
COMMONWEALTH of VIRGINIA

**Natural Area Preserve
Management Guidelines**
Revised 2023

Virginia Department of Conservation and Recreation
Division of Natural Heritage

Natural Heritage Technical Report #23-09
June 2023



Department of Conservation & Recreation

CONSERVING VIRGINIA'S NATURAL & RECREATIONAL RESOURCES

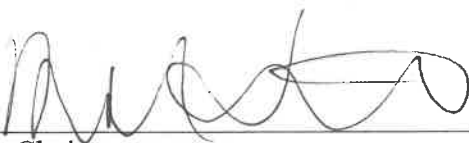
Virginia Department of Conservation and Recreation
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Approvals

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Commonwealth of Virginia

Natural Area Preserve Management Guidelines

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**Virginia Department of Conservation and Recreation
Division of Natural Heritage**

**Natural Area Preserve Management Guidelines
Revised 2023**

Overview

As stated in the Code of Virginia (Appendix A), state natural area preserves are acquired and managed for the primary objectives of providing suitable habitat conditions for rare or declining species of plants and animals and for protecting outstanding examples of both common and rare natural community types. Natural area preserves also provide opportunities for field research, outdoor education, and an array of compatible and sustainable outdoor recreation activities. Active management actions are required to meet these objectives. For example, natural areas managers: (1) reinstate the natural process of fire through the use of prescribed burning to restore and maintain habitat conditions required by fire-adapted species of plants and animals; (2) remove non-native invasive species that displace native plants and animals, eliminate rare species, and destroy natural communities; (3) restore former agricultural lands to provide natural habitats for migratory songbirds and other species of native fauna; (4) plan, construct and maintain public access facilities to allow visitors to learn about natural areas and experience the wonders of these special places - but still protect the resources.

These management guidelines explain various methods for managing rare species habitats and natural communities, describe how public use can be balanced with resource protection, and state principles that guide DCR's management of Virginia's natural area preserve system. As is stated repeatedly, the main focus is to perpetually sustain the Commonwealth's most vulnerable and, arguably valuable, natural resources.

Introduction

The Virginia Natural Area Preserve System was authorized by law in 1989 to protect and conserve *natural heritage resources* (habitats of rare plants and animals; exemplary natural communities; other rare natural features) throughout the state. This system of protected lands is administered by the Virginia Department of Conservation and Recreation (DCR) and managed by the Division of Natural Heritage (DNH). The first component of the system, North Landing River Natural Area Preserve, was acquired and dedicated in 1990. Natural Area Preserve Dedication, in accordance with the Code of Virginia sections 10.1-209 - 217 (Virginia Natural Area Preserves Act), offers strong levels of protection by placing privately and publicly held natural areas into a legally established statewide preserve system with statutory protection against most forms of condemnation and conversion to other land uses.

These guidelines were developed to provide management direction for dedicated natural area preserves in Virginia. Natural area preserves in most cases are discrete areas of land under the ownership of the Commonwealth and managed by DCR-DNH. However, some preserves comprise a portion of larger conservation areas such as state parks, state forests, municipal watersheds, county parks, and privately-owned open spaces. These may have recreation and/or commodity and income production as parallel management objectives; thus, some natural area preserves may have a somewhat broader set of compatible uses – and management challenges – than is found for natural area preserves owned and managed by DCR. Still, all preserves in the state system have one unifying and primary purpose: *to permanently protect the natural heritage resources found on the site.*

Virginia's long history of intensive land use has resulted in dramatic and long-lasting impacts to nearly every acre in the state. Introductions of non-native species, altered fire regimes, land-use conversions of habitats, high levels of recreational use, and increasingly rapid climate change have altered the structure (e.g., species composition, landscape physiognomies) and function (e.g., flood mitigation, nutrient management, C sequestration) of vitally important ecosystems. Introductions and proliferation of invasive species of plants and animals pose an enormous threat to native species and natural community integrity. Modern fire suppression – of critical importance for protecting lives and property – and fire exclusion, lead to declines and loss of species that depend on fire to create the specific successional stages they are adapted to and require. Certain physical features – sandy shorelines and mountain peaks – often attract crowds, requiring carefully conceived visitation management strategies. As many natural area preserves support fragile habitats that can be damaged or destroyed by excessive numbers of visitors and/or inappropriate activities, managers must protect against this. For all of these reasons, a passive management approach cannot meet DCR's objectives for natural areas stewardship. Managers must identify and implement specific actions needed to protect natural communities, enhance habitat for rare species, and maintain the right balance between resource protection and visitor use.

One strategy for assuring continued viability of natural heritage resources is to implement actions that maintain, restore, or mimic natural processes. In other cases, management activities are needed to create specific vegetative structural and compositional conditions beneficial to rare species. Thus, natural area stewards must control harmful disturbances including invasion by plants such as kudzu or Phragmites. They also use prescribed fire to maintain a rare wet prairie or restore open oak-pine woodlands in the Shenandoah Valley. By taking such actions, the ecological processes that allowed the rare species or community to historically occur at the site are restored, to the extent possible.

Natural Area Preserve (NAP) Management Plans are written that provide comprehensive, site-specific resource information plus management objectives and recommended actions to guide preserve stewardship, allowing for management continuity and adaptation over time. DCR's natural areas stewards, with input and support from various resource specialists, compile relevant information, then develop and implement management plans intended to achieve the primary mission: enhancing, maintaining, and/or restoring the natural heritage resources protected within the state natural area preserve system.

Resource Management

The term *resource management* in the context of DCR’s natural area preserve stewardship refers to a broad set of actions taken to maintain and enhance rare species habitats and perpetuate or restore the best examples of Virginia’s natural communities. Resource management focuses on stewardship of biological resources: plants, animals, and soils. In contrast, the term *operations management* refers to actions that address the non-biological aspects of preserve stewardship: infrastructure (roads, trails, public access facilities) maintenance, boundary lines and law enforcement. Resource management actions described here comprise the primary tools for sustaining rare species habitats and conserving biodiversity within the Virginia Natural Area Preserve (NAP) System.

Prescribed Burning

Prescribed burns are conducted on NAPs in accordance with the DCR Prescribed Fire Management Manual to achieve the following objectives: (1) restore and enhance fire-maintained natural communities and maintain habitat for fire-dependent rare species, (2) reduce hazardous fuel loading, and (3) assist with controlling invasive species. DNH stewardship staff are highly trained, skilled, and qualified in fire management, and hold Virginia Prescribed Burn Manager certifications. Written prescribed burn plans are prepared and reviewed by DCR Fire Managers for each prescribed burn project. Burns are only conducted within the range of specified weather and fuel conditions described in the prescribed burn plan. Each burn plan stipulates required equipment, size of burn crew, season of year for the burn, size of the area to be burned, and other detailed information for each burn unit. Prescribed burn plans are reviewed and approved by a DCR Fire Manager, Natural Areas Stewardship Chief, Natural Heritage Division Director, and Deputy Director of Operations. Monitoring of plant community responses following burning is performed to document efficacy of burn projects and provide for adaptive management. Burn plans and monitoring reports are archived in the DNH NAP management files.

Invasive Species Control

Invasive species are among the most serious threats to native biological diversity and have become one of the most difficult, time-consuming, and costly management issues faced by natural areas stewards in Virginia and elsewhere. DCR resource managers use a broad array of tools to combat invasive species, including mechanical and chemical treatments. Prevention is always the preferred approach, so measures are taken to avert invasions, such as requiring contractors to power-wash equipment prior to entering a NAP. After prevention, the next most effective approach is Early Detection and Rapid Response (ED/RR), wherein new infestations are discovered quickly after they become established (ED), and swift action is taken (RR) before the invasion can become widespread. NAP management plans list which invasive species are present and what actions may be effective in controlling them.

Pesticide Use

The judicious use of pesticides (e.g., herbicides & insecticides) is one means by which natural area preserve stewards accomplish specific management objectives. Pesticide use in the context of natural areas stewardship is mostly limited to herbicide applications for controlling (1) invasions of non-native plant species that threaten occurrences of rare species or natural communities, (2) competing vegetation in restoration settings, or (3) vegetation within prescribed fire control lines to maintain fuel-free conditions. Examples of the use of insecticides in natural areas management include treatments to control non-native invasive insects such as spongy moth (*Lymantria dispar*) and emerald ash borer (*Agrilus planipennis*), and applications to control longleaf pinecone beetles to allow production of locally sourced seed as part of DCR's longleaf pine restoration efforts.

DCR's natural area managers using pesticides in close proximity to natural heritage resources must take great care to ensure rare species are not harmed as a result of treatment actions. For all pesticide application scenarios, the following steps are taken:

- The product label is thoroughly reviewed for restrictions based on listed species (i.e. distance restrictions for aquatic habitat; no aerial spraying, etc.).
- All requirements from the product label are met, such as for loading, mixing, and cleaning of equipment.

Other than the standard guidelines for licensed commercial applicators, there are no specific state or federal guidelines for working in proximity to rare species with pesticides, other than taking all precautions to assure that resources will not be harmed. When necessary, and on a case-by-case basis, precise application methods should be used to avoid non-target spraying.

Pest Management

Insect and disease control programs needed to address impacts associated with forest and human health may be undertaken on NAPs when the infestation or outbreak clearly:

- threatens resource values on adjacent managed areas,
- is likely to alter natural ecological processes within the NAP or cause adverse economic impacts on adjacent property,
- constitutes a public health emergency and proposed control actions are recommended by an outside authorized managing agency and/or are provided for by law.

Examples of pest management issues include southern pine beetle outbreaks with potential to cause widespread damage to commercial forestlands and peaking mosquito populations following prolonged rainfall events in low-lying densely populated areas where spread of mosquito-borne pathogens and potential loss of human life is possible.

Native Problem Species

When populations are out of balance (i.e., high abundance of a few species reduces community evenness and diversity), even native species can threaten and adversely impact natural ecological

communities and rare species. Throughout Virginia, artificially high densities of white-tailed deer (*Odocoileus virginianus*) are a problem for resource managers, farmers, and residents of suburban neighborhoods alike. Extensive and prolonged fire exclusion across Virginia has caused mesophication of forest communities, increasing the abundance of trees such as red maple, white pine, and yellow poplar, reducing forest diversity and resilience.

Managed Hunting

As white-tail deer populations continue to grow in Virginia and elsewhere, managed hunting has become an increasingly important tool for natural areas stewards. In addition, Virginia's Waterfowl Blind Laws provide an opportunity for DCR's natural area preserve and state park staff to manage the extent of waterfowl hunting activity adjacent to DCR lands along the western Chesapeake Bay shoreline. Managed waterfowl hunts provide a strategy to control the amount of hunting activity in the public waters adjacent to NAPs and state parks to balance the use of public lands by a variety of users. Managed hunts for deer provide one means by which resource managers can reduce deer numbers in areas where browse damage has become severe. Deer hunting should prioritize hunting of female deer and avoid lead ammunition to maximize the ecological benefits of deer management, while minimizing impacts associated with lead ammunition. By providing such managed hunting opportunities, DCR staff can both achieve resource objectives and engender positive relationships with Virginia's hunting community.

Removal of Trees

Alterations to existing forest structure and composition are sometimes necessary to enhance rare species habitat or restore natural communities. Thus, natural area stewards often use management practices that closely resemble those of traditional forest management. In short, removing trees is sometimes necessary to accomplish NAP stewardship objectives, as in the following examples.

- Replacing loblolly pine with longleaf pine to restore savannas and open pine woodlands,
- Removing white pine or loblolly pine as a thinning treatment to restore oak-pine woodlands,
- Removing non-native invasive species such as tree-of-heaven (*Ailanthus altissima*), mimosa (*Albizia julibrissin*), princess-tree (*Paulownia tomentosa*), and autumn olive (*Elaeagnus umbellata*) to restore natural communities and protect rare species habitat,
- Reducing tree density – often in combination with prescribed fire – to increase groundcover diversity and improve habitat for light-demanding rare species such as smooth coneflower (*Echinacea laevigata*),
- Removing hazard trees near preserve parking areas and along public roads to address public safety concerns,
- Minimalist clearing required to construct new public access facilities such as parking areas and access roads.

NAP management plans describe what types of tree removal practices are needed to achieve specific resource management objectives.

Restoration Plantings

Restoration plantings may be undertaken on NAPs when it is unlikely that natural succession will result in a desired future condition. Tracts acquired as additions to the preserve system often come with the leftovers of previous land use: old pastures, recently farmed fields, and abandoned structures (old houses, barns, and sheds). Natural area stewards are faced with the reality that nearly every old field or pasture or old home site – left to colonize on its own – will naturally succeed to a plant community dominated by a combination of native and non-native plant species. When left unchecked, invasive species often become the predominant components of old field successional communities in today’s landscape.

For this reason, and to achieve specific habitat restoration goals, DCR natural areas stewards develop and implement restoration plans that include planting native species. Plant material is selected such that, whenever possible, the most local seed sources (provenance) and species native to the locality are used. Only common and keystone species are considered as appropriate for restoration plantings on state NAPs. As will be addressed in a later section of these guidelines, rare species are not used in restoration plantings.

Erosion Control Plantings

At times, soil erosion needs to be addressed as part of NAP resource management. Both past land-uses and current disturbance from public access facility construction can result in soil loss if prevention practices are not installed. Use of erosion control matting and/or seeding with native red fescue, or non-native annual rye, oats, or wheat species is often sufficient to meet stewardship goals – protecting water quality and abating soil losses.

Rare Species Introductions

Introduction (or *translocation*) of plants or animals as a strategy for recovering or maintaining rare species populations will be considered by DNH, but only as a last resort. This approach to biodiversity conservation has numerous challenges and drawbacks. Thus, it is compatible with DCR’s approach to NAP stewardship only when other less drastic strategies (e.g., reinstating natural processes; abating threats and stresses) will clearly not result in population recovery or expansion. Intentional introductions of a rare species by any method will only be considered via a written proposal reviewed by the DNH Chief Biologist, Natural Areas Stewardship Chief, and Division Director.

Grazing and Crop Production

Grazing by livestock is generally incompatible with NAP stewardship due to the negative impacts of increased soil erosion, excessive nutrients from manure, and more rapid spread of invasive species. However, short-term/highly regulated “flash” grazing may present resource management opportunities if used judiciously and in specific settings. For example, some natural area managers have seen positive results from grazing goats in mountain bald and wetland communities to control invading woody species. Also, circumstances such as retained rights or conditions of sale during preserve acquisition may require that grazing is continued for a specified time period after state purchase. In such cases, monitoring should be conducted to evaluate potential negative effects of grazing on natural heritage resources or water quality.

Preserve managers should consider modifications such as altering grazing season, providing resting periods, changing stocking levels, appropriately locating water, shelter, and mineral supplements, and rehabilitating soil.

Crop production for agricultural production and income generation is not normally compatible with NAP management. However, short-term (e.g., less than 10 years) farming and haying leases are sometimes useful to achieve specific objectives such as for delaying old field succession prior to planting trees and shrubs as part of a habitat restoration project. A second example is the use of no-till row-crop production under a farm lease to deplete the soil seed bank of non-native weed species prior to establishing a native warm season grassland.

Cultural Resources

NAP management actions with potential to impact historic resources (e.g., old structure demolition; earth-disturbing activities) require review and/or permitting by the Department of Historic Resources. Historic resources are protected by established statutes, regulations, and guidelines. Pertinent statutes to consider include the Virginia Antiquities Act, Virginia Cave Protection Act, Appropriations Act, and the National Historic Preservation Act.

Where archeological and historic resources occur on preserves, these resources will be protected within the capacity of the agency's resources. Inventories for these resources will be conducted and recommendations for conservation will be included in management plans. Resources may be considered for interpretive and/or research value as identified and prescribed in plans. Collection of artifacts is permitted only for legitimate scholarly research purposes approved by the Department of Historic Resources and DCR. Archeological research may vary, from recordation surveys where no collection or excavation is performed, to intensive excavations focused in a confined area. Consequently, compatibility of archaeological research and natural areas stewardship – as with all other research proposals – must be evaluated on a case-by-case basis. Any collections performed in caves will also require issuance of a Cave Collection Permit by DCR.

Hydrological Restoration

Hydrologic conditions altered by human activities (constructing ditches, placing fill, etc.) may need to be managed if a return to natural soil moisture regimes is needed to enhance rare species habitats and restore natural communities. Stewardship actions that affect hydrology may be conducted for the purpose of meeting habitat maintenance and restoration objectives. However, planning and careful implementation will be required with this practice to ensure that neighboring lands are not affected. Specifically, natural areas stewards must ensure that adjacent landowners are not negatively impacted by hydrologic restoration actions. Plans for this type of activity should be described in NAP Management Plans and be conducted in accordance with local, state, and federal laws and regulations.

Removal of Minerals

Commercial mineral exploration/extraction is an incompatible use on all state NAPs and expressly prohibited by all natural area deeds of dedication. Soil disturbance at the scale necessary to remove mineral resources is clearly at odds to the purposes and objectives of NAP protection and stewardship. Collection of surface mineral specimens for research or educational purposes requires the prior issuance of a Research and Collection permit by DCR.

Utility Rights-of-way

Within some preserves, power transmission and gas line rights-of-way are present that provide open, sunny habitat required by certain rare species. Right-of-way maintenance by a utility company or its contractors is an on-going challenge for natural areas stewards, due to the use of herbicides in vegetation management and the potential of mowing equipment to introduce and spread invasive plant propagules. Preserve management plans should include utility company agreements and contact information to facilitate timely communications prior to corridor maintenance activities. Natural areas stewards need to repeatedly inform rights-of-way managers and contractors about the presence of natural heritage resources. Regular on-site meetings with utility transmission line managers is one of the more effective strategies for preventing damage to resources. Maintenance contractors should use infrequent and minimally damaging approaches for managing vegetation in rights-of-way to minimize the chances for negative impacts on natural heritage resources. Only with close coordination will adverse impacts be prevented over the long term.

Operations Management

The term *operations management* refers to the non-biological aspects of NAP stewardship. Natural Areas Operations Stewards take the lead in implementing this set of management actions on the Virginia Natural Area Preserve System. And in stewardship regions where public access is offered on a significant number of preserves, Operations Stewards also serve as commissioned DCR Law Enforcement Officers, ensuring public safety and enforcing applicable regulations and state laws to protect both visitors and natural resources.

Roads

Access roads that provide management and/or public access are present at some, but not all, NAPs. Where roads are needed, a minimalist approach to construction and maintenance is appropriate to be compatible with management objectives. To reduce construction and maintenance costs, and to minimize impacts on adjacent habitat, NAP access roads are narrow – single lane with turnouts as needed – and unpaved. A wide construction footprint (“*daylighting*”) is not appropriate; rather, road specifications should be patterned after USDA Forest Service single track gravel roads. One distinguishing characteristic of a Virginia state NAP is that there are no paved asphalt roads.

When first acquired, many preserves contain old woods roads from previous land uses. These should be considered first when new roads, parking areas, and trails are being planned. Constructing a new road through natural habitat should be avoided in nearly all cases. Existing woods roads and former logging skid trails may have utility for various preserve stewardship needs, such as serving as control lines for prescribed burning.

Parking Areas

On all state NAPs, parking areas are small – usually from four to 20 spaces. This is an intentional strategy designed to prevent overcrowding, which serves to both create a special quiet experience in nature for all visitors and to minimize resource damage. A full parking lot indicates that the preserve has reached capacity. Visitors who arrive to find no parking spaces are available can wait until a spot becomes available or return at another time.

Trails

Trail systems on NAPs will be designed and maintained using an approach that considers both resource protection and quality of the hiking experience for visitors. Existing old woods roads may or may not provide suitable routes for building new trails. All trails will be located by taking into consideration such factors as their proximity to natural heritage resources, slope, erosion potential, stream/wetland crossings, and other terrain features. An emphasis will be placed on outreach and interpretation. Signs will be designed to inform visitors about natural heritage resources and the state natural area preserve system.

Operations Stewards lead monitoring of trail use levels, assess trail conditions and address trail maintenance needs. Regional Stewards monitor invasive species along trail routes and assess the

extent to which natural heritage resources are impacted by preserve visitors. “Informal trails” created by hikers who stray off the designated trail, are damaging to resources and cause erosion and habitat loss. Actions for reducing informal trails may include barricading with bollards, cable, rocks, and brush. Resource damage from trail use can also be mitigated by trail closure, relocation away from sensitive resources, installing soft barriers, and installing signs to inform visitors about how they can help protect sensitive resources.

Access Facilities

Kiosks, signs, gates, boardwalks, observation decks, bollards, fences, and other structures are examples of access facilities at state NAPs. These vary from site to site and function to enhance the visitor experience, address visitor safety, protect sensitive natural resources and address site security issues. Those NAPs with the highest visitation levels have minimalist restroom facilities consisting of a contractor-provided port-a-jon enclosed within a visual surround structure.

Accessibility

Many state NAPs are in areas of steep terrain, wetlands, dynamic coastlines, and other remote natural settings. Most of these do not easily or feasibly lend themselves to accessibility for persons of all abilities. Nevertheless, as with Virginia State Parks, DCR is working to create greater access to the NAP system than has previously been provided. All new NAP access plans will consider, and if feasible include facilities that are as accessible as funding and terrain allow.

Demolition and Solid Waste Disposal

Potentially dangerous conditions such as abandoned wells, dilapidated structures (houses, barns, sheds), fences, trash dumps, and abandoned vehicles will be removed, cleared, filled in, or otherwise remedied. All structure demolition and solid waste disposal projects will follow standard procedures administered by the DGS, DHR, and DEQ. Hazardous materials evaluation and disposal work will be conducted with the involvement of Project Managers from the DCR Division of Planning and Recreation Resources.

Boundary Lines

Preserve boundary lines are marked according to standard procedures as outlined in the DCR Natural Area Preserve Sign Manual for the purpose of establishing and maintaining the physical extent of preserve lands. Well-marked boundaries are essential for preventing trespass and deterring illegal and/or harmful activities, thus providing for resource protection. In general, preserve boundaries should be maintained (painted, re-signed) every 10 years, or more often if needed. Specifications for marking NAP boundaries are described in detail in the NAP Sign Manual.

Dams and Impoundments

Impoundments (ponds and lakes) are not natural landscape features, although they can occasionally provide habitat for rare species. However, risk management concerns and maintenance costs associated with dams are high. These concerns and costs, along with the fact that their impounded waters are not a natural feature, make man-made ponds and lakes

incompatible with natural area preserve management in Virginia. If preserves are acquired that have one or more pre-existing impoundments, Regional Operations Stewards will lead efforts to remove the dam/impoundment, working with DCR Division of Dam Safety and Floodplain Management staff to ensure regulations, laws, and policies are followed.

Buildings

As their construction and maintenance costs are high, DCR-DNH has not built new structures on state-owned NAPs. This includes contact stations, restroom facilities, visitor centers, and staff offices. However, DCR-DNH may choose to construct structures to support education, interpretation, resource protection, and visitor use when feasible and appropriate. Whenever possible, NAP addition tracts are acquired such that they contain no houses or other structures due to the high costs required for demolition and materials disposal. The construction of facilities and the acquisition and management of existing facilities on properties acquired by DCR-DNH is allowed but limited to allow NAP Stewardship staff to focus on the primary mission of conducting practices to maintain natural heritage resources.

Law Enforcement

In some cases, Regional Operations Stewards also serve as fully commissioned Conservation Police Officers with law enforcement authority and jurisdiction on all dedicated state natural area preserves. Virginia State Park regulations apply to all DCR lands, including state natural area preserves. DCR's Natural Areas Operations Steward-LE positions, in addition to their preserve management responsibilities, enforce State Park regulations, conduct law enforcement patrols, respond to reports of violations, collect evidence, conduct investigations, and work with local and other state law enforcement officials to deter and prosecute criminal activity.

Public Use

The Code of Virginia (Appendix A) requires that state NAPs be managed for the primary purpose of protecting the long-term quality, condition, and viability of natural heritage resources within their boundaries. Many preserves are managed to meet this resource protection objective while also providing some level of public use. While many preserves support resilient habitats capable of sustaining public visitation, others contain sensitive habitats such as seepage bogs, wet prairies, and outcrop barrens with thin soils. At these, and similarly sensitive sites, plant and animal populations are easily damaged by even low levels of visitation. To protect resources, facilitate management actions (e.g., prescribed burning), and provide for public safety, some preserves are closed seasonally but open for visitation at other times of year. In other cases, (e.g., deer management) one part of a preserve may be closed while other areas remain open. In all cases, visitor access is restricted to parking areas, designated trails and shorelines, boardwalks, and observation platforms.

Public uses that are *compatible* with the objectives of state NAPs include such activities as hiking, birdwatching, photography, research, and education. *Incompatible* public uses are those that (1) could harm natural heritage resources, or that (2) require personnel and operating resources beyond the capacity of DCR-DNH. In each of these two cases, there is a conflict with the primary protection objective mandated by the Virginia Natural Area Preserves Act (Appendix A). Finite funding resources for natural areas management translates to a limited capacity by DCR natural areas stewards to monitor, manage, and mitigate for the impacts of public use.

With limited on-site presence, DCR's natural areas stewards increasingly use automated digital counting systems to monitor visitor use at remote locations. By keeping tabs on visitor numbers, managers can anticipate seasonal and year-to-year variations and provide increased site presence when use levels go up. This approach helps ensure balance is maintained between resource protection and public use objectives.

Public Use Strategies

Public access facilities at preserves are designed to provide high quality visitor experiences while also interpreting and protecting natural heritage resources. Access strategies intentionally constrain visitor activities with the goal of protecting fragile habitats and minimizing or avoiding impacts. Determining and mapping locations of sensitive areas within the preserve is essential for abating threats and protecting vulnerable resources. Proposals for new public access facilities (roads, parking areas, trails, boardwalks, observation decks) will be first presented for review to the NH Division Director, Natural Areas Stewardship Chief, and Chief Biologist.

Guidelines for specific types of public uses in the context of natural areas management follow. These are organized into three categories, based on their compatibility with the primary NAP stewardship mission DCR staff resource protection and management capacity.

1. Compatible Uses

Passive recreation activities. Uses such as hiking, canoeing, kayaking, birdwatching, wildlife-viewing, plant identification, and nature photography are highly compatible with natural areas management. These non-consumptive uses involve either observation or non-destructive interaction with plants, animals, and natural landscape features. They often occur at a distance, and involve no collection, disturbance, or impacts to species populations or habitat conditions. At sensitive sites where access is provided (e.g., rock outcrops or wetlands), DCR stewards may install boardwalks, observation platforms, and/or soft barriers to reduce trampling impacts and allow visitors to have and learn about sustainable recreation experiences. A few NAPs feature hand-carry boat launch facilities, providing designated access points for visitors to experience the preserve from interior and/or adjacent waterways. At some preserves, seasonal closures are used to limit visitation to specific times of year. This strategy is effective at preserves supporting beach nesting birds where human and canine presence causes nest abandonment and reproductive failure.

Research. Abundant opportunities exist for scientific research on natural area preserves. Baseline inventory work is often needed to gather and synthesize ecological data to inform preserve management. To the extent possible, DCR-DNH encourages and permits scientific studies that apply to conservation and restoration, or otherwise improve our knowledge of the natural world. Prospective researchers first submit a proposal and DCR Research and Collecting Permit application, which are reviewed by DNH staff. If approved, a research permit is issued to the applicant. Research methods must avoid adverse effects to natural heritage resources and physical features at the preserve. At project conclusion, researchers must remove evidence of their work (e.g., data loggers, plastic flagging, stakes, wire flags, sample location monuments, etc.) and submit a written summary report of their project results. Full details concerning stipulations and reporting requirements are found on the Natural Area Research webpage, as well as the issued permit.

Teaching and education. NAPs can provide outstanding venues for educational use, providing an opportunity to observe many rare forms of life as well as the processes that maintain their habitats. The preserves provide ideal locations for introducing people of all ages to the concept of biodiversity protection, and for educating them about natural resource management approaches used in natural areas stewardship. As with other uses, educational field trips must be managed to prevent adverse impacts to natural heritage resources. DNH staff and/or responsible volunteer instructors should be present on all group field trips to NAPs. In some circumstances, it may be appropriate to require groups to apply for a Special Use Permit with specific terms.

2. Conditionally Compatible Uses

Fishing. Whether or not fishing is a compatible public use depends on (1) the site-specific characteristics of a particular NAP and (2) the observed and documented impacts caused by the activity. For example, there may or may not be a conflict if surf fishermen use a shoreline that in

some years is used by rare beach nesting birds such as Least Terns. In years when no nesting birds are present, the use could be allowed, but seasonally prohibited when nesting activity is observed. Due to the mandated resource protection mission for all NAPs, certain permitted public use must be curtailed when negative impacts to natural heritage resources are expected or observed.

Picnicking. Visitors will find that facilities such as picnic tables, shelters, and trash receptacles are not available on state NAPs. However, there is no prohibition on picnicking. Visitors are expected to clean up after themselves and leave no trash or discarded food items behind. The Leave No Trace motto is especially appropriate on Virginia’s state natural areas.

Swimming. Swimming is not authorized on DCR-owned natural area preserves due to the concern for public safety. With no lifeguards or other staff presence on preserve shorelines, DCR cannot officially sanction swimming. However, DCR’s ownership of NAPs on the Chesapeake Bay only extends to mean low water. Thus, there is no legal basis for prohibiting visitors from wading or swimming within the public waters of the Bay adjacent to a NAP.

Sandy Shoreline Use. Some NAPs on Chesapeake Bay and Atlantic coasts have extensive sandy shorelines providing habitat for sensitive and rare species. These shorelines, with careful management, can in some cases be compatible with passive recreation activities such as bird watching, photography, and walking. At these preserves it is imperative that NAP stewards monitor for potentially harmful visitor activities (children digging in sand) and violations of State Park regulations such as allowing dogs off-leash (Appendix B). Since recreational use of shorelines can result in negative impacts to fragile beach and dune habitats, rare species populations must be monitored frequently. If significant recurring impacts are documented, visitation may need to be reduced or discontinued.

Hunting. NAPs provide habitat supporting populations of both rare and common species of Virginia’s native animals and are outstanding places for visitors to view wildlife of many kinds. Managed hunting programs are used at some NAPs to control unbalanced populations of white-tailed deer and to regulate the number of waterfowl hunters using adjacent public waters. However, hunting can result in conflicts between user groups. For example, public use by birdwatchers visiting a preserve to view migratory waterfowl is not compatible with concurrent waterfowl hunting. Likewise, use by wildlife photographers or students on a class field trip is not compatible with managed hunting on the same day to reduce a preserve’s deer population. NAP stewards therefore conduct managed hunts only on certain days and for narrowly defined management objectives.

Caving. Caves are fragile habitats and support some of the rarest and most endemic occurrences of natural heritage resources in the state. Overuse of caves has been documented to cause habitat degradation and, if prolonged or chronic, is well-known to cause damage to or extirpation of rare species of animals and alteration of cave features. For this reason, access to most caves on natural area preserves will be restricted to visitation during organized field trips led by DNH

staff or approved volunteers or following issuance of a written Research and Collection or Special Use permit from DCR-DNH. Appropriate levels and time of year restrictions for cave visitation will be determined on a cave-by-cave basis and will be incorporated into management plans for NAPs containing caves. Some limited but controlled recreational access to caves is important for educational and outreach values, as a large majority of rare species occurrences of cave associated fauna occur in caves on unprotected lands. Cave field trip participants who have visited caves on NAPs with staff or approved volunteer leaders are more likely to cave gently in relation to biological resources elsewhere and are more likely to bring potentially significant natural heritage resources occurring within private caves to the attention of DCR-DNH staff.

Geocaching. This “high-tech treasure hunt” activity is increasingly popular on public lands nationwide as GPS technology and devices make it easier for the public to search for and find “geocaches”. Natural areas managers should monitor the amount of such activity on individual preserves and, to the extent practical, stay aware of the locations of all geocaches in order to document and prevent damage to fragile sites. Caches placed too close to habitats that have potential to be impacted should be removed or relocated.

3. Incompatible Uses

Camping. Camping activities result in repeated localized intensive use and long-term degraded site effects. Even “leave-no-trace” camping causes some adverse impacts and would require monitoring. Additionally, if “no-trace” camping were allowed on state-owned preserves, increasing numbers of campers would likely request access and many would not abide by “no trace” practices. Thus, camping can reasonably be expected to cause habitat degradation and negative impacts on rare species and natural communities. For these reasons, camping is incompatible with the primary resource protection objective of the Virginia Natural Area Preserve Act and is a prohibited activity.

Mountain biking. Except for use on vehicular access roads and established parking areas designed for automobiles, the use of bicycles within state natural area preserves is prohibited. Mountain biking has become a popular outdoor activity that exerts increasing pressure on sensitive natural areas. If bicycle use has occurred in a preserve or if ready access exists, management actions will be taken to inform riders that bike riding is not permitted. If feasible or needed, access will be blocked with signs and/or barricades placed in strategic locations. Given that bike riding patterns are difficult to change once established, it is important to quickly develop strategies to protect natural heritage resources once such use is detected.

The primary reasons that mountain bikes are incompatible with natural area preserve stewardship in Virginia are (1) introduction of invasive plants (via seeds in mud/soil brought in from other biking locations), (2) creation of ideal invasive species habitat (from constant soil disturbance and trail widening from bicycle tread passage at high speed and when bikes pass), (3) soil erosion level well-beyond those of hiking-only trails, (4) negative impacts to tree roots adjacent/near trails from erosion and compaction, (5) necessity to relocate trails due to erosion,

(6) increase risk management required of the landowner/site manager for multi-use trails where hikers and bikers share the same space, and (7) negative impacts on quiet enjoyment, wildlife watching, and nature appreciation values afforded by natural area preserves.

Horseback riding. Equestrian uses are incompatible with state natural area preserve stewardship due to the well-documented negative impacts to soils and vegetation of concentrated and frequent passage of horses. Additionally, the introduction of invasive weeds from both manure and hoof-borne vectors is a documented negative aspect of horseback riding in areas managed for natural heritage resources. While infrequent use may cause small impacts, increased levels of use over time are inevitable on public lands. Thus, as with bicycles, horseback riding is an incompatible use on lands dedicated as natural area preserves.

Rock climbing. Rock outcrops and cliffs are among the most fragile of habitats and support some of the rarest occurrences of natural heritage resources in the state. In instances where rock climbing impacts natural heritage resources, it will be considered an incompatible use on state NAPs in Virginia for two reasons: (1) Repeated use by climbers at these sensitive locations is known to cause habitat degradation and, if prolonged or chronic, can cause direct population damage or extirpation of rare species of plants and animals; (2) Rock climbing is a high-risk activity that, when permitted on state lands, requires extremely high inputs of on-site staff and partner resources to ensure visitor safety and resource protection. NAP managers do not have either this capacity or a programmatic recreation focus that could justify diverting resources from the primary NAP biodiversity conservation mission as stated in the Virginia Natural Area Preserves Act (Appendix A).

Off-road vehicles. Motorized all-terrain off-road vehicles including “four-wheelers,” motorcycles/dirt bikes, and sport utility vehicles (ORVs) are prohibited within natural area preserves except for licensed vehicles on preserve access roads and established parking areas. ORVs damage hiking trails and cause severe erosion requiring expensive repairs. Noise from vehicle engines also reduces the quality of the outdoor experience for other authorized user groups and is a harassment of wildlife. The use of ORVs is perhaps the most incompatible of all public use categories on state natural area preserves.

Unleashed pets. Visitors may bring pets with them when visiting natural area preserves. However, pets must always remain under leash restraint while on DCR-owned lands. Unleashed dogs pose a particular threat to natural heritage resources and to various species of wildlife. Free-roaming dogs can cause nest abandonment in shore nesting bird colonies and directly harm or destroy ground-nesting bird eggs and young. Digging activity by dogs also causes habitat degradation on beaches protected for rare animals such as Northeastern Beach Tiger Beetles. For these reasons, all dogs, and other domestic animals that visitors bring to natural areas preserves must be always kept on leash (Appendix B).

Removal of plants, animals, minerals, and artifacts. To protect rare species habitat and cultural resources, the collection and removal of plant material, animals, minerals (rocks), and

artifacts is prohibited, and a violation of 4VAC5-30-50 (Appendix B). One exception is the non-commercial, incidental gathering of common edible species (e.g., blackberries, blueberries, mushrooms) for personal consumption – so long as collection is along established trails. A second exception is for scientific research and education purposes, for which collection of specimens may occur under the terms and conditions of an approved DCR-DNH Research and Collecting Permit.

Drones. The recreational use of drones by visitors to all DCR lands is prohibited (Appendix B). This prohibition is for various reasons including public safety, impacts on native wildlife species, and sound disturbance that detracts from the quiet experience of visiting a natural area.

Trapping of animals. As with hunting, purely recreational trapping of animals is incompatible with natural areas stewardship. Both rare and common native animal populations are protected on NAPs and may only be trapped for (1) bona fide research purposes under an issued Research and Collection permit and with researchers following established humane protocols, (2) clearly justifiable management objectives, such as periodic removal of beavers to prevent destruction of rare plant habitat within bottomlands, or to reduce destruction caused by introduced feral pigs.

Use after hours. In practice, state NAPs that provide public access facilities are open for visitation from sunrise to sunset. All facilities are designed for day use only and no DCR staff are on-site after hours to assist visitors. Section 4VAC5-30-120 of the DCR State Park Regulations makes it unlawful for any person to be present on a NAP between the hours of 10:00pm and 6:00am.

Cave and Karst Resource Management

Overview

Management plans for all NAPs supporting cave and karst resources will include a statement as to the presence or absence of karst on the property, and a list of documented caves and springs with locations. These cave locations may be derived from the official state database maintained by the Virginia Speleological Survey (VSS). Locations and descriptions of any undocumented cave (e.g., caves not in the VSS database) will be provided to the VSS. Updates to locations, descriptions, cartographic surveys, and other investigations or management actions of caves on State NAPs will be provided to the VSS.

The primary stewardship goal for caves and other karst features (sinkholes, springs) is the protection of the habitat these features provide for rare, threatened, or endangered vertebrates, invertebrates, and natural communities.

Biological inventory information for individual caves on NAPs should be present in biotics, but additional information may be in the karst. An updated list of biological resources associated with each cave should be developed and maintained collaboratively by the respective Regional Steward and DNH Inventory Section Karst Program staff. This information will guide management of each specific cave and should be part of the list of documented caves and springs associated with each NAP.

Significance under the Virginia Cave Protection Act. While biological sensitivity is the foremost impetus for NAP cave stewardship, DCR-DNH staff will also consider other categories of speleological significance. As mandated by the Virginia Cave Protection Act (see Appendix C.), the Virginia Cave Board considers 11 additional categories in evaluation of the significance status of a cave. The significant cave list is maintained by the VSS for the Virginia Cave Board. The complete list of categories, including biological, is:

- 1.) Archaeological
- 2.) Biological
- 3.) Depth
- 4.) Economic
- 5.) Esthetic
- 6.) Geological
- 7.) Historical
- 8.) Hydrological
- 9.) Paleontological
- 10.) Length
- 11.) Recreational
- 12.) Atmospheric

The Cave Board/VSS criterion for a cave to be designated a Significant Cave under the Cave Protection Act is for the cave to be considered as significant in at least three of the above listed categories or designated as being “extremely significant” in one or more category. Significance definitions for each category are maintained by the VSS. For purposes of Natural Heritage stewardship, all caves should be considered to have potential biological significance.

All caves have potential use by bats, depending on the species, as a winter hibernaculum. In addition, a small subset of caves may be used by bats during the summer. Winter hibernation period in general for bats in Virginia caves starts around November 1 and continues through April 1. Summer use of caves by bats is less common and may occur intermittently rather than seasonally.

Caves may include both terrestrial and aquatic invertebrate communities. Terrestrial communities include transient organic matter communities near cave entrances, riparian communities adjacent to cave streams and frequently within their flood zones, communities proximal to drip pools, and communities associated with guano concentrations and/or animal feces. Aquatic communities are found in drip pools, cave streams, and phreatic (water table) habitats. Note that both aquatic and terrestrial communities typically occur in pairs – e.g., cave stream and riparian communities. Community types present in each cave should be maintained as part of the list of biological resources mentioned above.

Karst springs. Karst springs are places where water from karst aquifers, including in many cases cave streams, returns to the surface supplying base flow to surface waters. Karst springs not only support habitat for downstream aquatic resources, but also support their own unique faunal communities and species, which in many cases are even more spatially restricted than subterranean communities. Furthermore, the quality of water flowing from a spring reflects the habitat quality of inaccessible subterranean habitat within the spring’s recharge area (aka watershed). Characterization of spring associated communities and monitoring and protection of spring water should be of equal importance to cave habitat protection on preserves where springs, especially karst springs, are present.

Visitor Use

Cave systems are inherently fragile; caving trips of a purely recreational (i.e. outdoor adventure) nature are an incompatible and inappropriate use. Visitors’ use of caves (and the attendant disturbance) must be balanced with an opportunity to educate or gain information central to the management of the cave. The National Speleological Society motto of “Take nothing but pictures, leave nothing but footprints, and kill nothing but time” applies, with two caveats. Visitor access to most caves on natural area preserves will be restricted to designated trails or observation points *only*, or to visitation during an organized field trip, or following issuance of a written Research and Collection or Special Use Permit from DCR-DNH. Most cave studies will require both an NAP research permit and a DCR Cave research permit as defined under the Cave Protection Act. DCR Natural Heritage and Inventory staff are exempt from these permit requirements when conducting research or management actions on a state NAP. DCR-DNH staff

(including members from inventory, protection, and stewardship) will develop appropriate visitor use specifications for each cave in the Natural Area Preserve System based on the cave's biological sensitivity and speleological significance.

Visitor use specifications for each cave will be developed by the Preserve Steward and Karst Protection Coordinator and approved by a DCR-DNH oversight committee (consisting of the Division Director, Stewardship Chief, Regional Steward, Karst Protection Coordinator, and Chief Biologist). Each cave's visitor use specifications will include: the maximum number of visitors per cave trip (group size) and the frequency of cave trips allowed (e.g., X trips per year with at least Y weeks between trips). Visitor use specifications will also address seasonal closures based on habitat requirements of species present in the caves (e.g., winter closures of bat hibernacula). Every cave's visitor use specifications will also address possible visitor use conflicts, specify the requisite training and experience for cave visitors, and provide detailed emergency response procedures. Where applicable, DCR-DNH will establish relationships (in the form of Memoranda of Understanding and renewable Special Use Permits) with local speleological clubs who will assist with the administration of these visitor use specifications.

Operations Management

Gates. Restricting visitor access may require physically restricting the cave entrance with a cave gate. The decision to gate a cave on a natural area preserve will consider the degree or likelihood of unauthorized visitation, the biological sensitivity and speleological significance of the cave as described above, and any negative impacts associated from installation of a cave gate (e.g., drawing attention to the cave, entrapment of flood debris, esthetic impacts, alteration of air, water, and nutrient flow). Caves will not be gated unless a DCR-DNH oversight committee (consisting of the Division Director, Stewardship Chief, the Regional Steward, the Karst Protection Coordinator, and Chief Biologist) concur that physically restricting access provides significant benefit to the stewardship of the cave's biological and speleological resources.

Cave mapping and exploration. Many caves have not been fully explored. As new passages are discovered, or as new passages become accessible due to changes in hydrology, they will be explored, surveyed, and mapped. Proposals to modify cave passage dimensions to permit additional exploration will be considered on a case by case basis by a DCR-DNH oversight committee (consisting of the Division Director, Stewardship Chief, Regional Steward, Karst Protection Coordinator, and Chief Biologist).

Scientific studies. Characterization of cave habitat using methods such as logging sensors, biological census, and dye tracing methods will generally be allowed if conducted by staff or by researchers with the appropriate permits. Take of invertebrate specimens for taxonomic or molecular study will generally be allowed, except in cases where the species is legally protected, or where the Karst Protection Coordinator or Regional Steward consider populations to be too low to tolerate take. Cases involving state or federally protected species will require appropriate permits and concurrence from the U.S. Fish and Wildlife Service and/or the Virginia Department

of Wildlife Resources. Archaeological investigations require prior coordination with and approval of the Virginia Department of Historical Resources.

Outreach. Cave and karst stewardship requires effective outreach. Information on cave and karst resources should be provided either on site (in the form of signs, kiosks, and regularly scheduled field trips) or off site (printed materials for distribution, displays, and presentations) to demonstrate to the public the importance of cave and karst resources. Photos and other audio-visual media displaying cave and karst resources will be made available on the world wide web as an alternative to direct visitation and to maximize public awareness of the cave and karst resources protected in Natural Area Preserves.

Resource Management

Below ground protection. Unnecessary and / or excessive visitor use can threaten a cave's biological and speleological resources. DCR-DNH staff will periodically assess baseline populations of natural heritage and other cave resources and use these data and other qualitative assessments of cave conditions, to evaluate the appropriateness of visitor use levels and adjust them as deemed necessary by a DCR-DNH oversight committee (consisting of the Division Director, Stewardship Chief, Regional Steward, Karst Protection Coordinator, and Chief Biologist). Additional research and monitoring will highlight naturally occurring (vs. anthropogenic) variability in natural heritage resource populations.

Above ground protection. Monitoring visitor use is not the only way to protect the cave's biological and speleological resources. Harmful pollutants from above can and do enter the cave system through recharge points such as fissures or sinkholes. In many cases, the watersheds for springs and for streams in caves on NAPs extend beyond preserve boundaries. In some cases, passages of larger caves with entrances in NAPs may extend beneath adjacent properties off of the preserve. Delineation of the recharge / discharge points of a cave system is crucial to identifying and mitigating above ground threats. DCR-DNH staff will compile information on the hydrologic systems of caves (conducting additional dye tracing research where appropriate) and identify critical recharge areas. Once threats to the biological resources have been identified, a combination of outreach (including the promotion of appropriate land use, conservation easements, and sinkhole cleanouts) and property acquisition will be pursued to minimize above ground threats.

Modification of Guidelines

The Natural Area Preserve Management Guidelines were first approved by DCR Director David Brickley on December 8, 2000, and by the Board of Conservation and Recreation on December 12, 2000. Guideline revisions were made in early 2010 and approved by DCR Director David Johnson and the Board of Conservation and Recreation on June 15, 2010. A third revision of the guidelines was completed in early 2023, with approval by DCR Director Matthew Wells and the Board of Conservation and Recreation on May 4, 2023. Modifications to these Guidelines shall require the approval of the DCR Director, or his/her designee.

Appendices

A – Virginia Natural Area Preserves Act

B – Virginia State Parks Regulations

C – Virginia Cave Protection Act

Appendix A – Virginia Natural Area Preserves Act

CODE OF VIRGINIA

Article 3.

Virginia Natural Area Preserves Act.

' 10.1-209. Definitions.

Whenever used or referred to in this article, unless a different meaning clearly appears from the text:

"Fund" means the Natural Area Preservation Fund.

"Dedication" means the transfer to the Commonwealth of an estate, interest, or right in a natural area by any manner authorized in ' 10.1-213.

"Instrument of dedication" means any written document by which an estate, interest, or right in a natural area conveys formal dedication as a natural area preserve pursuant to the provisions of ' 10.1-213.

"Natural area" means any area of land, water, or both land and water, whether publicly or privately owned, that retains or has reestablished its natural character, though it need not be completely natural and undisturbed; or which is important in preserving rare or vanishing flora, fauna, native ecological systems, geological, natural historical, scenic or similar features of scientific or educational value benefiting the citizens of the Commonwealth.

"Natural area preserve" means a natural area that has been dedicated pursuant to ' 10.1-213.

"Natural heritage resources" means the habitat of rare, threatened, or endangered plant and animal species, rare or state significant natural communities or geologic sites, and similar features of scientific interest benefiting the welfare of the citizens of the Commonwealth.

"Program" means the Virginia Natural Heritage Program.

"Owner" means any individual, corporation, partnership, trust or association, and all governmental units except the state, its department, agencies or institutions.

"Registry" means an agreement between the Director and the owner of a natural area to protect and manage the natural area for its specified natural heritage resource values.

"System" means the state system of natural area preserves established under ' 10.1-214. (1989, c. 553.)

' 10.1-210. Additional powers of the Department.

In addition to other powers conferred by law and subject to the provisions of this article, the Department shall have the power, which may be delegated by the Director:

1. To establish criteria for the selection, registration and dedication of natural areas and natural area preserves.
2. To purchase, lease or otherwise acquire in the name of the Commonwealth, using moneys from the Natural Area Preservation Fund, lands suitable for natural area preserves.

3. To acquire by gift, devise, purchase, or otherwise, absolutely or in trust, and to hold and, unless otherwise restricted by the terms of a gift or devise, to encumber, convey or otherwise dispose of, any real property, any estate or interests therein, or products on or derived from such real property, as may be necessary and proper in carrying into effect the provisions of this article.
4. To accept, hold and administer gifts and bequests of money, securities, or other property, absolutely or in trust, made for purposes of this article. Unless otherwise restricted by the terms of the gift or bequest, the Department may sell, exchange or otherwise dispose of such money, securities or other property given or bequeathed to the Department. The principal of such funds, together with the income and all revenues derived therefrom, shall be placed in the Natural Area Preservation Fund.

– **10.1-211. Additional duties of the Department.**

– In addition to other duties conferred by law, the Department shall, subject to the provisions of this article:

1. Preserve the natural diversity of biological resources of the Commonwealth.
2. Maintain a Natural Heritage Program to select and nominate areas containing natural heritage resources for registration, acquisition, and dedication of natural areas and natural area preserves.
3. Develop and implement a Natural Heritage Plan that shall govern the Natural Heritage Program in the creation of a system of registered and dedicated natural area preserves.
4. Publish and disseminate information pertaining to natural areas and natural area preserves.
5. Grant permits to qualified persons for the conduct of scientific research and investigations within natural area preserves.
6. Provide recommendations to the Commissioner of the Department of Agriculture and Consumer Services and to the Board of Agriculture and Consumer Services on species for listing under the Virginia Endangered Plant and Insect Act, prior to the adoption of regulations therefor.
7. Provide recommendations to the Executive Director of the Department of Game and Inland Fisheries and to the Board of Game and Inland Fisheries on species for listing under the Virginia Endangered Species Act, prior to the adoption of regulations therefor.
8. Cooperate with other local, state and federal agencies in developing management plans for real property under their stewardship that will identify, maintain and preserve the natural diversity of biological resources of the Commonwealth.
9. Provide for management, development and utilization of any lands purchased, leased or otherwise acquired and enforce the provisions of this article governing natural area preserves, the stewardship thereof, the prevention of trespassing thereon, or other actions deemed necessary to carry out the provisions of this article.

– **10.1-212. Virginia Natural Heritage Program.**

– A. The Virginia Natural Heritage Program is hereby established and shall be administered by the Department.

B. For purposes of this Program the Department shall:

1. Produce an inventory of the Commonwealth's natural heritage resources, including their location and ecological status.
 2. Maintain a natural heritage data bank of inventory data and other relevant information for ecologically significant sites supporting natural heritage resources. Information from this data bank will be made available to public agencies and may be made available to private institutions or individuals for environmental assessment and land management purposes.
 3. Develop a Natural Heritage Plan which establishes priorities for the protection, acquisition and management of registered and dedicated natural areas and natural area preserves.
- C. The Program shall include other functions as may be assigned by the Director for the registration, dedication, protection and stewardship of natural areas and natural area preserves.

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▸ **10.1-213. Dedication of natural area preserves.**

- _A. The Director may, in the name of the Department, accept the dedication of natural areas on lands deemed by the Director to qualify as natural area preserves under the provisions of this article. Natural area preserves may be dedicated by voluntary act of the owner. The owner of a qualified natural area may transfer fee simple title or other interest in land to the Commonwealth. Natural area preserves may be acquired by gift, grant, or purchase.
- B. Dedication of a natural preserve shall become effective only upon acceptance of the instrument of dedication by the Director.
- C. The instrument of dedication may:
1. Contain restrictions and other provisions relating to management, use, development, transfer, and public access, and may contain any other restrictions and provisions as may be necessary or advisable to further the purposes of this article;
 2. Define, consistently with the purposes of this article, the respective rights and duties of the owner and of the Commonwealth and provide procedures to be followed in case of violations of the restrictions;
 3. Recognize and create reversionary rights, transfers upon conditions or with limitations, and gifts over; and
 4. Vary in provisions from one natural area preserve to another in accordance with differences in the characteristics and conditions of the several areas.
- D. Public departments, commissions, boards, counties, municipalities, corporations, colleges, universities and all other agencies and instrumentalities of the Commonwealth and its political subdivisions are empowered to dedicate suitable areas within their jurisdiction as natural area preserves.
- E. Subject to the approval of the Governor, the Commonwealth may enter into amendments to the instrument of dedication upon finding that the amendment will not permit an impairment, disturbance, use, or development of the area inconsistent with the provisions of this article. If the fee simple estate in the natural area preserve is not held by the Department under this article, no amendment may be made without the written consent of the owner of the other interests therein.

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▸ **10.1-214. Virginia natural area preserves system established.**

_A state system of natural area preserves is hereby established and shall be called the Virginia Natural Area Preserves System. The system shall consist of natural area preserves dedicated as provided in ' 10.1-213. Once dedicated, a natural area preserve shall be managed in a manner consistent with continued preservation of the natural heritage resources it supports.

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' **10.1-215. Establishment of fund.**

_A. A fund consisting of general fund appropriations, gifts, bequests and devises known as the Natural Area Preservation Fund is hereby established.

B. Any funds remaining in such fund at the end of the biennium, including all appropriations, gifts, bequests and devises, and interest accruing thereon, shall not revert to the General Fund but shall remain in the Natural Area Preservation Fund.

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' **10.1-216. Natural area registry.**

_A. The Department shall maintain a state registry of voluntarily protected natural areas to be called the Virginia Registry of Natural Areas. Registration of natural areas shall be accomplished through voluntary agreement between the owner of the natural area and the Director. State-owned lands may be registered by agreement with the agency to which the land is allocated. Registry agreements may be terminated by either party at any time, and upon such termination the area shall be removed from the registry.

B. A natural area shall be registered when an agreement to protect and manage the natural area for its specified natural heritage resource has been signed by the owner and the Director. The owner of a registered natural area shall be given a certificate signifying the inclusion of the area in the registry.

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' **10.1-217. Gifts, devises and bequests.**

_Gifts, devises or bequests, whether personal or real property, and the income derived therefrom, accepted by the Director, shall be deemed as gifts to the Commonwealth, which shall be exempt from all state and local taxes, and shall be regarded as the property of the Commonwealth for the purposes of all tax laws.

(1989, c. 553.)

Appendix B – Virginia State Parks Regulations

Title 4 – Virginia Administrative Code Agency 5. Department of Conservation and Recreation Chapter 30. Virginia State Parks Regulations Derived from Statutory Authority § [10.1-104](#) of the Code of Virginia

(Effective 3/1/2022)

4VAC5-30-50. Flowers, plants, minerals, etc.

No person shall remove, destroy, cut down, scar, mutilate, injure, deface, take, or gather in any manner any tree, flower, fern, shrub, rock or plant, historical artifact, or mineral in any park unless a special permit has been obtained for scientific collecting. Edible fruits, berries, fungi, or nuts may be collected for personal or individual use only. To obtain a special permit for scientific collecting in a state park, a natural area, or a natural area preserve, a Research and Collecting Permit Application must be completed and provided to the department in a manner specified by the department.

4VAC5-30-60. Buildings, signs, structures, etc.

No person shall in any manner injure, deface, disturb, destroy, or disfigure any part of any park, nor any building, sign, equipment or any other property found therein.

4VAC5-30-70. Disposal of refuse, garbage, etc.

No person shall deposit in any part of the park any garbage, sewerage, refuse, waste, cigarette or cigar butts, vegetables, foodstuffs, boxes, cans, plastics, paper, or other litter or other waste material or obnoxious material, except in containers designed for such purposes.

4VAC5-30-80. Pollution of waters.

No person shall in the streams, lakes or other waters of any park bathe dogs or other animals, wash vehicles or clothing, or throw, cast, lay, drop, or discharge into or leave in the streams, lakes or other waters of the park or in any storm sewer or drain flowing into said waters, any substance, matter or thing, liquid or solid, which may or shall result in the pollution of said waters.

4VAC5-30-90. Lawful orders.

No person shall disobey a lawful order of a conservation officer.

4VAC5-30-95. Public urination or defecation.

Urinating or defecating other than at the places provided therefore is prohibited, with the exception for path or trail areas or other remote sites that may not have utilities provided. In such cases, urinating or defecating should not be seen by the public and should take place at least 200 feet from any waterway or trail.

4VAC5-30-120. Opening and closing hours.

No person except employees or officers of the department shall be allowed within the park between the hours of 10 p.m. and 6 a.m. except cabin guests and campers unless participating in special park sanctioned activities.

4VAC5-30-130. Charges.

No person shall make use of, gain admittance to, or attempt to use or gain admittance to the facilities in any park for the use of which a charge is made by the department unless he shall pay the charge or price fixed by the department.

4VAC5-30-140. Picnic area.

Picnicking in any park is allowed only in the areas designated as picnic areas.

4VAC5-30-150. Camping.

A. Reservation. Camping will be conducted only under a valid reservation. A reservation is obtained from the individual park office, through the department's designated reservation system, or through the completion of the self-pay process. Payment must be submitted in accordance with all applicable prices and payment policies. Only an individual 18 years of age or older who is a member of and accepts responsibility for the camping party may be issued a camping reservation.

Camping may only be performed in strict accordance with the terms and conditions of the reservation. Any violation of the terms of the reservation by any member of the party shall constitute grounds for reservation revocation by the department, or by its authorized representative, whose action shall be final. In case of revocation of any reservation, all moneys paid for or on account thereof shall at the option of the department be forfeited and retained by the department.

B. Occupancy. Occupancy of each campsite shall be limited to not more than six persons or one immediate family, or other maximum occupancy permitted through an approved special use permit.

C. Camping units, equipment, and vehicles. All camping units, equipment, and vehicles shall be placed within the perimeter of the designated campsite without infringing on adjoining campsites or vegetation. Where high impact areas have been designated, all camping units, equipment, and vehicles shall be placed within the defined borders of the high impact area. There is a maximum of two camping units allowed per campsite; no more than one axled camping unit is allowed per campsite.

D. Camping periods. No camping shall be permitted in excess of 14 nights within a 30-day period. Park managers shall have the authority to increase the number of nights permitted by an approved special use permit. Any personal property left at the campsite after the reservation period check-out time shall be removed by park staff at the owner's expense.

E. Motor vehicles. Only two motor vehicles in addition to the camping unit allowed under subsection C of this section are permitted on a campsite with no additional prices. All motor vehicles shall be parked in the designated parking area of each campsite. Any additional vehicles beyond two are subject to daily parking prices and shall be parked at designated overflow parking areas.

F. Visitors. No visitor shall be allowed before 6 a.m. and all visitors must leave the campground area by 10 p.m. All visitors shall be charged the appropriate daily parking or admissions prices prior to entering the park.

G. Quiet hours. Quiet hours in the campgrounds shall be from 10 p.m. to 6 a.m. Excessive noise, amplified music, or other disturbances that can be heard outside the perimeters of the user's campsite are prohibited during the designated quiet hours.

H. Pets. Domestic and household pets are permitted in campgrounds. Owners are responsible for cleaning up after their pets and for ensuring their pets do not disturb other campers. Horses and other livestock are not permitted unless facilities are specifically provided for them.

I. Generators. The use of combustion generators at campsites and in the campground is prohibited except when used by the department to perform necessary construction, maintenance, or repairs or for an activity approved by special permit.

J. Damage to any campground or campsite, not considered normal wear and tear, may be billed to the person registering for the campground or campsite on an itemized cost basis in accordance with the reservation acknowledgment or reservation confirmation.

4VAC5-30-160. Cabins.

A. Use of state park cabins, camping cabins, lodges, and yurts shall only be permitted pursuant to the reservation acknowledgment, reservation confirmation, or established department policy dealing with reservations, registration, occupancy, prices, length of stay, and rental period.

B. Damage to any park cabin, camping cabin, lodge, or yurt not considered normal wear and tear may be billed to the person registering for the cabin on an itemized cost basis in accordance with the reservation acknowledgment or reservation confirmation.

4VAC5-30-170. Swimming, where permitted.

No person shall bathe, wade, or swim in any department-owned waters in any park except at such times and in such places as the department may designate as swimming areas.

4VAC5-30-190. Boating.

Boating of any kind in a swimming area is prohibited.

4VAC5-30-220. Fires (Fires, discard of lighted match, cigarette, cigar, or other burning object)

No person shall kindle, build, maintain, or use a fire other than in places provided or designated for such purposes in any park. Any fire shall be continuously under the care and direction of a competent person older than 16 years of age from the time it is kindled until it is extinguished. No person within the confines of any park shall throw away or discard any lighted match, cigarette, cigar, charcoal, or other burning object. Any lighted match, cigarette, cigar, charcoal, or other burning object must be entirely extinguished before being thrown away or discarded.

4VAC5-30-230. Smoking.

No person shall smoke or use electronic vaporizing devices in any structure or place in any park where smoking is prohibited. Smoking or the use of electronic vaporizing devices may be forbidden by the department or its authorized agent in any part of any park.

4VAC5-30-240. Hunting, possession, pursue, trap, shoot, injure, kill or molest birds or animals.

No person within the confines of any park, shall hunt, pursue, trap, shoot, injure, kill or molest in any way any bird or animal, nor shall any person have any wild bird or animal in his possession within the park, provided, however, that this regulation shall not apply in areas designated for hunting by the department.

4VAC5-30-250. Fishing (License required, prohibition of bow-fishing or the taking of amphibians)

The taking of fish by hook and line, the taking of bait fish by cast net, and crabbing by line and net is permitted in the designated areas in each park, the only stipulations being that persons taking fish by hook and line must have a state fishing license required by law and comply with the applicable DWR or Marine Resources Commission rules and regulations. This is intended to be a complete list of authorized fishing activities in parks and does not allow other activities requiring fishing licenses such as bow-fishing or the taking of amphibians, which are prohibited.

4VAC5-30-260. Animals at large.

No person shall cause or permit any animal owned by him, in his custody, or under his control, except an animal restrained by a leash not exceeding six feet in length, to enter any park, and each such animal found at large may be seized and disposed of as provided by the law or ordinance covering disposal of stray animals on highways or public property then in effect at the place where such stray animals may be seized. No animal shall be left unattended by its owner in any park at any time, except for animals in designated stables. Animals shall not be allowed in bathing areas under any circumstances, except for service or hearing dogs identifiable in accordance with [§ 51.5-44](#) of the Code of Virginia.

4VAC5-30-270. Sports and games; when permitted.

No games or athletic contest shall be allowed in any park except in such places as may be designated therefor.

4VAC5-30-274. Foot path or trail use.

Persons shall only use paths, trails, or other designated areas in any park. No person shall engage in an activity expressly prohibited by a trail safety sign. With the exception of wheelchairs, power-driven mobility devices are only allowed on those paths or trails that have been designated by the department as appropriate for such use.

4VAC5-30-276. Bicycle path use.

No person shall use a bicycle, an electric power-assisted bicycle, or a similarly propelled device in any area other than designated bicycle paths in any park. Any authorized use of an electric power-assisted bicycle will be limited to class one or class two bicycles as defined in [§ 46.2-100](#) of the Code of Virginia. No person shall engage in an activity expressly prohibited by park rules and regulations.

4VAC5-30-280. Bridle path use.

No person shall use, ride, or drive a horse or other animal in any park except along a bridle path, to or from a parking area associated with such bridle path, or other designated area. No person shall engage in an activity expressly prohibited by park rules and regulations.

4VAC5-30-290. Vehicles; where prohibited.

No person shall drive a motor vehicle in any park within or upon a safety zone, walk, bicycle or bridle path, fire truck trail, service road or any part of any park not designated for, or customarily used by motor vehicles, except properly authorized individuals engaged in fire management, park maintenance, or other necessary park-related activities.

4VAC5-30-300. Parking.

No owner or driver shall cause or permit a vehicle to stand anywhere in any park outside of designated parking spaces, except to receive or discharge passengers in a reasonable amount of time in areas where standing vehicles are not prohibited. Parking in designated camping or cabin parking spaces is prohibited unless the individual is registered as an occupant of or a visitor to that specific campsite or cabin.

4VAC5-30-310. Obstructing traffic.

No person shall cause or permit a vehicle to obstruct traffic by unnecessary stopping in any park.

4VAC5-30-330. Excessive loads.

No person shall operate an excessively loaded vehicle anywhere in any park. The determination of whether a load is excessive will be made by park management and will be based upon the load and the condition of the road.

4VAC5-30-340. Commercial enterprises.

No person shall, in any park, sell or offer for sale, hire, lease or let out, any object or merchandise, property, privilege, service or any other thing, or engage in any business or erect any building, booth, tent, stall or any other structure whatsoever for a commercial purpose.

No person to whom property of any park has been entrusted for personal use shall hire, lease, let out, or sell the same to any other person.

4VAC5-30-360. Commercial vehicles.

No person shall operate a bus, taxicab or other commercial vehicle designed or used for the transportation of passengers or property within any park, except for the arranged pickup or delivery of park users.

4VAC5-30-370. Advertising.

No sign, notice, or advertisements of any nature shall be erected or posted at any place within any park, nor shall any noise be made for the purpose of attracting attention to any exhibition of any kind except for services, programs, and events approved by the park management.

4VAC5-30-380. Meetings and exhibitions.

No person shall in any park erect any structure, stand or platform, hold any meeting, or exhibition, perform any ceremony, or make any speech or address if it limits or impacts the ability of the general public to utilize the park for the purposes for which it was established, may cause injury or damage to park resources, or impairs the operation of the park facilities or delivery of services.

4VAC5-30-390. Alms and contributions.

No person shall within any park solicit alms (something, such as money or food, given freely to relieve the poor) or contributions for any purpose.

4VAC5-30-400. Aviation.

No person shall voluntarily land or unlawfully operate within or upon any park, any airplane, remote control model aircraft, helicopter, unmanned aerial system, drone, balloon, parachute, or other apparatus for aviation. "Voluntarily" in this connection shall mean anything other than a forced landing. Rescue and evacuation aircraft are exempt for emergencies and approved training exercises.

4VAC5-30-410. Importation of firewood.

A. The Director of the Department of Conservation and Recreation may prohibit the importation of firewood or certain types of firewood into any park or allow such entry only under specified conditions when such firewood may be infected or infested with a species of concern. Any firewood transported to the park by a person found to be in violation of such prohibition shall be confiscated and destroyed. Should any person charged under this section be found not guilty, the person shall be reimbursed for only the cost of the firewood.

B. When the director makes a written determination to implement subsection A of this section, the following minimum requirements apply:

1. Such determination shall be posted to the department's website and posted at the park where applicable.
2. Firewood to be used by any person within a park must be purchased from the park, must be proven to be from a certified source in accordance with subdivision 3 of this subsection if transported to the park, or may be collected from within the confines of the park in accordance with park policy. The department may allow for the sale or distribution of firewood within the park with prior written agreement that it has been treated in accordance with subdivision 3 of this subsection. Firewood includes all wood, processed or unprocessed, meant for use in a campfire. Such ban shall not include scrap building materials, such as 2x4s; but may extend to wood pallets as determined by the director.
3. Firewood certified to be sold and distributed within the park by a firewood dealer shall be subject to at least one of the following conditions:
 - a. Exclude all ash tree material from the firewood production area. Dealers will have to demonstrate ability to identify and separate firewood species.
 - b. Remove bark and outer half inch of sapwood off of all nonconiferous firewood.
 - c. Kiln dry all nonconiferous firewood to USDA specifications.
 - d. Heat treat all nonconiferous firewood to USDA specifications.
 - e. Fumigate all nonconiferous firewood to USDA specifications.
 - f. Offer conclusive proof demonstrating to the satisfaction of the department that the origin of the wood was from a noninfected area.
 - g. Offer conclusive proof demonstrating to the satisfaction of the department that the wood containing the infecting or infesting species of concern has been properly treated and the species is controlled by an alternative control mechanism.

The director may eliminate or restrict conditions offered in this subsection as determined to be necessary to properly address the infecting or infesting species of concern to the satisfaction of the department.

4VAC5-30-420. Release of domestic animals or wildlife on park property.

No person shall release domestic animals, fish, or wildlife captured or propagated elsewhere into any park, unless approved by the park management.

4VAC5-30-422. Feeding wildlife prohibited.

No person shall feed wildlife in any park, except for park sponsored programmatic activities.

Appendix C – Virginia Cave Protection Act

CODE OF VIRGINIA
Title 10.1 Conservation
Chapter 10

Cave Protection Act

§ 10.1-1000. Definitions.

As used in this chapter, unless the context requires a different meaning:

"Board" means the Cave Board.

"Cave" means any naturally occurring void, cavity, recess, or system of interconnecting passages beneath the surface of the earth or within a cliff or ledge including natural subsurface water and drainage systems, but not including any mine, tunnel, aqueduct, or other man-made excavation, which is large enough to permit a person to enter. The word "cave" includes or is synonymous with cavern, sinkhole, natural pit, grotto, and rock shelter.

"Cave life" means any rare or endangered animal or other life form which normally occurs in, uses, visits, or inhabits any cave or subterranean water system.

"Commercial cave" means any cave utilized by the owner for the purposes of exhibition to the general public as a profit or nonprofit enterprise, wherein a fee is collected for entry.

"Gate" means any structure or device located to limit or prohibit access or entry to any cave.

"Material" means all or any part of any archaeological, paleontological, biological, or historical item including, but not limited to, any petroglyph, pictograph, basketry, human remains, tool, beads, pottery, projectile point, remains of historical mining activity or any other occupation found in any cave.

"Owner" means a person who owns title to land where a cave is located, including a person who owns title to a leasehold estate in such land, and including the Commonwealth and any of its agencies, departments, boards, bureaus, commissions, or authorities, as well as counties, municipalities, and other political subdivisions of the Commonwealth.

"Person" means any individual, partnership, firm, association, trust, or corporation or other legal entity.

"Sinkhole" means a closed topographic depression or basin, generally draining underground, including, but not restricted to, a doline, uvala, blind valley, or sink.

"Speleogen" means an erosional feature of the cave boundary and includes or is synonymous with anastomoses, scallops, rills, flutes, spongework, and pendants.

"Speleothem" means a natural mineral formation or deposit occurring in a cave. This includes or is synonymous with stalagmite, stalactite, helectite, shield, anthodite, gypsum flower and needle, angel's hair, soda straw, drapery, bacon, cave pearl, popcorn (coral), rimstone dam, column, palette, flowstone, et cetera. Speleothems are commonly composed of calcite, epsomite, gypsum, aragonite, celestite, and other similar minerals.

1979, c. 252, § 10-150.12; 1988, c. 891.

§ 10.1-1001. Cave Board; qualifications; officers.

A. The Cave Board is continued within the Department of Conservation and Recreation and shall consist of the Director of the Department of Historic Resources, or his designee, serving in an ex officio capacity and eleven citizens of Virginia appointed by the Governor for four-year terms. Appointments shall be made on the basis of activity and knowledge in the conservation, exploration, study and management of caves.

B. The Cave Board shall meet at least three times a year. Six members shall constitute a quorum for the transaction of business. The Board shall annually elect a chairman, vice-chairman and recording secretary and such other officers as the Board deems necessary.

1979, c. 433, §§ 9-152.1, 9-152.2; 1980, c. 745; 1984, c. 750; 1985, c. 448; 1988, c. 891; 1989, c. 656.

§ 10.1-1002. Powers and duties of Cave Board.

A. The Cave Board may perform all tasks necessary to carry out the purposes of this chapter, including the following:

1. Accept any gift, money, security or other source of funding and expend such funds to effectuate the purposes of this chapter.
2. Serve as an advisory board to any requesting state agency on matters relating to caves and karst.
3. Conduct and maintain an inventory of publicly owned caves in Virginia.
4. Provide cave management expertise and service to requesting public agencies and cave owners.
5. Maintain a current list of all significant caves in Virginia and report any real and present danger to such caves.
6. Provide cave data for use by state and other governmental agencies.
7. Publish or assist in publishing articles, pamphlets, brochures or books on caves and cave-related concerns.
8. Facilitate data gathering and research efforts on caves.

9. Advise civil defense authorities on the present and future use of Virginia caves in civil defense.
10. Advise on the need for and desirability of a state cave recreation plan.
11. Inform the public about the value of cave resources and the importance of preserving them for the citizens of the Commonwealth.

B. The Cave Board shall have the duty to:

1. Protect the rare, unique and irreplaceable minerals and archaeological resources found in caves.
2. Protect and maintain cave life.
3. Protect the ground water flow which naturally occurs in caves from water pollution.
4. Protect the integrity of caves that have unique characteristics or are exemplary natural community types.
5. Make recommendations to interested state agencies concerning any proposed rule, regulation or administrative policy which directly affects the use and conservation of caves in this Commonwealth.
6. Study any matters of special concern relating to caves and karst.

1979, c. 252, § 10-150.11; 1979, c. 433, §§ 9-152.1, 9-152.3 to 9-152.5; 1980, c. 745; 1984, cc. 734, 750; 1985, c. 448; 1988, c. 891.

§ 10.1-1003. Permits for excavation and scientific investigation; how obtained; penalties.

A. In addition to the written permission of the owner required by § [10.1-1004](#) a permit shall be obtained from the Department of Conservation and Recreation prior to excavating or removing any archaeological, paleontological, prehistoric, or historic feature of any cave. The Department shall issue a permit to excavate or remove such a feature if it finds with the concurrence of the Director of the Department of Historic Resources that it is in the best interest of the Commonwealth and that the applicant meets the criteria of this section. The permit shall be issued for a period of two years and may be renewed upon expiration. Such permit shall not be transferable; however, the provisions of this section shall not preclude any person from working under the direct supervision of the permittee.

B. All field investigations, explorations, or recovery operations undertaken under this section shall be carried out under the general supervision of the Department and in a manner to ensure that the maximum amount of historic, scientific, archaeological, and educational information may be recovered and preserved in addition to the physical recovery of objects.

C. A person applying for a permit pursuant to this section shall:

1. Be a historic, scientific, or educational institution, or a professional or amateur historian, biologist, archaeologist or paleontologist, who is qualified and recognized in these areas of field investigations.
2. Provide a detailed statement to the Department giving the reasons and objectives for excavation or removal and the benefits expected to be obtained from the contemplated work.
3. Provide data and results of any completed excavation, study, or collection at the first of each calendar year.
4. Obtain the prior written permission of the owner if the site of the proposed excavation is on privately owned land.
5. Carry the permit while exercising the privileges granted.

D. Any person who fails to obtain a permit required by subsection A hereof shall be guilty of a Class 1 misdemeanor. Any violation of subsection C hereof shall be punished as a Class 3 misdemeanor, and the permit shall be revoked.

E. The provisions of this section shall not apply to any person in any cave located on his own property.

1979, c. 252, § 10-150.16; 1982, c. 81; 1984, c. 750; 1988, c. 891; 1989, c. 656.

§ 10.1-1004. Vandalism; penalties.

A. It shall be unlawful for any person, without express, prior, written permission of the owner, to:

1. Break, break off, crack, carve upon, write, burn, or otherwise mark upon, remove, or in any manner destroy, disturb, deface, mar, or harm the surfaces of any cave or any natural material which may be found therein, whether attached or broken, including speleothems, speleogens, and sedimentary deposits. The provisions of this section shall not prohibit minimal disturbance for scientific exploration.
2. Break, force, tamper with, or otherwise disturb a lock, gate, door, or other obstruction designed to control or prevent access to any cave, even though entrance thereto may not be gained.
3. Remove, deface, or tamper with a sign stating that a cave is posted or citing provisions of this chapter.
4. Excavate, remove, destroy, injure, deface, or in any manner disturb any burial grounds, historic or prehistoric resources, archaeological or paleontological site or any part thereof, including relics, inscriptions, saltpeter workings, fossils, bones, remains of historical human activity, or any other such features which may be found in any cave, except those caves owned by the Commonwealth or designated as Commonwealth archaeological sites or zones, and which are subject to the provisions of the Virginia Antiquities Act (§ [10.1-2300](#) et seq.).

B. Entering or remaining in a cave which has not been posted by the owner shall not by itself constitute a violation of this section.

C. Any violation of this section shall be punished as a Class 1 misdemeanor.

D. The provisions of this section shall not apply to an owner of a cave on his own property.

1979, c. 252, § 10-150.13; 1982, c. 81; 1988, c. 891.

§ 10.1-1005. Pollution; penalties.

A. It shall be unlawful for any person, without express, prior, written permission of the owner, to store, dump, litter, dispose of or otherwise place any refuse, garbage, dead animals, sewage, or toxic substances harmful to cave life or humans, in any cave or sinkhole. It shall also be unlawful to burn within a cave or sinkhole any material which produces any smoke or gas which is harmful to any naturally occurring organism in any cave.

B. Any violation of this section shall be punished as a Class 1 misdemeanor.

1979, c. 252, § 10-150.14; 1982, c. 81; 1988, c. 891.

§ 10.1-1006. Disturbance of naturally occurring organisms; scientific collecting permits; penalties.

A. It shall be unlawful to remove, kill, harm, or otherwise disturb any naturally occurring organisms within any cave, except for safety or health reasons; however, scientific collecting permits may be obtained from the Department.

B. Any violation of this section shall be punished as a Class 3 misdemeanor.

1979, c. 252, § 10-150.15; 1988, c. 891.

§ 10.1-1007. Sale of speleothems; penalties.

It shall be unlawful for any person to sell or offer for sale any speleothems in this Commonwealth, or to export them for sale outside the Commonwealth. Any violation of this section shall be punished as a Class 1 misdemeanor.

1979, c. 252, § 10-150.17; 1982, c. 81; 1988, c. 891.

§ 10.1-1008. Liability of owners and agents limited; sovereign immunity of Commonwealth not waived.

Neither the owner of a cave nor his authorized agents acting within the scope of their authority are liable for injuries sustained by any person using the cave for recreational or scientific purposes if no charge has been made for the use of the cave, notwithstanding that an inquiry as to the experience or expertise of the individual seeking consent may have been made.

Nothing in this section shall be construed to constitute a waiver of the sovereign immunity of the Commonwealth or any of its boards, departments, bureaus, or agencies.

1979, c. 252, § 10-150.18; 1988, c. 891.