humans coming in contact with them.

Regarding human consumption of deer meat, enclosed deer are susceptible to the same diseases as those in the wild and diseases exist within the species that would be harmful to humans consuming the meat of deer with such diseases. However, if the enclosure is maintained appropriately and the deer are monitored closely for signs of disease, the risk to humans consuming their meat should be no greater than for consuming the meat of wild deer.

Behavioral Changes

Confining animals that in nature would roam and migrate stresses the animals and alters behavior in an unnatural way. Deer enclosures alter migration and dispersal patterns of animals found outside the enclosure. By restricting white-tailed deer to enclosures, owners of such facilities adversely impact the natural behavior movements of the animals. High fences alter the movement patterns of the animal's daily or seasonal home ranges. Of particular importance is the fact that these fences may exclude deer from habitats located outside the fenced area. Because wild deer home ranges are fairly expansive, only the largest of enclosures could provide all of the environmental components needed in a typical home range and while most animals adapt to the changes in enclosures, the exclusion from critical habitat areas would likely impact survival and production rates.

Confinement within enclosures also presents a danger to dispersal and migration patterns of animals both within and outside the enclosures. In order to protect genetic variation, habitat quality, and prevent crowding, white-tailed deer, like many animals, seek areas beyond those in which they were raised. Where habitat quality is poorer, dispersal ranges may be greater than the norms. By enclosing these animals, this natural behavior to move to less crowded conditions is prevented.

Genetic Risks

The use of wildlife management techniques such as those utilized in privately owned enclosures could have negative impacts on the genetic viability and health of the species.

These impacts include detrimental effects on population demographics, patterns of genetic variation, reducing the number of breeding individuals, constricting the reservoir of genetic variation, and blocking the infusion of new genetic material into a population. Appendix B, page 39, contains a discussion of factors and concepts regarding the genetic risks presented by deer enclosures.

Effects on Other Species and Habitats

Confining deer is also an extremely intensive and costly management technique. Within enclosures, the effects of confinement, high ungulate density, and supplemental feeding result in ungulate populations that quickly outpace carrying capacity of the given land area. On properties with high ungulate populations, vegetative diversity and quality may be reduced. Apart from the concerns of overpopulation and habitat degradation for the deer within the enclosure, non-ungulates are also impacted by overuse of the land. When deer overuse the resources of a given land area, one might expect effects on other species in the form of loss of feeding areas, nesting areas, roosting areas, and cover areas.

However, vegetative diversity and supply may be higher in enclosure properties if proper management techniques are used. Practicing density control within an enclosure (hunting) and maintaining deer numbers that the habitat can naturally support may allow for diverse and vibrant vegetative enclaves. By use of habitat management and regulation of grazing pressure from domesticated livestock, high-fenced areas have been shown to promote and provide the most ecologically diverse areas in some states.

Disease Risks and DFWP's Deer Enclosure Inspection Program

In regard to DFWP's oversight of deer enclosures within the state, PEER found evidence of limited investigation and inspection for health-related risks and a lack of a unified, "top-to-bottom" tracking system to ensure safety of the facilities. Such weaknesses exacerbate the health risks set out earlier in this report.

The health-related risks noted on page 28 of this report could easily be exacerbated by the department's practices respecting the inspection of deer enclosures it has licensed under its doubtful authority.

According to Policy W-3780, the departmental policy that purportedly makes legal the enclosures for white-tailed deer, "all high-fenced enclosures containing white-tailed deer shall be inspected by the DFWP at least once annually." Based on the content of the white-tailed deer enclosure facility inspection report form and the white-tailed deer enclosure breeding pen inspection report

checklist, the majority of DWFP's concern is for the structural integrity of the facility rather than the health of the deer population located within the enclosure. Of the fourteen points on the white-tailed deer enclosure facility inspection report form, six relate to the structural integrity of the fence, five relate to habitat and nutritional access of deer in the facility, two relate to non-permitted breeding facilities and nonnative deer, and one point is concerned with the actual health of the animal.

This is mirrored in the sixteen-point white-tailed deer enclosure breeding pen inspection checklist. On the checklist, six points relate to the integrity of the fence, five relate to the habitat and nutritional access of the deer in the facility, three relate to administrative concerns, and two points relate to the health of the deer within the facility. DWFP staff conduct these inspections and do not have veterinary or other training to determine from casual observation whether deer suffer from illness. The overall thrust of DWFP's enclosure inspection appears to be to determine whether the enclosures have suitable fencing and whether the deer are in fact "suitably enclosed."

Further compounding the potential health-related risks of deer enclosures, the department does not comply with the proper timing of inspections required by its own policy. DWFP Policy W-3780 requires that the department's personnel inspect each deer enclosure and breeding facility at least once per year. However, PEER reviewed records retained by the department and found that this is not always the case. During FY 2011, the department inspected seventy-five of the 105 facilities operating within the state.

Also of concern in regard to the oversight of the deer enclosures within the state is the department's lack of a unified, updated central tracking system for inspections of the facilities. PEER learned that it is common for inspection reports to not be routed to DWFP's central office in Jackson; rather, individual biologists and inspectors retain inspection records in their own regional offices or homes. When DWFP employees do send inspection reports to the central office, no single individual or office is responsible for updating the central database for tracking and compliance purposes. Additionally, inspection reports sometimes are filed separately without first being recorded in the database. Given that the purpose of the inspections is to confirm compliance with state law and determine and ensure the health of the animals located within the facilities, the need for a proper tracking and confirmation mechanism is paramount.

Because DWFP has little or no information on the health of deer within the enclosures, coupled with delays in completion of inspections and the lack of centralized

recordkeeping, the health-related risks of enclosures set out in this report are exacerbated by the department's implementation of its inspection program and policy.

Through interviews with DWFP staff, PEER became aware that during most inspections, DWFP staff do not directly observe the deer located within the enclosures. Additionally, PEER learned that indirect observation of habitat quality and post-mortem testing are the basis for most health tracking measures of wild deer populations and accordingly, the department uses these techniques in its assessment of the health and quality of deer located within enclosures. However, given the unique qualities of enclosures and the deer located within them--i. e., animals not able to wander freely, increased number of animals beyond that which would naturally occur on a given land area, modern husbandry practices, and increased disease risk--direct observation of the deer within the enclosures should be the goal of enclosure inspection. While use of inferential information such as habitat quality and post-mortem samples are and should continue to be used, given the special characteristics of enclosures, special and unique observation techniques should be used in confirming their safety. It would appear to PEER that the agency has plenary authority to inspect enclosures to determine whether there are any health issues related to captive deer that could imperil the enclosed or other animals.

PEER interviews with MSU biologists confirmed that prior to adoption of Policy W-3780, DWFP never formally sought the advice of MSU biologists concerning the scientific ramifications of deer enclosures.

The Commission's Adoption of Policy Regarding Management of the Deer Population

The Commission on Wildlife, Fisheries, and Parks and the Department of Wildlife, Fisheries, and Parks are responsible for ensuring that the wildlife resources of the state are managed in the best interest of the people of Mississippi. Documenting the commission's basis for making its decisions, particularly the scientific basis, would support the credibility of these decisions. However, minutes and records of the commission do not reflect that the commission's decisions regarding permitting of deer enclosures were supported by scientific evidence.

The Commission on Wildlife, Fisheries, and Parks has adopted policies regarding the enclosure of white-tailed deer. Specifically, the policy in question was Policy W-3780.

In order to determine the commission's rationale for regulating deer enclosures and breeding pens via Policy W-3780, PEER reviewed the minutes of the commission's meetings conducted prior to and after the enactment of

the public notice on July 1, 2008 (i. e., the commission meetings from January 2002 through June 2012). PEER interviewed staff that were present during these meetings and analyzed this policy, as well as MISS. CODE ANN. Sections 25-41-11 (1) and 49-4-4 (1972).

The minutes of the commission's meetings (specifically, the minutes for meetings on August 15, 2006; October 31, 2007; and November 29, 2007, whereby the commission approved versions of Policy W-3780) reflect that the public notice was unanimously approved in both proposed and final versions as required by the Administrative Procedures Act (MISS. CODE ANN. Section 25-43-3.101 [1972]), but do not detail the commission's deliberations made prior to the approval or reflect the exhibits or documentation that supported the commission's decisions. Although the commission's minutes were kept in accordance with state law--e. g., the date, time and place of the meeting--they do not consistently reflect the commission's decisionmaking process. Thus, while the minutes reflect the actions taken, the basis for making the decision is not present.

Minutes of a public body are important for obvious reasons. According to the Office of the Attorney General, a public body speaks only through its minutes. The Open Meetings Act provides the following requirements, codified as MISS. CODE ANN. Section 25-41-1 et seq. (1972), regarding the keeping of minutes by a public body. MISS. CODE ANN. Section 25-41-11 (1) states:

Minutes shall be kept of all meetings of a public body, whether in open or executive session, showing the members present and absent; the date, time and place of the meeting; an accurate recording of any final actions taken at such meeting; and a record, by individual member, of any votes taken; and any other information that the public body requests be included or reflected in the minutes. The minutes shall be recorded within a reasonable time not to exceed thirty (30) days after recess or adjournment and shall be open to public inspection during regular business hours.

In accordance with the law, DWFP's Public Notice A2-3183 states:

The Commission [on Wildlife, Fisheries and Parks] conducts its business through the holding of monthly meetings. Meetings are open to the public and conducted according to the Mississippi Open Meetings Law and Robert's Rule of Order.

PEER notes that state law governing the keeping of minutes of an agency, MISS. CODE ANN. Section 25-41-11 (1972), and pertinent provisions of the department's statutes, found in Chapters 1 and 4, Title 49, MISSISSIPPI CODE OF 1972, make no requirement about supporting documentation to be contained in agency minutes. However, PEER would return to the fact that department's position is somewhat different from that of most agencies in that its responsibility is to function as a trustee for the state and to always ensure that the resources it manages are managed for the best interest of its beneficiaries, the people of Mississippi. Showing a basis, particularly a scientific basis, for making a decision would support the credibility of the commission in establishing that it is managing the resources of the state in a manner that best supports the maintenance of the trust. The minutes should include a record of deliberations undertaken prior to any final action in order to avoid a potential inference of impropriety--i. e., that the commission's decisions are not legitimately grounded.

Unfortunately, PEER found no evidence that the practice of enclosing native species is supported by science and that such actions are consistent with the purposes of the trust.

Recommendations

1. The Commission on Wildlife, Fisheries, and Parks, working through the Department of Wildlife, Fisheries, and Parks, should develop a policy regarding deer enclosures that will bring the commission's policies in conformity with state statutes and the Public Trust Doctrine. Such policies should address the removal of white-tailed deer from enclosures that are not established for the specific purposes provided for in statute law. Any removal of deer should be in conformity with the best scientific advice and guidance available to the department through Mississippi State University or any other source deemed appropriate by the commission and department. In the event that any litigation is filed regarding the department's authority to regulate enclosures of native white-tailed deer, the department should take no action until such litigation is ultimately resolved.
2. Because the Commission on Wildlife, Fisheries, and Parks and the Department of Wildlife, Fisheries, and Parks manage wildlife for the benefit of the people of Mississippi, the commission should ensure that:
 - it documents its basis for making policy decisions;
 - its decisions are based on the best scientific information available; and,
 - policy changes can be directly linked to a scientific basis for making such change.

Appendix A: Disease Risks Posed to Deer by the Use of Privately Owned Enclosures

As noted in this report, the list of possible disease outbreaks that scientists fear could occur in unnatural environments such as deer enclosures is lengthy. While not unique to enclosures, the high-density nature of these enclosures provides a high-risk environment for their spread. These diseases include:

- *Chronic Wasting Disease (CWD)*: First recognized in the 1960s as a clinical syndrome in captive mule deer in a research facility in Colorado, CWD is a spongiform encephalopathy, which predates its discovery in the research facility. This disease is similar to (but not the same as) mad cow disease or bovine spongiform encephalopathy and scrapie in domestic sheep. Mule deer, white-tailed deer, and Rocky Mountain elk are the only known natural carriers of the disease. The transmission route of the disease is unknown at this time. There is no known treatment for animals infected with CWD and it is considered 100% fatal once clinical signs develop; further, there exists no antemortem test to screen for the disease.
- *Bovine Tuberculosis (TB)*: A bacterial disease caused by *Mycobacterium bovis*, it is transmitted mainly by respiratory means--i. e., when an infected animal coughs or expels bacteria and exudates it in an aerosol--but it can also be transmitted orally from consumption of contaminated feed and forage. High densities of animals increase the transmission rates between infected and susceptible animals. TB has a wide host range and can infect humans, domestic animals, and wildlife. Because of this and the associated economic impact upon agriculture, TB has been the subject of a massive state-federal eradication program.
- *Meningeal Worm*: *Parelaphostrongylus tenuis* belongs to a group of lungworms that impact the connective tissue of the central nervous system and musculature of the deer family. Its most common host is that of the white-tailed deer, with snails and slugs acting as intermediate hosts. While usually harmless to the carrier, the worms can cause serious neurologic disease and damage in domestic and wild ungulates.
- *Paratuberculosis*: This is a bacterial disease that affects the digestive tract of cattle caused by *Mycobacterium avium paratuberculosis*. All bovids and cervids are susceptible to this infection. This infection

is related to *M. bovis*. High densities of susceptible animals contribute to the transmission of the disease. Transmission is accomplished by shedding of the bacterium in feces, which are in turn consumed by susceptible animals; this usually occurs in high-density concentration areas such as enclosures or in the case of wild ungulates when they are young and behaviorally are compelled to congregate with other members of the species. The disease is considered economically significant in domestic livestock.

- *Cervid adenoviruses*: This is a hemorrhagic virus spread via direct contact and aerosol. Currently there exists no commercial test for the disease. Humans and livestock are thought to not be susceptible.
- *Giant liver fluke*: *Fascioloides magna* is a natural parasite of white-tailed deer. When found in large numbers, the parasite may cause lesions of the liver and lead to death of the host.
- *Septicemic pasteurellosis*: Caused by several serotypes of the bacterium *Pasteurella multocida*, this disease is caused by direct contact and aerosol transmission. Disease occurs when bacterial infection involves the blood, which in turn leads to damage to the organs and death of the carrier. Disease occurs in both wild and enclosed cervids and is triggered by environmental stress such as severe winters and high-density areas.

SOURCE: *Biological and Social Issues Related to Confinement of Wild Ungulates*, The Wildlife Society. Technical Review 02-3, November 2002. Stephen Demarais (Chair), Randall W. DeYoung, L. Jack Lyon, Elizabeth S. Williams, Scot J. Williamson, Gary J. Wolfe.

Appendix B: Factors and Concepts Related to Genetic Risks Posed by the Use of Privately Owned Deer Enclosures

As noted in this report, the use of deer enclosures presents genetic risks. The following are factors and concepts related to these risks:

- *Genetic variation in natural populations*--Traits such as developmental stability, growth rate, metabolic efficiency, survival rates, and disease resistance are key measures in this aspect of genetics. For the long-term health and success of a cervid population, these traits must be reinforced and maintained.
- *Effective population size*--This is a factor in determining a population's genetic variation. Usually described as the number of breeding individuals in a population, it can be affected by family size, sex ratio, mating system, migration, genetic drift, and other variations.
- *Genetic drift, founder effect, and bottlenecks*--*Genetic drift* is the random process by which genetic expression fluctuates between generations. The random fluctuations are more intense in small populations, where unequal reproduction success is limited to a few breeding pairs. The *founder effect* occurs in instances in which a new population is established by a small number of individuals, whereas *bottlenecks* occur in instances where once there existed a large number of individuals, but then undergoes a population decrease. Both of these occurrences may have negative effects on population health and stability.
- *Inbreeding*--Inbreeding occurs when population size decreases or becomes subdivided. Inbreeding increases the chance of recessive genes entering the current population. This affect is amplified in small populations and may negatively impact survival rates and the health of the animal population.
- *Gene flow and dispersal*--This refers to the genetic exchange between subpopulations to provide a continual source of new genetic material. *Gene flow* is the introduction of genetic material by individuals who emigrate or disperse from one population to another. *Dispersal* is the phenomenon by which members of one subpopulation expand into others, usually males who seek out new home ranges.

- *Artificial dispersal barriers*--This term refers to habitat fragmentation and the intentional fencing of a population group. In the case of enclosures, fences act as barriers to immigration (animals moving into the enclosed area) and emigration (animals leaving the enclosed area) and can lead to bottleneck and founder events. Captive breeding alters the natural breeding structure of white-tailed deer, mainly in males who cannot escape their natal ranges or the establishment of a dominant breeding cadre of males and thus leads to loss of genetic variation and viability.
- *Hybridization and genetic introgression*--*Hybridization* is the mating between species, subspecies, or populations that differ genetically. *Genetic introgression* results when hybridized populations breed with either ancestor population's species. This can result in the encroachment of hybrids into the natural range of the ancestor population, affecting the viability of the ancestor population.
- *Outbreeding depression*--This is a phenomenon similar to hybridization that occurs when genetic stocks from different ecotypes interbreed. The progeny of this breeding tend to have reduced fitness due to differences in chromosome number, phenotype, or interacting gene complexes. These animals produce no benefit to the threatened population, since they tend to not be viable animals for the ecotype they inhabit.
- *Harvest*--A *harvest* is an artificial form of genetic selection. Harvesting can affect patterns of population diversity and breeding structure. This is especially important in the event of male-biased harvest techniques (i. e., the practice of heavily, and in some cases only, harvesting trophy males within a population, which affects sex ratio and the available genetic stock for a given area).
- *Unique genetic stock*--The impact of genetics should also be considered when considering conservation efforts for unique genetic stocks to prevent encroachment by other species or dilution of native population numbers.

SOURCE: *Biological and Social Issues Related to Confinement of Wild Ungulates*, The Wildlife Society. Technical Review 02-3, November 2002. Stephen Demarais (Chair), Randall W. DeYoung, L. Jack Lyon, Elizabeth S. Williams, Scot J. Williamson, Gary J. Wolfe.

MISSISSIPPI
DEPARTMENT OF WILDLIFE, FISHERIES, AND PARKS

Sam Polles, Ph.D.
Executive Director

November 7, 2012

Max K. Arinder, Ph.D., Executive Director
**Joint Legislative Committee on Performance
Evaluation and Expenditure Review (PEER)**
Post Office Box 1204
Jackson, MS 39215-1204

Re: Response to report on MDWFP deer enclosure management.

Dear Dr. Arinder:

Thank you for the opportunity to meet with your staff and review proposed changes to the draft report, following our earlier response. We appreciate that the revisions incorporated or addressed many of our concerns. We recognize that some of the issues that we brought up are those upon which we will disagree; however, we appreciate that they too were addressed. Please review the following observations with your staff for possible incorporation into the report.

For convenience, we will address all comments to the page upon which the analysis appears.

Page 1. *et. seq.* At the outset, we wish to thank you and your staff for restating the earlier instances of the MDWFP “using” enclosures to manage deer, as the MDWFP’s regulation of privately-owned enclosures. This is certainly a much more accurate representation of the situation.

Page 5. In the discussion of the Public Trust Doctrine, we would reiterate that from a purely academic standpoint, PEER’s analysis is accurate; however, the MDWFP would not go so far as to adopt the fairly narrow statement of the Public Trust Doctrine as stated by PEER, in that other jurisdictions across the country have not chosen to apply the doctrine so strictly. This is an area upon which we will have to agree to disagree. It is the position of the MDWFP that enclosing deer behind a high fence does not transfer ownership of a public trust asset or the statutes would not authorize the MDWFP to regulate these facilities.

Page 6. Regarding the commentary on Public Notice 2877, please note that that regulation was promulgated to deal with people who had “adopted” an “orphaned” fawn (or raccoon, or

other animal), and were keeping it in a cage, or dog-run type of fenced area, or pen. Such a situation presented numerous problems for the general welfare of the animals, and a safety issue for the individuals, due to the potential for disease and other problems. It is the position of the MDWFP, that any authority we have over such animals, has been superseded – with respect to enclosures – by the passage of bills, beginning in 1998, that were codified as MISS. CODE ANN. §§ 49-7-58, 58.1, 58.2, 58.3 and 58.4.

Page 8. While we appreciate our working relationship with MSU and its scientists, we still maintain that its faculty and staff are not practitioners of wildlife management. Scientific principles are indeed the basis of wildlife management; however, we contend that management of Mississippi’s statewide wildlife populations must also incorporate the needs of wildlife and our citizens.

Page 19. We acknowledge that enclosures are included in various information sources as part of the overall conservation strategy for deer, inasmuch as the existence of enclosures containing white-tailed deer could have an impact on the free-ranging herd. However, enclosures are not listed in W-3780 or on the Deer Program’s webpage as a “conservation strategy for deer management.” Enclosures are listed under the Deer Management section of the Deer Program’s webpage because they are a form of deer management used by “private landowners” in Mississippi.

Page 24. While the legal premise set forth in this revision – i.e., that statutes that purport to derogate state sovereignty must be strictly construed – is correct, the position of the MDWFP is that none of these statutes clearly purport to, “transfer a trust asset to private possession.” The MDWFP as an agency of the executive branch of state government, must enforce its legislative mandates based upon the plain meaning of the laws. It is the position of the MDWFP that the statutes recognize the existence of enclosures preventing the free ingress and egress of white-tailed deer, and direct the MDWFP to regulate these enclosures, and the wildlife contained therein. We do not read the statutes as attempting to divest the state of trust assets. Thus, this is another point upon which we will agree to disagree.

Page 33. The discussion of inspection practices still troubles the MDWFP. We fear that the reviewers may have a misconception about enclosures, believing them to be open, pasture-like, non-forested, fenced areas. According to PN W-3780, landowners may be permitted by MDWFP to have either an enclosure or a breeding pen within a “larger” enclosure. However, the report does not make clear the distinction given to the differences in breeding pens and enclosures when discussing the inspection process.

- Enclosures must contain a minimum of 300 contiguous acres of which 50% of the total enclosed must contain suitable habitat for white-tailed deer and is not susceptible to flooding under normal conditions.
- Breeding pens must be within a high-fenced enclosure of at least 300 contiguous acres and cannot exceed a total confined area of 5 acres.

In essence, deer are allowed to “wander freely” in enclosures. In contrast, deer within breeding pens are confined to a much smaller space with no requirement of native habitat. It is extremely difficult, if not impossible, to examine each deer within an enclosure due to the nature of the habitat and cover. As stated in our previous response, enclosures in Mississippi are typically located in forested areas and the only “open” areas are usually created by landowners. Attached hereto as Exhibits 1 – 9, are copies of aerial imagery, maps, and photographs of an example enclosure and breeding pens, for reference.

Since these are “wild” animals and are not habituated to humans, the only way to closely examine individual deer within the breeding pens would be to drive deer through breeding chutes (if available in the facility) or to dart and anesthetize each animal. Neither of these techniques should be used in “confirming their safety” due to increased risk of mortality from capture myopathy.

When considering the health of individual deer and that of an enclosed herd, MDWFP biologists (cooperating with landowners and their staff) collect and analyze parameters of body condition (body mass, antler characteristics, lactation rates, conception rates) which provide information about population response to the existing habitat. Similarly, biologists also assess habitat quality by measuring vegetation diversity and richness, and presence/absence of certain plant species. When individual deer die, landowners and biologists work with veterinarians to test whether certain diseases contributed to their mortality. Thus, the assessment of the health of an enclosed deer herd must include an evaluation of the habitat’s ability to sustain healthy deer, and an analysis of the body condition of harvested deer.

Page 36. Again, based upon our disagreement over whether or not the Public Trust Doctrine has been articulated as it may apply to wild animals, and the authority of the MDWFP to act under such, we respectfully note that we cannot act to remove any animal from private property without clearer statutory authority to do so. As noted, in the event of litigation challenging any perceived authority to do so, or any explicit authority that may be forthcoming from the Legislature, the Department cannot act to remove any animals from behind a high-fenced enclosure. We would also reiterate our concern that such an articulation of the Public Trust Doctrine could have the unintended consequence of boiling over into other areas of conflict between public resources and private property rights such as what constitutes public waters.

To summarize our position regarding the revised, proposed report, it is the MDWFP’s position that:

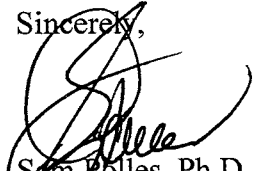
- We concur with the report’s interpretation of the Public Trust Doctrine as it applies to wild animals – i.e., that the State of Mississippi owns the native wild animals, in trust, for the use and benefit of its citizens. Where clarity is needed is on the issue of whether or not the enclosing of a white-tailed deer within a facility that prevents the free ingress and egress of same, causes ownership of that deer to be transferred from the trustee to a private individual.
- The statutes conferring regulatory authority over enclosures upon the MDWFP are not ambiguous -- the fact that they recognize that enclosures exist, legitimizes the existence of enclosures containing white-tailed deer. The fact that the statutes mandate that the

MDWFP regulate enclosures, supports the conclusion that the deer retain their status as trust assets.

- We strongly disagree with the assertion that MDWFP does not adequately monitor the health of enclosed white-tailed deer.

Thank you for the opportunity to respond to the revised findings and recommendations.

Sincerely,



Sam Polles, Ph.D.
Executive Director

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