

December 31, 2017

Senator Trudy Wade
N.C. Senate
300 N Salisbury Street, Room 525
Raleigh, NC 27603

Rep. Jimmy Dixon
N.C. House of Representatives
16 W Jones Street, Room 2226
Raleigh, NC 27601

Rep. Chuck McGrady
N.C. House of Representative
300 N Salisbury Street, Room 304
Raleigh, NC 27603

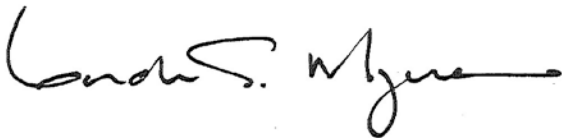
Honorables:

The 2017 General Assembly directed the N.C. Department of Natural and Cultural Resources and the N.C. Wildlife Resources Commission to: 1) jointly study and develop a list of potential designated representatives for the storage and safe keeping of reptiles regulated under G.S. Chapter 14 Article 55; and 2) study and develop recommendations for potential procedural and policy changes to improve the regulation of certain reptiles pursuant to Article 55 of Chapter 14. We are jointly submitting this report to the Environmental Review Commission in fulfillment of the requirements of Sec. 3.17.(b) and 3.17.(c) of S.L. 2017-10. Please contact either of us if you have any questions or would like additional information.

Respectfully,

A handwritten signature in cursive script that reads "Susi H. Hamilton".

Susi H. Hamilton
Secretary, N.C. Department of Natural and Cultural Resources

A handwritten signature in cursive script that reads "Gordon S. Myers".

Gordon Myers
Executive Director, N.C. Wildlife Resources Commission



NC DEPARTMENT OF
NATURAL AND CULTURAL RESOURCES



**JOINT FINAL REPORT
TO THE ENVIRONMENTAL REVIEW COMMISSION**

ARTICLE 55 STUDY

DECEMBER 31, 2017

EXECUTIVE SUMMARY

This report is prepared and submitted by the NC Department of Natural and Cultural Resources, on behalf of the NC Museum of Natural Sciences (NCMNS), the NC Zoological Park (NC Zoo), and the NC Wildlife Resources Commission (NCWRC) to meet the requirements of Session Law 2017-10 Sections 3.17 (b) and (c).

Article 55 was enacted in 1949 to prevent the unsafe handling of native venomous snakes in public spaces during religious events. A point of recent concern to the agencies and individuals involved in investigating Article 55 violations has been the quantity and variety of both native and exotic venomous snakes encountered. Other concerns include the lack of appropriate holding facilities, antivenom, training, and staff availability to assist with identification and confiscations of animals.

There are inherent risks associated with handling and housing Article 55 regulated species. The primary dangers are escapes or releases from confinement and bites, the large majority of which result from unsecure housing, incorrect management, or unrestrained handling. Antivenoms for many, but not all exotic venomous snakes exist, but are difficult to obtain; the costs can be prohibitive. Available facilities capable of housing confiscated Article 55 animals are limited and those currently used are inadequate for dangerous species. In the event of an injury or bite, antivenom and emergency medical attention are critical. Bites and other injuries can result in death or dismemberment, serious disfigurement and permanent loss of bodily functions. Both emergency and long-term medical treatment for any employee or member of the public may result in significant costs to the State. Major effects, including closure of a state facility, could occur should a dangerously venomous snake escape; escaped snakes in large urban buildings have survived for up to a year.

Given these and other considerations, the agencies recommend several statutory amendments in the next legislative session, and two executive branch actions to improve the effectiveness of Article 55.

The recommended modifications to Article 55 will position the NC Zoo and NCMNS in a more consultative role to law enforcement and are anticipated to reduce costs to the State. Furthermore, the recommended modifications remove the requirement of law enforcement to arrest Article 55 violators and provides more discretion for officers to help owners come into compliance with Article 55, if possible, rather than be required to seize and transport the animals immediately.

Once these recommended modifications to Article 55 are implemented, the agencies should obtain additional stakeholder input on potential legislative, policy, or procedural actions that could improve the effectiveness of Article 55. This consultation should include representatives of the three named agencies (NCWRC, NC Zoo, NCMNS), law enforcement, and other stakeholders as appropriate.

The NC Zoo, NCMNS, and NCWRC should develop a unified and comprehensive educational program regarding regulated reptile species. Potential audiences include, but are not limited to, participants in wild animal markets within the state, local government employees, and homeowner associations. The NC Zoo, NCMNS, and NCWRC have staff expertise to deliver educational programs about wild animals to a variety of audiences. Education of stakeholders is anticipated to be an effective way to increase public safety and reduce violations of Article 55.

**REPORT TO THE NORTH CAROLINA ENVIRONMENTAL REVIEW COMMISSION
ON CHAPTER 14, ARTICLE 55 OF THE NORTH CAROLINA GENERAL STATUTES:**

SUBMITTED JOINTLY BY THE

**NORTH CAROLINA DEPARTMENT OF NATURAL AND CULTURAL RESOURCES
AND
NORTH CAROLINA WILDLIFE RESOURCES COMMISSION**

December 2017

Report Context

This report is prepared and submitted by the NC Department of Natural and Cultural Resources (NCDNCR), on behalf of the NC Zoological Park (NC Zoo) and the NC Museum of Natural Sciences (NCMNS), and the NC Wildlife Resources Commission (NCWRC), to meet the requirements of Section 3.17.(b) and (c) below.

**GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2017
SESSION LAW 2017-10**

**PART III. AGRICULTURE, ENERGY, ENVIRONMENT, AND NATURAL
RESOURCES REGULATION**

SECTION 3.17.(b) The North Carolina Department of Natural and Cultural Resources and the North Carolina Wildlife Resources Commission shall jointly study and develop a list of potential designated representatives for the storage and safekeeping of venomous reptiles, large constricting snakes, or crocodilians.

SECTION 3.17.(c) The North Carolina Department of Natural and Cultural Resources and the North Carolina Wildlife Resources Commission shall jointly study and develop recommendations for potential procedural and policy changes to improve the regulation of certain reptiles pursuant to Article 55 of Chapter 14 of the General Statutes. The Department and the Commission shall consider public health and safety risks, permitting requirements, exemptions, notification of escape, investigation of suspected violations, seizure and examination of reptiles, disposition of seized reptiles, and any other issues determined relevant to the regulation of certain reptiles. The Department and the Commission shall submit a report, including any legislative recommendations, to the Environmental Review Commission no later than December 31, 2017.

Agency Recommendation for N.C.G.S. § 14-416 (Article 55)

- **Modify Article 55 during the next legislative session:** Modification to Article 55 will position the NCMNS and NC Zoo in a more consultative role to law enforcement, improve public safety, and potentially reduce costs to the State. Clearly defining assistance available for identification of species, information on proper handling and seizure techniques, and support with determining an interim disposition for any seized animals, should reduce unnecessary handling of dangerous species and provide a resource for law enforcement officers that encounter Article 55 violations. Furthermore, the recommended modifications remove the requirement of law enforcement to arrest Article 55 violators and provides for discretion in assisting owners to come into compliance with Article 55.

The proposed modifications have numerous benefits including greatly reducing the safety hazards for law enforcement created by seizing and transporting the animals; eliminating the safety hazards for NCMNS staff, NC Zoo staff, and the general public who visit these institutions by removing the requirement for these agencies to house and care for the animals; promoting safety, education, and assistance for reptile owners out of compliance with Article 55 rather than immediate arrest and seizure of property; and creating a cost savings for the State by requiring owners to reimburse costs incurred for the seizure, delivery and temporary housing of any seized reptiles.

As Article 55 is currently written, the NCMNS and NC Zoo have estimated their costs associated with Article 55 confiscations to be approximately \$70,000 annually, put staff and the public at risk, and put the agencies at risk of losing accreditation. To properly mitigate these issues, there is a need for a designated holding facility, specialized staff, and antivenom to allow for safe implementation of the Article (Appendix B). Beyond the up-front costs associated with a designated facility, the estimated yearly cost for the NCMNS to manage seized animals in this facility would be approximately \$352,000. If the proposed modifications are enacted, the agencies project an estimated yearly cost of \$13,000, meaning an approximate net annual savings of \$57,000, and elimination of the need for a dedicated holding facility.

For suggested modification to the language of Article 55, see Appendix A.

Agency Recommendations for Implementation of Amended Article 55

- **Stakeholder Input:** Once the modifications to Article 55 are implemented, the agencies recommend that stakeholders be assembled to further evaluate potential procedural and policy solutions to the issues raised by private ownership of regulated reptiles in North Carolina. Potential topics of evaluation may include permitting, registration, education, and possible repeal or further modification of Article 55. This stakeholder process should include representatives of the NCMNS, NC Zoo, and NCWRC; law enforcement; local governments; reptile owners; and other stakeholders as appropriate.
- **Create a Joint Educational Program:** The NCMNS, NC Zoo, and NCWRC have substantial staff expertise in creating and delivering educational programs about wild animals to a variety of audiences. These three agencies should develop a unified and comprehensive educational program regarding regulated reptile species. Potential audiences include, but are not limited to, participants in wild animal markets within the state, reptile owners, local government employees, and homeowner associations. Education of stakeholders will be an effective way to increase public safety, and will help to reduce Article 55 violations.

Background

N.C.G.S. § 14-416, also known as Article 55, was enacted in 1949 to regulate the unsafe handling of venomous snakes in public spaces during religious events. The snakes being used during these events were typically native venomous species, including copperheads and timber rattlesnakes. The original law named the NCMNS as the agency with expertise to identify these species and provide advice on their legal and ethical release.

Article 55 has been amended multiple times since 1949. Recent revisions included the addition of the NC Zoo as a second agency responsible for identification and determination of disposition for these species. Due to the expansion and growth of North Carolina reptile ownership in the last 20 years, the General Assembly added other potentially dangerous reptiles to Article 55, including some native and exotic snakes, lizards, and crocodilians. With current technology, it is now possible to order a variety of potentially dangerous animals from all over the globe and have them shipped to one's door. This global availability, coupled with a spiked interest in these species, has led to an increasing number of people keeping these animals, resulting in more violations of Article 55, and subsequently, an increasing quantity and variety of dangerous species encountered in Article 55 investigations.

When conducting Article 55 investigations, NCMNS, NC Zoo employees, and law enforcement officers encounter venomous reptiles. While some reptiles are native, many are not. An investigation may require individuals to both handle and transport these animals, putting them at risk for a bite. A point of major concern to the agencies and individuals involved in Article 55 violations over the years has been the quantity and variety of venomous snakes encountered that have no locally available antivenom (often not even available in nearby states). This increases the agencies' concern about the safety and welfare of their employees and the public. Other concerns include the lack of appropriate holding facilities, training, and staff availability to assist with identification and confiscations. Of additional concern is the inability of the NCMNS and NC Zoo to meet the demands of Article 55 within evolving safety and ethics standards. For example, professional organizations, such as The Association of Zoos and Aquariums (AZA), prohibit accredited members from working with venomous species in the absence of antivenom due to workplace safety standards. The NC Zoo is currently AZA accredited and the NCMNS plans to pursue AZA accreditation in 2018.

Overview of Current Agency Roles

The state agency responsibilities required by Article 55 are unique to North Carolina. No other states require specific state entities to accept confiscated animals at their facilities. Current agency roles in the implementation of Article 55 are as follows:

The ***North Carolina Museum of Natural Sciences*** is a division within the NCDNCR focused on scientific research, education, and exhibition. Article 55 expands NCMNS's responsibilities to include the identification, housing, care, and maintenance for confiscated non-native, exotic venomous snakes and lizards. There are approximately 600 different species of venomous snakes and two species of venomous lizards globally, all of which would fall under the purview of NCMNS according to Article 55. These non-native, exotic venomous snakes and lizards pose, arguably, the greatest danger among Article 55 regulated species because antivenom treatment is not locally/regionally available for most exotic species.

The ***North Carolina Zoological Park*** is a division within NCDNCR, whose primary responsibility is to serve as an education, scientific and conservation exhibition and resource for the people and visitors of North Carolina. Article 55 expands the NC Zoo's responsibilities to include the

identification, housing, care, and maintenance of confiscated large constricting snakes or large crocodilian species (other than American alligators).

The ***North Carolina Wildlife Resources Commission*** has no mandated responsibilities in Article 55. However, as the agency responsible for the State's wildlife resources, NCWRC assists with Article 55 investigations and confiscations when any of the six native Article 55 species are involved: eastern coral snake, copperhead, cottonmouth, pigmy rattlesnake, eastern diamondback rattlesnake, and timber rattlesnake. This includes arranging temporary holding, maintenance, and care for these species when they are seized during Article 55 investigations.

Assessment of the Current Legislation:

Article 55 investigations, consultations, and confiscations have increased in both frequency, size and variety of animals in the past decade (Appendix C). Since 2009, the agencies have conducted more than thirty Article 55 consultations, investigations and confiscations. In addition to the untenable safety risks involved with handling and housing of Article 55 species in the absence of life saving antivenom, considerable effort and resources are required by State and local government agencies, private organizations, and private individuals, that make dealing with these situations more difficult.

Health and Safety Risks

There are inherent risks associated with handling and housing certain reptile species, including venomous snakes, crocodilians, and large constrictors. When Article 55 species are kept in private collections, risks to the public are minimal and confined to the owner and those living within or visiting the owner's household. The primary dangers are escape/release and bites, the majority of which result from unsecure housing, incorrect management, or unrestrained handling. However, confiscations of these species can create hazardous situations that increase the risk to the public. These situations often require the reptiles to be handled and transported by law enforcement officials or employees of the NCMNS, NC Zoo, or NCWRC. These employees do not have the proper training, appropriate equipment (including antivenom), or necessary facilities to hold such animals, thus creating situations that put those individuals and those around them at risk. Although the risks can be minimized by providing these necessities, the risk of serious or fatal injury cannot be eliminated (see related information below, in *Disposition of Seized Reptiles*). Further analysis of the safety risks that individuals face when working with Article 55 species can be found in Appendix B.

Permitting Requirements

The State of North Carolina does not currently require permits for the possession of exotic, non-native Article 55 species. NCWRC does require an Endangered Species Permit for possession of timber rattlesnakes, eastern diamondback rattlesnakes, pigmy rattlesnakes, or coral snakes because all four species are on protected animal lists (state-listed). In addition, NCWRC requires an Amphibian and Reptile Possession Permit for possession of five or more native reptiles in any combination (including two Article 55 species that are not state-listed: copperhead and cottonmouth).

While the State does not permit exotic or dangerous reptiles, N.C.G.S. §160A-187 and N.C.G.S. §153A-131 authorizes cities, towns and counties to create ordinances regulating the possession of dangerous animals. "Possession or harboring of dangerous animals, a city or county may by ordinance, regulate, restrict, or prohibit the possession of animals that are dangerous to persons or property within the city." A number of these ordinances exist throughout the State, though there are far more areas where ownership and possession of Article 55 species is unregulated on a local level.

Input from relevant stakeholders regarding recommendations on permitting of regulated reptiles, would be helpful in determining whether a more robust permitting system is a viable option in North Carolina.

Exemptions

The current exemptions in Article 55 for possession, exhibition or handling of reptiles by employees or agents of duly constituted veterinarians, zoos, serpentariums, museums, laboratories, educational/scientific institutes (public and private) during their educational or scientific work, and Wildlife Damage Control Agents during their work, are adequate considering the professional nature of these institutions. However, because these entities are not defined in statute, the qualifications of these exempted parties (particularly laboratories and educational institutions) are ambiguous. This oversight makes it possible for unqualified individuals assert an exemption to the requirements of Article 55. Input from relevant stakeholders is necessary to propose suggested modifications to Article 55 which better define these exemptions.

Notification of Escape

Article 55 addresses the issue of escape in NCGS §14-147(c), §14-417.1(d), and §14-417.2(c) by requiring owners of escaped animals to immediately notify local law enforcement. While law enforcement agencies may have suggestions for potential procedural changes to these sections, the NCMNS, NC Zoo, and NCWRC do not.

Investigation of Suspected Violations and Seizure/Examination of Regulated Species

Investigations of suspected Article 55 violations are initiated by local or state law enforcement agencies for various reasons, including reports of illegal possession of Article 55 species and reports of bites/injuries from Article 55 regulated species. Additionally, law enforcement has encountered Article 55 species during investigations conducted for other purposes (e.g., officers responding to or investigating an unrelated crime).

Neither the NCMNS nor the NC Zoo are regulatory agencies and neither has law enforcement personnel, authority, or training. In accordance with Article 55, employees of these agencies assist with investigations by assessing animal housing/conditions, identifying animals, and making recommendations for the handling/transport of confiscated animals. In the past, NCMNS and/or NC Zoo staff have traveled and assisted law enforcement with Article 55 confiscations. This practice changed in 2009, when unbeknownst to them, NCMNS staff was brought onto an active crime scene in Alamance County to inspect exotic venomous reptile caging while the suspect was barricaded inside his bedroom. This experience prompted NCMNS to evaluate protocols and significantly alter policies on staff safety. Specifically, in accordance with N.C.G.S. §14-419(a), the NCMNS and the NC Zoo now require local law enforcement or animal control officers to transport confiscated animals to either NCMNS or the NC Zoo.

NCWRC law enforcement officers investigate suspected violations of Article 55 involving native species and sometimes seize native Article 55 species or other illegally held native species. NCWRC employees live across the state and, because of their close working relationship with local law enforcement, receive requests for help during investigations of suspected Article 55 violations. Because native species and exotic Article 55 species are often kept in the same home or business, NCWRC employees sometimes are involved in investigations involving only exotic Article 55 species, although not specifically required to participate by Article 55.

Interim Disposition of Seized Reptiles

Article 55 stipulates that the NCMNS or NC Zoo or a designated representative are responsible for determining interim disposition of seized venomous reptiles, large constricting snakes and crocodilian species other than American alligator. Because NCWRC regulates possession of native species, interim disposition of the six native Article 55 species is determined by this agency.

Temporary holding of seized venomous and constricting reptiles and crocodilians presents unique challenges. Separate from the health and safety risks described, there are significant physical and financial obstacles that accompany housing of these species. There are often multiple animals involved in confiscations and, many times, multiple species. Finding locations with adequate holding capacity and the ability care for, feed, and maintain the health of these reptiles has proven to be problematic. Available facilities adequate for housing confiscated animals are limited, and those currently used by the NCMNS and NC Zoo are inadequate for such dangerous species.

NCMNS is restricted from placing confiscated animals in housing where they would encounter the NCMNS's live collection because of concerns over the spread of disease and compliance with professional accreditation standards. In the past, the NCMNS has used a small, converted bathroom as temporary housing for any confiscated species for which they are unable to locate housing. Because of the proximity to the visiting public (the NCMNS hosts >900,000 visitors annually) and the safety risks of housing these species, the NCMNS has decided that they are no longer able to accept certain Article 55 species in their facility. Inadequate facilities increase the risk of escape, which could be catastrophic in heavily trafficked areas. Escaped snakes have been known to survive for up to a year in buildings like the NCMNS in downtown Raleigh.

As with NCMNS, the NC Zoo is also restricted from placing confiscated animals in housing where they would encounter the NC Zoo's live collection because of concerns over the spread of disease and compliance with professional accreditation. As such, the NC Zoo currently holds confiscated Article 55 animals in the African Pavilion. Unfortunately, the African Pavilion is scheduled for demolition in mid-2018 and the NC Zoo will no longer have a temporary holding facility capable of housing confiscated animals. This creates a major problem for the NC Zoo should a confiscation with constricting snake or crocodilian species occur and a designated representative is not capable of taking the animal(s).

NCWRC, while not required by Article 55 to maintain confiscated animals, does hold and care for native venomous species under their purview. NCWRC has no available facilities to hold such animals, and therefore has had staff temporarily house and maintain confiscated native venomous snakes and alligators at their personal residences in the past.

NCMNS policy specifies that no animals, once in captivity, are released into the wild. NCWRC policy specifies that confiscated native species, including Article 55 regulated venomous snakes, can be released if all the following conditions are met: (1) the individual has been held captive less than one year; (2) a physical examination finds the snake in apparent healthy condition; (3) the general area of the snake's capture is known (at least which county); and (4) the snake was never in contact with other non-native species or other species not collected in North Carolina (e.g., a timber rattlesnake caught in NC housed with a timber rattlesnake caught in VA would mean that neither could be released).

Other Considerations:

Designated Representatives

The ability to develop a list of designated representatives is an important mechanism for mitigating the limitations of state agencies to house venomous and constricting reptiles and crocodilians. The NCDNCR has developed guidelines and criteria for serving as an Article 55 designated representative (Appendix F), but identifying potential representatives has proven to be difficult for several reasons.

The first major reason is the lack of qualified individuals within North Carolina. In general, there are only a few individuals or organizations that would meet the agency's criteria to qualify as a designated representative. Current guidelines and criteria for serving as an Article 55 designated representative are detailed in Appendix F, but include the following:

- Willingness to assist NCDNCR with the transport, housing and care of reptiles confiscated under Article 55;
- No charges or convictions within three (3) years of the date of designation of any violation of Article 55 or other wildlife-related regulations including unsafe housing of wildlife, endangering the public, illegal commercialization of wildlife, cruelty to animals, importation of wildlife;
- Compliance with Article 55 for all animals in the designated representative's care;
- A passing inspection on the facility where confiscated animals would be housed;
- Adherence to the guidelines for serving as a designated representative and return of a designation agreement.

To date, the NCDNCR has entered into formal agreements with three designated representatives to hold seized animals. Only two are currently available to assist with future Article 55 confiscations. Together, those two representatives have capacity to accept fewer than ten seized snakes.

The dearth of potential representatives in NC has lead NCDNCR to look out-of-state for potential representatives that may be equipped and able to offer assistance. However, out-of-state representatives increase the cost of travel and the risk of a transfer-related escape.

Once a potential representative is identified, another major challenge has been the lack of funding available for housing, maintenance, and care of the seized animals. Currently, designated representatives must agree to provide these things without guaranteed financial reimbursement from the State or the animal's owner. Recent changes to N.C.G.S. §14-419 included the addition of subsection (b1), which permits the courts to consider reimbursement upon conviction, but does not guarantee reimbursement of expenses, or that any reimbursement be equally or evenly allocated to the parties involved. Recommended amendments to Article 55 address this obstacle and may improve the willingness of individuals and institutions to serve as designated representatives.

Fiscal Resources

A major challenge for all agencies involved in implementing Article 55 is the lack of funding. Costs associated with properly assessing, caring for, and maintaining large snakes and crocodilians can be costly. Confiscated reptiles may have specific needs based on their current health status or species needs, all of which must be provided without required reimbursement. Not only does this force the NCMNS and NC Zoo to utilize resources dedicated to their living collections, but it makes recruitment of designated representatives very difficult.

Violations that require complex investigations or court hearings can take months to resolve. Because of the space required and costs associated with keeping Article 55 species, the unknown amount of time that the animal may require care is exceptionally burdensome to the agencies and often enough to deter organizations or individuals from volunteering to become designated representatives.

Additionally, in the event of an injury or bite, antivenom and emergency medical attention are critical, but can be exceptionally expensive. Bites and other injuries can easily result in death or dismemberment, serious disfigurement and permanent loss of bodily functions. Both emergency medical treatment (including the cost for antivenom, if available, as well as its administration and transport) and long-term medical treatment (and potentially life-long care) for any individual who might suffer injuries may come at a significant cost. Even for a bite that does not cause long-term effects, the cost of emergency treatment, antivenom, and hospital care is estimated in excess of \$600,000. A recent case where an Orange County resident was bitten by one of his cobras has reportedly cost over \$750,000, with additional expenses anticipated to be incurred.

Euthanasia

While euthanizing a venomous animal may sometimes be the best means of disposing of a dangerous reptile, because of ethical and safety considerations associated with veterinary medicine and ethics

policies required for AZA accreditation, the NC Zoo and NCMNS cannot consider euthanasia for reasons other than untreatable animal health or condition. The NCWRC will consider euthanasia when all other options have been exhausted or if there are health, welfare, or safety concerns regarding confiscated or seized animals. Furthermore, animals must be maintained until the conclusion of any court proceedings, as the animals are considered evidence as well as property of the accused.

Appendix A

Proposed Revisions to the Text of NCGS Chapter 14, Article 55

Current through Session Laws 2017-214 of the 2017 Regular Session

§ 14-416. Mishandling of certain reptiles declared public nuisance and criminal offense.

The intentional or negligent exposure of other human beings to unsafe contact with venomous reptiles, large constricting snakes, or crocodilians is essentially dangerous and injurious and detrimental to public health, safety and welfare, and is therefore declared to be a public nuisance and a criminal offense, to be abated and punished as provided in this Article.

§ 14-417. Regulation of ownership or use of venomous reptiles.

(a) It shall be unlawful for any person to own, possess, use, transport, or traffic in any venomous reptile that is not housed in a sturdy and secure enclosure. ~~Permanent enclosures~~ Enclosures shall be designed to be escape-proof, bite-proof, and have an operable lock. ~~Transport containers shall be designed to be escape-proof and bite-proof.~~

(b) Each enclosure shall be clearly and visibly labeled "Venomous Reptile Inside" with scientific name, common name, appropriate antivenin, and owner's identifying information noted on the container. A written bite protocol that includes emergency contact information, local animal control office, the name and location of suitable antivenin, first aid procedures, and treatment guidelines, as well as an escape recovery plan must be within sight of permanent housing, and a copy must accompany the transport of any venomous reptile.

(c) In the event of an escape of a venomous reptile, the owner or possessor of the venomous reptile shall immediately notify local law enforcement.

§ 14-417.1. Regulation of ownership or use of large constricting snakes.

(a) As used in this Article, large constricting snakes shall mean: Reticulated Python, Python reticulatus; Burmese Python, Python molurus; African Rock Python, Python sebae; Amethystine Python, Morelia amethystina; and Green Anaconda, Eunectes murinus; or any of their subspecies or hybrids.

(b) It shall be unlawful for any person to own, possess, use, transport, or traffic in any of the large constricting snakes that are not housed in a sturdy and secure enclosure. ~~Permanent enclosures~~ Enclosures shall be designed to be escape-proof and shall have an operable lock. ~~Transport containers shall be designed to be escape-proof.~~

(c) Each enclosure shall be labeled clearly and visibly with the scientific name, common name, number of specimens, and owner's identifying information. A written safety protocol and escape recovery plan shall be within sight of permanent housing, and a copy shall accompany the transport of any of the large constricting snakes. The safety protocol shall include emergency contact information, identification of the local animal control office, and first aid procedures.

(d) In the event of an escape of a large constricting snake, the owner or possessor shall immediately notify local law enforcement.

§ 14-417.2. Regulation of ownership or use of ~~crocodilians~~ crocodilians.

(a) All crocodilians, excluding the American alligator, shall be regulated under this Article. It shall be unlawful for any person to own, possess, use, transport, or traffic in any crocodilian that is not housed in a sturdy and secure enclosure. ~~Permanent enclosures~~ Enclosures shall be designed to be escape-proof and have a fence of sufficient strength to prevent contact between an observer and the crocodilian and shall have an operable lock. Transport containers shall be designed to be escape-proof and shall be locked.

(b) A written safety protocol and escape recovery plan shall be within sight of permanent housing, and a copy must accompany the transport of any crocodilian.

(c) In the event of the escape of a crocodilian, the owner or possessor shall immediately notify local law enforcement.

§ 14-418. Prohibited handling of reptiles or suggesting or inducing others to handle.

(a) It shall be unlawful for any person to handle any reptile regulated under this Article in a manner that intentionally or negligently exposes another person to unsafe contact with the reptile.

(b) It shall be unlawful for any person to intentionally or negligently suggest, entice, invite, challenge, intimidate, exhort or otherwise induce or aid any person to handle or expose himself in an unsafe manner to any reptile regulated under this Article.

(c) Safe and responsible handling of reptiles for purposes of animal husbandry, exhibition, training, transport, and education is permitted under this section.

§ 14-419. Investigation of suspected violations; seizure and examination of reptiles; disposition of reptiles.

(a) In any case in which ~~any~~ a law-enforcement officer or animal control officer has probable cause to believe that any of the provisions of this Article have been or are about to be violated, ~~it shall be the duty of the officer and the officer is~~ authorized and empowered ~~authorized, empowered, and directed~~ to immediately investigate the violation or impending violation and ~~to~~ consult with representatives of the North Carolina Museum of Natural Sciences or the North Carolina Zoological Park or a designated representative of the North Carolina Department of Natural and Cultural Resources ~~either the Museum or Zoological Park~~ to identify the species, assist with determining interim disposition, and recommend appropriate and safe methods to handle and seize the reptile or reptiles involved. ~~involved, to seize the reptile or reptiles involved, and the officer is authorized and directed to deliver: (i) a reptile believed to be venomous to the North Carolina State Museum of Natural Sciences or to its designated representative for examination for the purpose of ascertaining whether the reptile is regulated under this Article; and, (ii) a reptile believed to be a large constricting snake or crocodilian to the North Carolina Zoological Park or to its designated representative for the purpose of ascertaining whether the reptile is regulated under this Article.~~ In the case of escape, or if an officer, with probable cause to believe that the reptile is being owned, possessed, used, transported, or trafficked in violation of this Article ~~In any case in which a law enforcement officer or animal control officer~~ determines that there is an immediate risk to officer safety ~~or public safety~~, the officer shall not be required to consult with representatives ~~of the North Carolina Museum of Natural Sciences or the North Carolina Zoological Park~~ as provided by this subsection and may kill the reptile.

(b) If based on available information, the officer, ~~the Museum, Museum or the Zoological Park~~ or their a designated representative of the Department of Natural and Cultural Resources ~~representatives~~ find that a seized reptile is a venomous reptile, large constricting snake, or crocodilian regulated under this Article, the Museum or the Zoological Park or ~~their a designated representative of the Department of Natural and Cultural Resources~~ designated representative shall assist the officer with determining ~~determine~~ an interim disposition of the reptile in a manner consistent with the safety of the public, until a final disposition is determined by a court of competent jurisdiction. In the case of a venomous reptile for which ~~antivenin~~ antivenom approved by the United States Food and Drug Administration is not readily available, the reptile may be euthanized unless the species is protected under the federal Endangered Species Act of 1973. Where ~~the Museum or the Zoological Park or their designated representative~~ determines ~~determines~~ euthanasia is determined to be the appropriate interim disposition, or where a reptile seized pursuant to this Article dies of natural or unintended causes, the parties involved ~~Museum, the Zoological Park, or their designated representatives~~ shall not be liable to the reptile's owner.

(b1) Upon conviction of any offense contained in this Article, the court shall order a final disposition of the confiscated venomous reptiles, large constricting snakes, or crocodilians, which may

include the transfer of title to the State of North Carolina and shall include reimbursement by the owner for the ~~necessary~~ expenses incurred in the seizure, delivery, and storage thereof.

(c) If the ~~Museum or the Zoological Park or their designated representatives find that the~~ reptile is not a venomous reptile, large constricting snake, or crocodilian regulated under this Article, and either no criminal ~~citations, warrants, warrants~~ or indictments are initiated against the owner in connection with the reptile within 10 days of initial seizure, or a court of law determines that the reptile is not being owned, possessed, used, transported, or trafficked in violation of this Article, then it shall be the duty of the law enforcement officer to return the reptile or reptiles to the person from whom they were seized within 15 ~~days~~ days of the seizure.

§ 14-420. Arrest of persons violating provisions of ~~Article~~ Article.

~~If an examination made by the North Carolina State Museum of Natural Sciences or the North Carolina Zoological Park or their designated representatives conducted pursuant to this Article shows that the reptile is a venomous reptile, large constricting snake, or crocodilian subject to this Article, it shall be the duty of the officer making the seizure with probable cause to believe that the reptile is being owned, possessed, used, transported, or trafficked in violation of this Article, to arrest all persons violating any of the provisions of this Article.~~

§ 14-421. Exemptions from provisions of ~~Article~~ Article.

This Article shall not apply to the possession, exhibition, or handling of reptiles by employees or agents of duly constituted veterinarians, zoos, serpentariums, museums, laboratories, educational or scientific institutions, public and private, in the course of their educational or scientific work, or Wildlife Damage Control Agents in the course of the work for which they are approved by the Wildlife Resources Commission.

§ 14-422. Criminal penalties and civil remedies for violation.

(a) Any person violating any of the provisions of this Article shall be guilty of a Class 2 misdemeanor.

(b) If any person, other than the owner of a venomous reptile, large constricting snake, or crocodilian, the owner's agent, employee, or a member of the owner's immediate family, suffers a life threatening injury or is killed as the result of a violation of this Article, the owner of the reptile shall be guilty of a Class A1 misdemeanor. This subsection shall not apply to violations that result from incidents that could not have been prevented or avoided by the owner's exercise of due care or foresight, such as natural disasters or other acts of God, or in the case of thefts of the reptile from the owner.

(c) Any person intentionally releasing into the wild a nonnative venomous reptile, a large constricting snake, or a crocodilian shall be guilty of a Class A1 misdemeanor.

(d) Violations of this Article as set forth in subsections (b) or (c) of this section shall constitute wanton conduct within the meaning of and subject the violator to punitive damages in any civil action that may be filed as a result of the violator's actions.

Appendix B

NCDNCR Estimate of Resources Required to Comply with the Current Text of Article 55

Expand safety protocols via construction of a species appropriate facility, provide adequate staffing, and have on site access to a variety of antivenins.

Totals:

Initial Costs = **\$1,434,400.00**

Recurring Costs = **\$352,000.00** yearly

In order to safely and effectively respond to venomous reptile seizures related to Article 55 as currently written and provide medical management and euthanasia support as needed, the following resources are required. Please note these are best estimates based on full consideration of human safety and biosecurity.

1) Article 55 Response Unit Resource Needs:

1. Staff: (x3)ⁱ = (1) NSC III SG70 60K, (1) NSC II SG68 53K, (1) NSC I SG65 48K = \$161,000
2. Space: ~2400 sq. ft. Two bay Article 55 containment facility
3. Initial Funding: **\$730,400.00**
 - a. Staffing year one: \$161,000
 - b. Facility build costs^{vii}: \$360,000
 - c. \$150,000 Initial upfit funding for containment facility (not including construction costs)
 - i. Caging upfitⁱⁱ: \$97,000 (see cage quote doc)
 - d. \$51,900 Antivenom upfit costs
 - i. SAIMR: \$286/vial, recommendation of a minimum of 75-100 vials. Shipping is \$1,000. Assume various brokerage and port clearance fees to be around \$100-300. \$22,750 - \$29,900
 - ii. Butantan: Thai Red Cross makes several we want including cobra, king cobra and green pit viper would be sensible. \$40/vial, recommending we stock 120 vials as it's cross reactive and polyvalent, shipping quote yet to be sent but about \$1200 per shipment is a reasonable. \$6000
 - iii. SAIMT: Is the first priority antivenin. \$300/vial with a minimum 50 vials. \$16,000
 - e. \$7,500 Initial training costs for 5 staff (medical and animal/staff safety training)
4. Recurring Funding: **\$203,000.00**
 - a. \$30,000 Yearly operational budget (not including building expenses)
 - b. \$161,000 Yearly for salaries
 - c. \$12,000 Antivenin recurring costs

2) VetS Resource Needs:

1. Staff: (x2) Veterinary Services Staffⁱⁱⁱ (1) Vet SG80: \$80K(1) NSC I SG65: \$44K
2. Space: ~2200 sq. ft. Veterinary Services Operational Space^{iv}
3. Initial Funding: **\$704,000.00**
 - a. Staffing year one: \$124,000
 - b. Facility build costs^{vii}: \$330,000
 - c. \$250,000 Initial Upfit Funding for Veterinary Equipment and Supplies (not including construction costs)
4. Recurring Funding: **\$149,000.00**
 - a. \$25,000 Yearly Operational Budget (not including building expenses)

b. \$124,000 Yearly for salaries

3) Per Animal Expense Estimates (excluding wages and indirect costs):

VetS

- \$154 to \$394 per venomous reptile ^v

Article 55 Response

- \$152.90 to \$213.90 per venomous reptile ^{vi}

ⁱ Minimum of 2 trained staff is required at all times to safely work venomous or dangerous animals

ⁱⁱ (16) 4' cages/bay @ \$2,875/cage (cage quote attached) = \$92,000caging + 5,000 for smaller caging

ⁱⁱⁱ Minimum of 2 trained staff is required at all times to safely work venomous or dangerous animals

^{iv} **Veterinary Services Facility Proposal:** See attached document for details of space needs. Please note diagram intended to illustrate relative space and adjacency needs for operations and equipment with careful consideration to staff safety and biosecurity. **Entire diagram represents ~2265 Sq. ft. Doors labeled 4' are to scale with the rest of the diagram. Additional details are available upon request.**

^v Including:

Initial examination and health evaluation

1-3 month health monitoring and maintenance

\$154/ animal (minimum baseline)

\$10 general exam supplies (disposable supplies, gloves, equipment use, paperwork, etc....

\$5 fecal exam supplies (disposable supplies, gloves, glass slides, cover slips, equipment use, paperwork, etc....

\$62 PCR for crypto screening, lab charge, disposable supplies (fecal/ gastric wash), etc....

\$62 PCR for Ophidian Paramyxovirus screening (or blood titers) lab charge, disposables, etc....

\$15 basic medical supplies, disposable medical supplies and pharmaceuticals/ medications

\$240 additional/ animal (basic health management or additional health screening required)

\$220 additional- as needed, exams/ lab work: CBC, Blood Chemistry, PCR, blood titers, etc....

\$20 additional- as needed, treatments, drugs- antifungals, antiparasitics, analgesics, topical, etc....

^{vi} Including:

Prepare facility for incoming confiscation

Perform species identification; identify what laws/statutes have been violated

Maintain chain of custody and individually identify animals

1-3 months of daily maintenance

Transfer animals to accredited institutions (after case has been closed)

^{vii} **Construction cost estimate:** \$150/ft²

Appendix C

Article 55 Confiscations 2001-2017

Supplemental information for these figures below:

- 364 total reptiles were involved (consulted or confiscated) in Article 55 investigations during 2001-2017
- **The orange and red portions of each bar represent exotic venomous reptiles that fall outside of our safety protocols and present the greatest danger and liability to the state (figures 1 & 2).**
- Confiscation size and diversity sharply increased in 2007 to include a larger number of animals that the agencies are unable to safely work with.
- About 10 reptiles were seized per year during 2001-2008, the eight years preceding the 2009 amendment to Article 55
- About 31 reptiles per year were seized during 2009-2017, the eight years following the 2009 amendment to Article 55, highlighting the increased burden and risk that resulted (see figure 2).

Figure 1

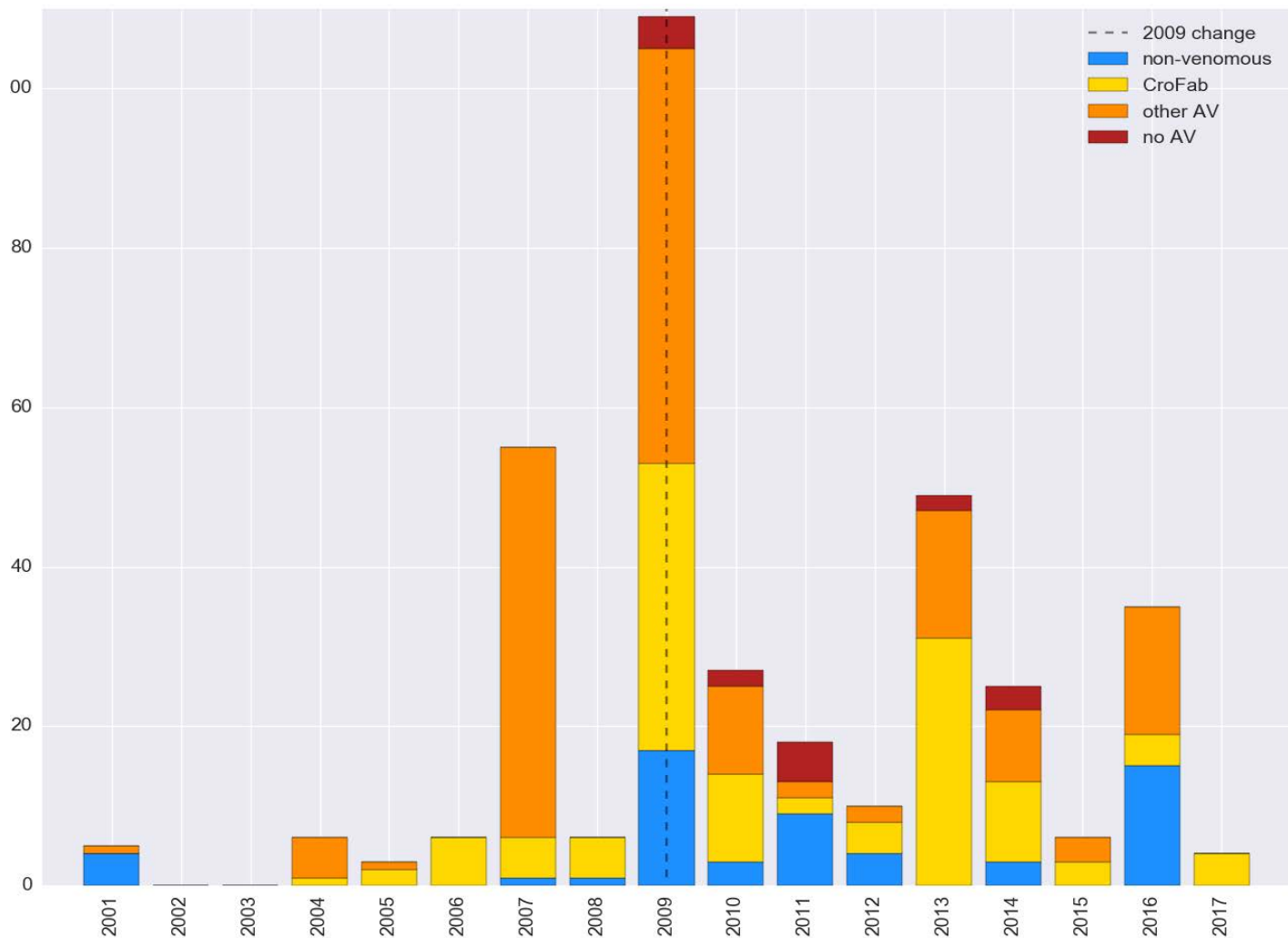
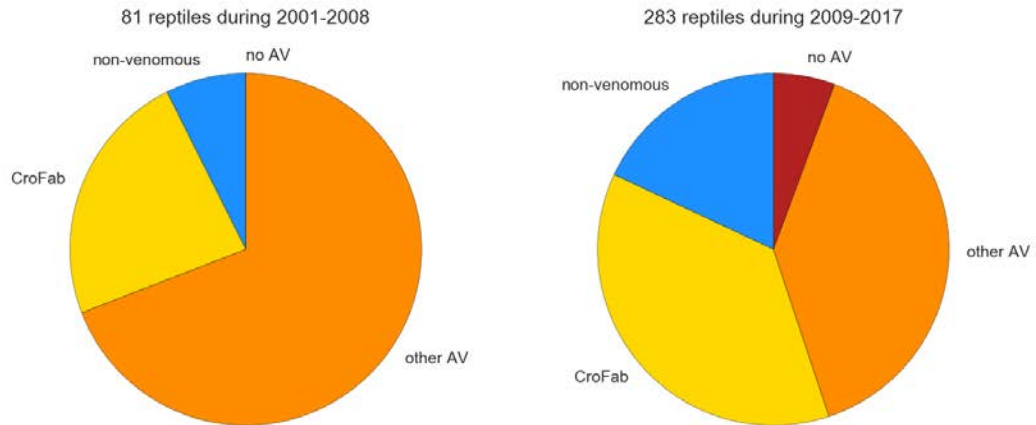


Figure 2



A55 confiscation name	Total live animals	Nonvenomous animals	Animals that can be treated with locally available antivenom	Animals that <u>cannot</u> be treated with locally available antivenom	Animals where no antivenom exists	
USFW confiscation 1991	1		1			
WRC confiscation 1995	1		1			
Wake 2001	5	4		1		
Catawba 2005	3		2	1		
ASPCA surrender	1	1				
WRC confiscation 2006	1		1			
Rowan 2006	5		5			
Alamance 2007	19		4	15		
Wake 2008	1		1			
Haywood 2008	5	1	4			
Henderson 2011	54	9	20	20	5	
New Hanover 2013	48		31	15	2	
Alamance 2014	1		1			
Orange 2016	18		2	16		

Consultation/near A55 confiscation name	Date contacted	Total live animals	Nonvenomous animals	Animals that can be treated with locally available antivenom	Animals that cannot be treated with locally available antivenom	Animals where no antivenom exists	
Jackson Co 2004	7/6/2004	6	0	1	5	0	
Alamance Co 2007	5/9/2007	45	1	10	34	0	
Alamance Co 2009	4/13/2009	25	0	0	22	3	
Haywood Co 2009	8/11/2009	92	17	36	29	10	
Waynesville 2009	9/11/2009	1	0	0	1	0	
Gaston Co 2010	1/1/2010	4	1	3	0	0	
Lincoln Co 2010	2/25/2010	3	1	2	0	0	No A55 charge
Burke Co 2010	9/28/2010	17	1	5	11	2	
Barfield surrender 2010		1		1			
WRC confiscation		1		1			
Alamance Co 2012	1/3/2012	1	0	1	0	0	No A55 charge
Cabarrus Co 2012	9/7/2012	1	0	0	1	0	Suspect committed suicide by cobra, county dealt with issue
Henderson Co 2012	10/2/2012	4	4	0	0	0	Was same suspect from 2011 confiscation
Person Co 2012	10/3/2012	4	0	3	1	0	Museum would not pick up animals so county did not invoke A55
Rockingham Co 2013	10/25/2013	1	0	0	1	0	County dealt with individual, did not invoke A55
Iredell Co 2014	1/31/2014	46	30	8	5	3	County dealt with individual, did not invoke A55
Rockingham Co 2014	2/25/2014	4	0	1	3	0	Museum would not pick up animals so county did not invoke A55
Craven Co 2014	5/10/2014	1	0	0	1	0	
Davidson 2015		1			1		County dealt with individual, did not invoke A55
Iredell Co 2015		4		2	2		County dealt with Alligator Adventure and did not invoke A55
Wake Co 2015		1		1			Per our suggestion Wake Co used an "agent" to keep animal
Iredell 2016		2		2			County dealt with individual, did not invoke A55
Anson 2017		4		4			WRC seizure, A55 not invoked

Appendix D

Venomous Reptile Safety and NCMNS Article 55 Confiscations

By Jeff Mette, Curator of Terrestrial Exhibits, North Carolina Museum of Natural Sciences

Introduction

Staff of the North Carolina Museum of Natural Sciences works with State and local law enforcement agencies in accordance with Article 55 of Chapter 14 of the North Carolina General Statutes, which in part regulates possession of venomous reptiles. This work results in staff exposure to live venomous reptiles, including during care and maintenance of confiscated live animals held in museum facilities for extended periods. Confiscated live reptiles held at the museum and maintained by museum staff during the years 2001-2017 included a large number of venomous reptiles not covered by existing museum safety protocols. These protocols were developed to support the permanent live exhibition of the pit vipers (copperhead, cottonmouth, rattlesnakes) native to North Carolina, and have limited application to other kinds of venomous reptile, such as exotic species. However, during 2001-2017, 167 of 366 (46%) of the individual reptiles involved in violations or potential violations were not covered by museum protocols. Of the twelve groups of confiscated venomous reptiles held at the museum during this period, six groups included venomous reptiles that were not covered by museum protocol and these six groups accounted for 91% (126 of the 139) of the total animals in the twelve groups held at the museum. Museum safety protocols do not protect museum staff from the physical dangers posed by confiscation. These dangers include permanent disability and death. The museum should cease activities that result in staff exposure to live venomous reptiles not covered by safety protocols. This can be achieved by altering museum policy or State statute, or by expanding safety protocols to cover a greater range of venomous reptiles, for instance by acquiring a supply of exotic antivenoms. These changes are neither simple nor inexpensive, but these costs are far less than those of a significant personal injury due to severe snakebite.

Venomous reptile safety and antivenom access

The museum relies on written safety protocols to guide our work with venomous reptiles. These protocols address methods of handling and restraint, staff training, and emergency response. This report is primarily concerned with the museum's protocol for emergency response to envenoming, but the issues discussed here are relevant to all aspects of venomous reptile safety protocols. Existing safety protocols for response to a medical emergency involving envenomation or suspected envenomation by a reptile call for immediate transport (arranged via 911 operator) to a local hospital where the victim can be treated with locally-available antivenom (and other measures as determined by a physician). Only one antivenom is available locally: Crotalidae Polyvalent Immune Fab (Ovine), or "CroFab." This product is indicated for the treatment of envenoming by five of the six species of venomous reptiles native to North Carolina. CroFab is indicated for cottonmouth/copperhead (genus *Agkistrodon*), rattlesnakes (*Crotalus*), and pigmy rattlesnakes (genus *Sistrurus*) species occurring north of Mexico, excluding members of the West Coast rattlesnakes (*C. oreganus-viridis*) clade and possibly other *Crotalus*, i.e. neurotoxic taxa. CroFab was the indicated antivenom for about half (53 of 110) of the individual venomous reptiles held at the museum during 2001-2017. Access to CroFab is a key component of existing safety protocols.

For other venomous reptiles, indicated antivenoms either: (1) exist but are not locally available (termed "other"), or (2) do not exist (termed "none"). In the event of a medical emergency involving envenomation or suspected envenomation by these taxa, the course of the victim's treatment depends largely on factors beyond the control of either museum staff or attending physicians. In the case of (1), the attending physician must locate, acquire, and administer antivenoms that are neither produced nor sold within the United States, and which, at best, may be found at other facilities in the United States and airlifted to the victim's location. A range of plausible factors (consultation with specialists, location and transportation of exotic antivenoms, interpretation of drug information produced in languages other than

English, navigation of complicated legal restrictions on the administration of drugs not approved for use in the United States, etc.) could delay administration of life-saving treatment whose efficacy is partially dependent on prompt administration.

As a rule, venomous reptiles for which antivenoms are produced can be characterized as posing a significant human health risk. They tend to be dangerously venomous, widely distributed, and commonly implicated in envenoming. Conversely, species for which no antivenom is produced generally pose a lesser threat to human health and may be mildly venomous, recently described, poorly understood, or narrowly-distributed. This rule is essentially epidemiological, however. That no antivenom is produced is not an indication a taxon is harmless, as in the case of North American coral snakes. The only antivenom previously indicated for treatment of envenomation by North American coral snakes (genus *Micrurus*) is not currently in production. Fatal envenoming by Eastern coral snake (*Micrurus fulvius*) has occurred in the United States as recently as 2009.

While hospitals local to the museum only stock CroFab, a number of zoos in our region maintain stocks of exotic antivenoms. Notably, there are two facilities in South Carolina that stock multiple antivenoms and have expressed willingness to assist the museum in preparing for a medical emergency. Whether or not this level of access to antivenom is acceptable must be determined in consideration of museum staff exposure to confiscated venomous reptiles.

In one case (Ken Alfieri, Alligator Adventures, Myrtle Beach, South Carolina, pers. comm.), a private keeper in South Carolina was bitten by their pet exotic venomous snake (described as “a mamba”). Initial emergency response included consultation by the supervisor of a reptile zoo local to the victim. While the local facility did not stock the appropriate antivenom, they were able to identify a regional source of the antivenom, another South Carolina zoo approximately 165 mi. away. Working with local law enforcement, roads at the source facility were barricaded to allow a helicopter to land and be loaded vials of antivenom, which were then flown to the victim’s hospital. Despite a clear course of action successfully undertaken by the experienced staff at both facilities, and despite the relatively short distance for helicopter travel, approximately four hours passed between initial phone contact and administration of antivenom to the victim, who survived.

The following case was reported from Ohio in 2003 (“No such thing as tame deadly snake.” Cincinnati Enquirer. Janice Morse. 6 August 2003. <enquirer.com/editions/2003/08/06/loc_exoticpets06.html> Accessed: 5 September 2013). Michael Peterman, 48, of Dayton, Ohio, a firefighter described as an experienced private keeper, was envenomed by an adult rhino viper (*Bitis nasicornis*) during routine maintenance. Emergency response included first aide at a local fire station, then administration of multiple doses of antivenom while being airlifted to a local hospital. Additional antivenom was airlifted from Miami, Florida (presumably from the Miami-Dade Venom Response Program), but the victim died before it arrived.

Envenoming is a risk inherent to contact with live venomous reptiles and even brief delays in antivenom administration can have serious consequences for the victim (Snake bite protocols produced by the University of California, San Diego, state that “the bite of the Monocellate Cobra (*Naja kaouthia*) with envenomation can be rapidly fatal (possibly as early as 60 minutes). The above two cases are not comprehensive but illustrate the dangers posed by a lack of direct access to needed antivenoms. Even if potential sources are identified and airlifts undertaken immediately and without issue, administration may be significantly delayed. Even with administration, the victim may die.

Analysis of past confiscation cohorts

Since 2001, the museum has been involved in twelve confiscations that have resulted in intake of 110 live venomous reptiles. The majority of these has been related to Article 55 enforcement and has included taxa not covered by existing safety protocols. The proportional intake of nonvenomous reptiles and of

venomous reptiles in each of the three categories of antivenom coverage (CroFab, other, none) is shown in Figure 1 of Appendix C. These data suggest that, in terms of antivenom access, existing safety protocols have been sufficient for about 48% of total intake of venomous reptiles. For the remaining 52%, any and all contact with these animals has posed a risk of envenoming to which the museum is inadequately prepared to respond.

Examples of venomous reptile taxa that pose an excessive danger to museum staff that cannot be adequately addressed via existing protocols include cobras of the genus *Naja* and African vipers of the genus *Bitis*. Envenomation by these taxa is a life-threatening medical emergency. From the University of Adelaide Women's & Children's Hospital's *Clinical Toxinology Resources*, toxinology.com: "All cases [of envenomation by monocled cobra (*Naja kauthia*) and gaboon viper (*Bitis gabonica*)] should be treated as urgent & potentially lethal. [...] Antivenom is the key treatment for systemic envenoming. Multiple doses may be required." Even with appropriate treatment victims may die, and those who survive may be permanently disabled.

It is typical for groups of confiscated reptiles held at the museum to include dangerously venomous animals, and that many of these animals cannot be reasonably contacted, handled, or maintained at the museum without changes to existing protocols. Data also suggest that the number of animals involved in such actions has increased during 2001-2017. Enforcement activity by the Wildlife Resources Commission and other law enforcement agencies may also be increasing (Jeff Hall, NCWRC, pers. comm.). Ever-increasing intake of dangerously venomous reptiles should be anticipated. Intake of dangerously venomous reptiles with no locally-available antivenom should be anticipated. It is also plausible that the proportion of confiscated animals without locally-available antivenom is increasing relative to other categories. Amateur herpetoculture has risen in popularity in recent decades and exotic venomous reptiles are now widely available and relatively inexpensive.

Recommendations

The dangers posed by reptile envenoming are significant. The risks taken by the museum and its staff in handling and maintaining confiscated venomous reptiles are alarming. Reasonable justifications are not clear, however, for the risks taken when contacting animals without locally-available antivenom. As such, the museum should cease intake of any live animals belonging to any taxon of venomous reptile deemed to be inadequately covered by existing safety protocols. Reducing staff exposure (such as by euthanizing rather than maintaining alive those animals which pose the greatest danger) is not a substitute. Such reductions in exposure duration cannot help the victim of life-threatening envenoming.

Appendix E

Agency Confiscation Histories

Recent History of Article 55 events for NCWRC:

NCWRC employees participate in investigations or confiscations of these seven species and, on occasion, are requested to help other State or local government entities with incidents involving exotic species addressed by Article 55. While infrequent, Article 55 incidents occur periodically and can entail considerable effort by a variety of State and local government agencies, private organizations, and residents. Twice in the last 24 months, NCWRC employees have responded to incidents involving Article 55 species.

In May 2016, an Orange County resident was bitten by a king cobra (*Ophiophagus hannah*) that he owned and kept in his residence. This resident also illegally held several non-venomous, non-Article 55 species. NCWRC employees helped the Orange County Sheriff confiscate several non-Article 55 species from the defendant's residence. A NCWRC employee held those animals at his private residence until the court case was adjudicated because NCWRC has no facilities to hold confiscated animals other than black bear (*Ursus americanus*). The court approved separation of the animals from the defendant, and NCWRC distributed a painted turtle (*Chrysemys picta*), a box turtle (*Terrapene carolina*), three mole kingsnakes (*Lampropeltis calligaster*), an eastern kingsnake (*Lampropeltis getula*), and a scarlet kingsnake (*Lampropeltis triangulum elapsoides*) to several entities for use in educational programs.

In September 2017, a NCWRC employee learned of an Anson County resident holding two timber rattlesnakes, two eastern diamondback rattlesnakes, and an American alligator. NCWRC employees confiscated the illegally held native species. The alligator was taken to Alligator Adventure in South Carolina. The four native rattlesnakes were kept overnight in a NCWRC employee's private residence and then transferred the next day to the North Carolina Museum of Natural Sciences (NCMNS). The resident had additional exotic pets covered by Article 55. These animals were left with the resident, who was brought into compliance with Article 55 requirements.

Recent History of Article 55 events for NC Zoo:

Since Jan 1, 2015, the NC Zoo has been involved with 2 direct confiscations or held animals associated with them. There have been at least 6 additional inquiries (1 venomous snake, 3 constrictors, and 2 crocodilians) by law enforcement regarding confiscations through Article 55. These were either deemed not Article 55 or they contacted Alligator Adventure (or some other entity) directly to accept the animals.

Since Jan 1, 2015, we have held 4 animals from Article 55 confiscations and an additional individual was confiscated but transferred to Alligator Adventure via Orange County Animal Control.

- Of those four animals, one caiman resided at the NC Zoo for more than 2 years.
- The second animal, a Burmese Python, resided at the NC Zoo for more than 4 years because of a travel ban on certain reptiles enforced by the U.S. Fish and Wildlife Service, as well as a lack of interest from other facilities to house the animal. It was not a species the NC Zoo would normally acquire. It required two keepers (safety protocol) for all husbandry activities.

The remaining two animals were reticulated pythons, which the NC Zoo maintained for approximately 15 months. These were also not a species the NC Zoo would normally acquire and they utilized valuable quarantine space (3 months) and holding space (12 months).

For a recent history of Article 55 events for NCMNS, see Appendix D.

Appendix F

NCDNCR Article 55 Designated Representative Guidelines and Designation Agreement

Part 1: GUIDELINES FOR SERVING AS AN ARTICLE 55 DESIGNATED REPRESENTATIVE

1. **INSPECTION**

The Department shall conduct an inspection of the Designated Representative's Facility ("Facility") prior to official designation. The Designated Representative will allow entry to the Facility and comply with any specific requests for information made by the Department in response to inspection findings. Inspection will be limited to the areas pertinent to the housing and care of the confiscated reptiles. Inspection findings may reveal deficiencies that must be remedied prior to official designation and/or may disqualify the Facility or the Designated Representative from official designation and acceptance of confiscated reptiles.

Once officially designated, the Designated Representative will allow the Department to enter the Facility, at reasonable times, to inspect the condition of the reptiles and the Facility. Findings of said inspections may be cause for rescission of official designation.

2. **ACCEPTANCE OF CONFISCATED REPTILES**

The Designated Representative will use its best efforts to accommodate and accept reptiles confiscated under Article 55 for housing and care when requested, but both Parties acknowledge that the Designated Representative is not required to assist with or accept any or all of the confiscated reptiles from a particular seizure if the Designated Representative determines that it is not within the Designated Representative's best interest or capabilities to do so.

If the Designated Representative refuses said reptiles, the Designated Representative will communicate said determination within twenty-four (24) hours of the request for acceptance to the requesting Department staff member and provide a detailed explanation of the reason for refusal.

3. **TRANSPORTATION:**

Delivery of the confiscated reptiles to the Facility should be performed by the confiscating law enforcement officer, as directed by Article 55. The Department strongly discourages the Designated Representative or their employees, agents, or assigns from traveling to, being present at, or transporting confiscated reptiles from active crime scenes where reptiles believed to be held in violation of Article 55 are seized.

While in possession of any reptiles confiscated under Article 55, any and all transport of said reptiles shall be in accordance with Article 55, including securing reptiles in a sturdy and secure transport container which is escape-proof and, in the case of venomous reptiles, bite-proof. Transport containers must be clearly and visibly labeled in accordance with the applicable provisions of Article 55 and accompanied by a copy of the written safety protocol and escape recovery plan for the reptile. All venomous snakes transported must also be accompanied by a written bite protocol. Only the

Designated Representative or their employees or agents trained in handling such reptiles shall be suitable to transport said reptiles.

4. CARE OF CONFISCATED REPTILES; DISPOSITION

The Designated Representative will use its best efforts to house, feed, provide medical attention, and otherwise care for all confiscated reptiles in its possession and will endeavor to maintain the reptiles' health and well-being. All such reptiles will be housed and cared for in accordance with Article 55, all other applicable federal, state and local laws and regulations, and generally accepted industry practices of animal husbandry.

Specifically, any and all confiscated reptiles shall be housed in a sturdy, secure, and escape-proof permanent enclosure with an operable lock. In the case of venomous reptiles, permanent enclosures must be bite-proof, and clearly and visibly labeled in accordance with N.C.G.S. 14-417(b). In the case of large constricting snakes, permanent enclosures must be labeled in accordance with N.C.G.S. 14-417.1(c). In the case of crocodilians, permanent enclosures must be escape-proof and any fencing must be of sufficient strength to prevent contact between an observer and the crocodilian in accordance with N.C.G.S. 14-417.2(a). All reptiles must have a written bite protocol (for venomous snakes) or written safety protocol (for constricting snakes and crocodilians) and escape recovery plan that accompanies transport or is within sight of the enclosure.

All medical care for confiscated reptiles should be approved and coordinated with the Department. Specifically, all illnesses and injuries to confiscated reptiles must be immediately documented and reported to the Department, who will then collaborate with the Designated Representative to develop a treatment plan and cover the costs of approved medical bills.

All determinations as to the disposition of any and all confiscated animals will be made in coordination and only after consultation with Department staff. Determination of euthanasia of a confiscated reptile, with the exception of an emergency that immediately endangers public safety, will be made solely by Department staff prior to euthanizing the animal. If it is determined that euthanasia of a confiscated reptiles is necessary, a detailed record of such must be sent to the Department, including a description of the reasoning for euthanasia, the procedure used, and the disposal of the body.

If a confiscated reptile is a federally or state-listed endangered species, the Designated Representative may be required to make filings or consult with federal authorities or the North Carolina Wildlife Resources Commission prior to taking possession of said reptiles or prior to any action relating to euthanasia of the reptile. Federally endangered species are listed in the Endangered Species Act of 1973, and State-listed endangered species are found in 15A NCAC 10I .0103.

In the event of an escape of any of the confiscated reptiles in the Designated Representative's possession, the Designated Representative shall immediately notify local law enforcement, and then immediately thereafter notify the Department.

5. COMPLIANCE; ACCREDITATION

The Designated Representative attests that they have not been charged or convicted of a violation of Article 55 or any other wildlife-related regulations including any violations related to unsafe housing of wildlife, endangering the public, illegal commercialization of wildlife, cruelty to animals; or

importation of wildlife, within three (3) years of the date of designation. Furthermore, the Designated Representative agrees that the Designated Representative is and will at all times hereafter continue to be in full compliance with all applicable federal, State, and local laws and regulations regarding the possession, handling, and care of reptiles, including any applicable federal or State regulations regarding endangered species. Violations of Article 55 or any other wildlife-related regulations may be cause for rescission of official designation.

Within thirty (30) days of official designation, the Designated Representative will provide proof to the Department of any and all accreditation, licensure, or permit indicating the Facility's and/or their respective employees' authority, capabilities, and/or training to house, transport, possess, or care for animals, including and specifically reptiles.

6. CHAIN OF CUSTODY RECORD; RETURN OF CONFISCATED REPTILES

The Designated Representative may be requested by law enforcement, court officials, or by State government personnel to complete paperwork showing the chain of custody, or other relevant information, pertaining to any or all confiscated reptiles in the Designated Representative's possession. The Designated Representative will use its best efforts to comply with such requests in a timely manner.

Confiscated reptiles are not property of the Designated Representative unless legal title is transferred to the Designated Representative. Said reptiles must be available for return to the reptile's owner, pursuant to determination of the final disposition by a court of competent jurisdiction, or for inspection by law enforcement, court officials, including a Defendant's attorney, or by State government personnel, at reasonable times. In the event a court determines that such reptiles are to be returned to the reptile's owner, the Designated Representative will be contacted by the confiscating officer for pickup and transport, surrender the confiscated reptiles to the confiscating officer or as otherwise specified in a court order, and will notify the Department of the transfer.

If the State is awarded legal title of the confiscated animals at the conclusion of the criminal case, the Department may seek to transfer title to the Designated Representative. Any such transfer of title shall only be effectuated by a separate written agreement between the Department and the Designated Representative.

7. COSTS:

The Designated Representative shall be responsible for any and all costs incurred by the Designated Representative associated with the transport, care, and housing of the confiscated reptiles in their care, including any and all equipment, materials, or leased items associated with performing its duties contemplated hereunder, unapproved medical bills, staff and administrative costs, and any other associated fees required for the maintenance and care of the confiscated reptiles including, without limitation, attorney's fees, court costs, property damage or loss, and injury, including death, arising out of or in connection with the Designated Representative's performance of their duties contemplated hereunder.

If funds are available to reimburse the Designated Representative for some or all of the costs incurred (whether those funds are derived from either the Department or received by order of a court of competent jurisdiction), the Department will use its best efforts to compensate the Designated Representative for its costs directly incurred from its responsibilities contemplated hereunder. In

order to be reimbursed, the Designated Representative must provide an accurate and detailed accounting of the costs incurred to the Department within thirty (30) days of determination of the final disposition of the confiscated animals.

8. **COMPENSATION; EMPLOYMENT STATUS:**

The Designated Representative fully understands that the Designated Representative, and its employees, agents, representatives, successors or assigns, may not receive any form of compensation or remuneration for these services, with the exception of approved medical treatment, will not be considered to be an employee of the State or receive any benefits associated therewith, and will not be considered to be an agent of the State for any purpose other than for the purposes outlined herein.

9. **ASSUMPTION OF THE RISK:**

The Designated Representative fully understands and appreciates the inherent risks and dangers associated with accepting reptiles confiscated under Article 55, and voluntarily agrees to assume all risks, liability and costs for any injury (including death), loss or damages, to the Designated Representative's person, property or otherwise or the person or property of a third party, of any kind or nature, whether present or future, known or unknown, arising out of or in connection with the Designated Representative's performance of any activities contemplated hereunder .

10. **CONTACTS:**

If questions arise or you need further assistance, please contact the following:

NC Museum of Natural Sciences:	North Carolina Zoological Park:
Phil Bradley, Head of Terrestrial Exhibits, Living Collections Section	Dustin Smith, Curator – Reptiles, Amphibians, Fish, & Invertebrates
11 West Jones Street	4401 Zoo Parkway
Raleigh, NC 27601-1029	Asheboro, North Carolina 27205
Phil.bradley@naturalsciences.org	Dustin.Smith@nczoo.org
919-707-9920	336-879-7620

Part 2:

NORTH CAROLINA DEPARTMENT OF NATURAL AND CULTURAL RESOURCES

DESIGNATED REPRESENTATIVE AGREEMENT

The North Carolina Department of Natural and Cultural Resources (“Department”) hereby authorizes you, [REP NAME], to serve as a designated representative of the Department for certain reptiles confiscated pursuant to Article 55 of Chapter 14 of the North Carolina General Statutes.

[REP NAME], in my capacity as [OFFICER’S TITLE] of [ORG NAME], hereby agrees to serve as a designated representative in accordance with the attached “Guidelines for Serving as an Article 55 Designated Representative,” which is incorporated herein by reference.

[REP NAME] acknowledges that he/she has received, read, understand, and agree to comply with the “Guidelines for Serving as an Article 55 Designated Representative,” which includes using best efforts to maintain all confiscated reptiles in his/her possession in the best possible level of health and well-being.

The Department understands and agrees that [REP NAME] is not required to accept any confiscated reptiles if he/she determines that it is not within his/her best interest or capabilities to do so.

This Agreement shall be effective as of the date of the latest signature below and remain in effect until terminated. Either party may terminate this Agreement, for any reason or no reason, upon providing thirty (30) days written notice to the other party.

**North Carolina Department of Natural
and Cultural Resources**

Designated Representative

By: _____
_____, Chief Deputy Secretary

[REP NAME]

Date

Date
