

CHAPTER 5

CONSULTATION AND COORDINATION

The intent of the *National Environmental Policy Act* is to encourage the participation of federal and state-involved agencies and affected citizens in the assessment procedure, as appropriate. This section describes the consultation that occurred during development of this *White-tailed Deer Management Plan / Environmental Impact Statement*, including consultation with scientific experts and other agencies. This chapter also includes a description of the public involvement process and a list of the recipients of the draft document.

HISTORY OF PUBLIC INVOLVEMENT

The public involvement activities for this *Final White-tailed Deer Management Plan / Environmental Impact Statement* fulfill the requirements of the *National Environmental Policy Act* and National Park Service (NPS) *Director's Order #12* (NPS 2001b).

THE SCOPING PROCESS

The National Park Service divides the scoping process into two parts: internal scoping and external or public scoping. Internal scoping involved discussions among NPS personnel regarding the purpose of and need for management actions, issues, management alternatives, mitigation measures, the analysis boundary, appropriate level of documentation, available references and guidance, and other related topics.

Public scoping is the early involvement of the interested and affected public in the environmental analysis process. The public scoping process helps ensure that people have an opportunity to comment and contribute early in the decision-making process. For this planning document and impact statement, project information was distributed to individuals, agencies, and organizations early in the scoping process, and people were given opportunities to express concerns or views and to identify important issues or even other alternatives.

Taken together, internal and public scoping are essential elements of the NEPA planning process. The following sections describe the various ways scoping was conducted for this impact statement.

INTERNAL SCOPING

The internal scoping process began on October 28, 2003, at Catoctin Mountain Park, Maryland. During the two-day meeting, NPS employees identified the purpose of and need for action, management objectives, issues, and impact



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topics. Various roles and responsibilities for developing the deer management plan were also clarified. The results of the meetings were captured in an “Internal Scoping Report” (NPS 2003d), now on file as part of the administrative record.

In addition, the park had coordinated with many technical experts for five years prior to starting the planning process and established a Science Team to provide input to this plan, as described in “Chapter 1: Purpose of an Need for Action.” Comprised of subject matter experts, the Science Team was chartered to advise and provide technical recommendations to the National Park Service on matters regarding scientific data and analysis. The team met periodically to review and supplement necessary background information and needed data. The team also recommended impact analysis techniques and various management options, and they provided technical review of draft documents. The first of five Science Team meetings was held on October 13, 2004. (Members of the Science Team are listed with the document preparers in this chapter.)

PUBLIC SCOPING

Public Meetings and Comments

Public scoping efforts for this planning process focused on the means or processes to be used to include the public, the major interest groups, and local public entities. Based on past experience, park staff place a high priority on meeting the intent of public involvement in the NEPA process and giving the public an opportunity to comment on proposed actions.

For deer management at Catoctin Mountain Park two public involvement meetings were held to give the public opportunities to comment prior to the release of the *Draft White-tailed Deer Management Plan / Environmental Impact Statement*. The first meeting was held on November 9, 2004, in Thurmont, Maryland, and was attended by 22 people. The meeting was conducted in an open house format, with display boards illustrating both the project background and preliminary concepts for deer management. A brief presentation was made to the group to provide background information on the NEPA process and the need for this plan. Park personnel were available to answer any questions or concerns and to record comments.

At the first public meeting, the park received a total of 64 comments. While these included some comment letters and the testimony of one person at the public meeting, the majority of these were comments recorded on flip charts at the public meeting. A majority of the comments expressed concern about impacts of the Catoctin deer herd on vegetation or forest regeneration (27 comments) and impacts to wildlife and wildlife habitat (29 comments). Others commented on the preliminary alternatives presented and/or proposed new alternatives or alternative elements, which were considered in the development of the final alternatives. In total, one comment supported the no-action alternative, 4 supported the use of fencing and repellents, 7 supported direct reduction, 7 supported hunting, and 14 proposed new alternatives or alternative elements. Some of the alternatives proposed were considered but dismissed for various reasons, as discussed in chapter 2.

The second public meeting was an alternatives development workshop held on April 20, 2005, in Thurmont, Maryland. The purpose of the workshop was to gather public concerns regarding each alternative so that the National Park Service could improve upon them during the planning process. A total of 36 participants attended and were divided into four work groups. Comments were collected for each of the alternatives being considered. Participants could also provide written comments, as well as provide comments through the Internet using the NPS Planning, Environment and Public Comment (PEPC) website.

Comments and concerns regarding the four alternatives gathered at the alternatives development workshop can be summarized as follows:

- *Alternative A* — This alternative would not meet the purpose of and need for the proposed action to manage the deer population in Catoctin Mountain Park; and it would adversely affect neighboring properties as the deer population would continue to be overabundant and damage yards, orchards, and farms.
- *Alternative B* — This alternative would be costly and ineffective; fencing would have overall negative effects, keeping visitors and other wildlife out of the park; repellents require multiple applications and would be both costly and labor intensive; and non-lethal actions would drive deer onto neighboring properties, negatively affecting local farmers.
- *Alternative C (Preferred Alternative)* — This alternative would need to focus on the taking of does as a means of population control, and it would pose certain safety risks with the use of rifles in the park.
- *Alternative D* — The non-lethal methods of the alternative would be too costly and ineffective; reproductive controls could pose a human health risk due to the potential contamination of the deer meat and associated human consumption; and lethal actions pose a potential safety risk related to the use of firearms in the park.

Individuals in all groups expressed a concern that the alternative of a public hunt was removed and placed under alternatives considered but not carried forward.

In total 40 letters and e-mails were received in addition to the comments made by the 36 participants during the alternatives development workshop. A total of 24 comments had concerns about the potential implementation of lethal management alternatives. The remaining comments were of a general nature about alternatives, lethal methods, and requests for information on deer repellents, the use of reproductive control, and suggestions for a public hunt or a change in park legislation to allow a managed public hunt.

A third public meeting was held on January 6, 2007, in Thurmont, Maryland. The purpose of this meeting was to provide the opportunity for public comment on the *Draft White-tailed Deer Management Plan / Environmental Impact Statement*. A total of 17 attendees signed in during the meeting. The meeting included a sign-in station, at which attendees were asked if they wished to make

a statement, displays relating to the plan/DEIS, and a formal meeting that included a brief presentation by the park superintendent, followed by a public hearing. All who wished to make a verbal statement were given the opportunity to do so in the hearing format. A court reporter was present to record all verbal statements. Comment sheets were also provided to meeting attendees as an additional method for providing comment.

Correspondence received during the public comment period included letters, electronic mail, transcripts from public meetings, and comments on the NPS PEPC website. The park received correspondence from 24 individuals, 5 recreational groups, and 2 conservation/ preservation groups. The correspondence contained 192 comments on various topics. (See appendix E for more information, including responses to comments).

PUBLIC NOTIFICATION

The notice of intent to prepare an environmental impact statement was published in the *Federal Register* on June 23, 2004.

A newsletter was mailed in October 2004 to the project's preliminary mailing list of government agencies, organizations, businesses, and individuals. The newsletter announced the public scoping meeting on November 9, 2004, and summarized the purpose of and need for a deer management plan, the plan objectives, and the history of Catoctin's deer research and management.

A second newsletter was sent out in March 2005 to announce the alternatives development workshop on April 20, 2005. This newsletter briefly described the preliminary alternatives and the alternatives considered but not being carried forward, the anticipated project schedule, the purpose of and need for action, and methods to comment on the draft environmental impact statement.

A Notice of Availability (NOA) for the *Draft White-tailed Deer Management Plan/Environmental Impact Statement* for Catoctin Mountain Park was published in the *Federal Register* on December 1, 2006. The publication of the NOA initiated a 64-day public comment period that ended February 2, 2007. A third newsletter was sent out in December 2006 announcing the comment period and January 6, 2007 public meeting on the *Draft White-tailed Deer Management Plan / Environmental Impact Statement*.

AGENCY CONSULTATION

U.S. FISH AND WILDLIFE SERVICE

A letter dated May 21, 2004, from Catoctin Mountain Park initiated informal consultation with the U.S. Fish and Wildlife Service about the presence of federally listed rare, threatened, or endangered species in the vicinity of the park. The U.S. Fish and Wildlife Service replied on August 11, 2004, that, except for the occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the project impact area, and that no biological assessment or further consultation under Section 7 of the *Endangered Species Act* would be required.

In September, 2005, the U.S. Fish and Wildlife Service was again contacted during the preparation of the Draft Environmental Impact Statement concerning any changes in the status of federally listed rare, threatened, or endangered species in the vicinity of the park. Their response was the same as in 2004 and no biological assessment or further section 7 consultation of the *Endangered Species Act* would be required.

MARYLAND DEPARTMENT OF NATURAL RESOURCES

A letter dated May 21, 2004, initiated informal consultation with the Wildlife and Heritage Service of the Maryland Department of Natural Resources about the presence of state listed rare, threatened, or endangered species in the vicinity of the park. The response on July 13, 2004, listed seven such species.

MARYLAND STATE HISTORIC TRUST

Catoctin Mountain Park submitted a review in accordance with Section 106 of the *National Historic Preservation Act* to the state Historic Preservation Officer. A copy of the draft environmental impact statement will be sent to the Maryland Historical Trust to complete Section 106 compliance.

On June 19, 2006, Catoctin Mountain Park submitted the *Draft White-tailed Deer Management Plan/Environmental Impact Statement* for review in accordance with Section 106 of the *National Historic Preservation Act* to the State Historic Preservation Officer. The Maryland Historical Trust responded in a letter on July 12, 2006, that this undertaking will have no adverse effect on historic properties.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

In January 2007, in accordance with the *National Environmental Policy Act* (NEPA) and Section 309 of the *Clean Air Act*, the United States Environmental Protection Agency (EPA) reviewed the *Draft White-tailed Deer Management Plan/Environmental Impact Statement*. In a letter dated January 25, 2007, EPA rated the DEIS, Lack of Objections (LO).

LIST OF RECIPIENTS OF THE DRAFT PLAN / ENVIRONMENTAL IMPACT STATEMENT

This *Final White-tailed Deer Management Plan / Environmental Impact Statement* will be sent to the following agencies, organizations, and businesses, as well as to other entities and individuals who requested a copy.

FEDERAL DEPARTMENTS AND AGENCIES

Department of Agriculture

Wildlife Services

Department of the Army

Fort Detrick Outdoor Recreation

Department of the Interior

National Park Service

Antietam National Battlefield

Appalachian National Scenic Trail Project Office

C&O Canal National Historical Park

Gettysburg National Military Park

Harpers Ferry National Historical Park

Historic Preservation Training Center

Mather Training Center

Monocacy National Battlefield

National Park Service, National Capital Region

U.S. Fish and Wildlife Service

Department of the Navy

Naval Support Facility

Environmental Protection Agency

MARYLAND AGENCIES

Cunningham Falls State Park

Maryland Department of Natural Resources Wildlife and Heritage Services

Natural Resource Police

COUNTY AND LOCAL AGENCIES

Chambersburg Public Opinion

Frederick Community College

Frederick Chamber of Commerce

Montgomery County Conservation Center

Smithsburg Town Office
Thurmont Town Office
Tourism Council of Frederick County

MEDIA, ORGANIZATIONS, AND BUSINESSES

Action for Animals Network
Alliance for Animals
Alliance for the Chesapeake Bay
Animal Protection Institute
Antietam Cable Television
Appalachian Trail Arms Collectors, Inc.
Bay Journal
Blue Ridge Outdoors
Call of the Wild Sportsmen, Inc.
CALM, Inc.
Capital Gazette
Carlisle Evening Sun
Carroll County Times
Catocin Fish & Game Protective Association, Inc.
Channel 67, Maryland Center for Public Broadcasting
Cold Deer Hunting and Fishing Club
Discovery Newsletter
Evening Star
Evening Sun
Frederick Chapter of the Izaak Walton League
Frederick County Sportsman's Council
Frederick Gazette
Frederick News Post
Friends of Animals
Friends of Big Hunting Creek
Friends of Frederick County
Fund for Animals
Guardian Hose Fire Company
Hanover Evening Sun
Hanover Times
Harrisburg Patriot – Evening News
Herald Mail

Historical Society of Frederick County
Humane Society of the United States
Kidstreet News
Last Chance for Animals
Loudoun *Times – Mirror*
Marine Security Company
Martinsburg *Journal*
Maryland Native Plant Society
Maryland Ornithological Society
Mayberry Game Protective Association, Inc.
Maryland Farm Bureau
Mt. Airy Chapter of the Izaak Walton League
Mt. Quirauk Rod and Gun Club, Inc.
New Forest Society
North American Rod and Gun Club
People for the Ethical Treatment of Animals
Potomac Fish and Game Club
Record Herald
Recreation News
Redding Nursery
Showing Animals Respect and Kindness
Sierra Club of Frederick, Carroll, and Washington Counties
Sierra Club, Maryland Chapter
South Mountain Rod and Gun Club
Sunday Sun
The Baltimore Sun
The Banner
The Chronicle
The Daily Record
The Gettysburg Times
The Valley Revue
Thurmont Sportsman Club
Tuscarora Archers, Inc.
U.S. Sportsmen’s Alliance
Washington Magazine
Washington Post

SCIENCE TEAM MEMBERS

Name	Title	Organization / Location
Ms. Michelle Batcheller	Wildlife Biologist	NPS – Northeast Region
Mr. Scott Bates	Regional Wildlife Biologist	NPS – Center for Urban Ecology
Mr. Scott Bell	Environmental Protection Specialist	NPS – Catoctin Mountain Park
Dr. Doug Boucher	Associate Professor of Biology	Hood College, Frederick Maryland
Mr. Brian Eyler	Deer Biologist	Maryland Department of Natural Resources – Wildlife
Dr. Bert Frost	Research Coordinator/ Certified Wildlife Biologist	NPS – Great Basin Cooperative Eco Studies Unit (previously at Gettysburg National Military Park)
Dr. Richard Hammerschlag	USGS Biological Resource Division at Catoctin Research Center	USGS Patuxent Wildlife Research Center
Ms. Beth Kunkel	Team Facilitator	URS Corporation
Mr. Randy Knutson	Wildlife Biologist	NPS – Indiana Dunes National Lakeshore
Dr. William McShea	Wildlife Biologist	National Zoo Conservation and Research Center
Dr. Diane Pavek	Botanist-Research Coordinator	NPS – Center for Urban Ecology
Mr. Dan Sealy	Deputy Chief, Natural Resource and Science, National Capital Region	NPS – Center for Urban Ecology
Dr. James Sherald	Natural Resources Chief, NPS National Capital Region	NPS – Center for Urban Ecology
Dr. Susan Stout	Silviculturalist	USDA – Forest Service
Ms. Donna Swauger	Environmental Protection Specialist	NPS – Catoctin Mountain Park
Dr. Brian Underwood	Wildlife Biologist	USGS Patuxent Wildlife Research Center, Syracuse, NY
Mr. Jim Voigt	Resource Manager	NPS – Catoctin Mountain Park
Dr. Robert Warren	Professor of Wildlife Management	University of Georgia

LIST OF PREPARERS AND CONSULTANTS

Name	Title	Education/Responsibility	Experience
National Park Service			
Jim Voigt	Resource Manager, Catoctin Mountain Park	M.S. in Park Management. Provided input and review.	29 years
P. Scott Bell	Environmental Protection Specialist, Catoctin Mountain Park	B.A. in Biology, M.S. in Parks and Recreation Resources. Project Coordinator.	17 years parks management; 10 years compliance regulation
Donna Swauger	Environmental Protection Specialist, Catoctin Mountain Park	B.S. in Environmental Sciences. Project Coordinator.	15 years
J. Mel Poole	Superintendent, Catoctin Mountain Park	B.S. Horticulture. Manages Catoctin Mountain Park.	28 years
Rebecca Loncosky	Park Ranger with law enforcement and natural and cultural resource management responsibilities.	A.S. in Wildlife Technology. Provided technical input.	16 years
Scott Bates	Regional Wildlife Biologist NPS — Center for Urban Ecology	B.S. Biology; M.S. Wildlife Management. Provided technical input.	7 years with NPS NCR and 9 years with DoD as a wildlife biologist
Diane Pavek	Research Coordinator	B.S. in Botany and Zoology; M.S., Ph.D. in Botany. Provided technical input.	25 years in botany; 8 years with NPS
Sandy Hamilton	Environmental Protection Specialist (EQD)	M.S. Ecology, University of Minnesota. J.D. Law, University of Denver; LLM Environmental and Natural Resources Law and Policy, University of Denver. Provided input and review.	18 years
Michael Mayer	Environmental Protection Specialist (EQD)	B.S. Wildlife and Fisheries Biology; M.S. Wildlife Conservation; J.D. Environmental Law. Responsible for NEPA policy, guidance, and technical review. Project manager, technical reviewer.	10 years
URS Corporation			
Beth Kunkel	Wildlife Biologist and Environmental Planner	B.S. Wildlife Management. Responsible for facilitation of Science Team meetings, developed action thresholds, prepared vegetation and wildlife sections, and existing conditions for white-tailed deer.	18 years

Name	Title	Education/Responsibility	Experience
Rusty Schmidt	Landscape Ecologist	B.S. Biology, Art, and Chemistry. Responsible for data collection and coordination to support Science Team, development of action thresholds and alternatives, assisted with preparation of existing condition sections for vegetation, wildlife, and deer.	5 years
Greg Sorensen	Technical Editor	B.A. International Affairs. Responsible for technical editing document.	30 years
Patti Steinholtz	Writer/Editor, NEPA Planner	B.A. Communications and English. Responsible for portions of chapters 1, 2, 5, and safety, visitor use and experience topics.	9 years
Whitney Wimer	Environmental Scientist	B.S. Bio-Environmental Science. Responsible for project management and editing document.	5 years
The Louis Berger Group, Inc.			
Shannon Cauley, CWD	Senior Scientist	B.S. Geology. Responsible for sensitive and rare species.	22 years
Stuart Dixon	Senior Architectural Historian	B.A. History; M.A. U.S. History, Responsible for cultural resources section.	13 years
Joel Gorder, AICP	Planner	B.S. Limnology, Biology, M.S., Urban and Regional Planning; Responsible for park management and operations section.	8 years
Lori Gutman, AICP	Senior Planner	B.S. Natural Resources and Environmental Policy; M.C.P., Land Use, Environmental and Economic Development Planning. Responsible for park management and operations section.	5 years
Karen Lusby	Senior Planner	B.A. Outdoor Recreation and Park Administration; M.S. Forest Economics. Responsible for socioeconomic and portions of cultural resource sections.	22 years
Dana Otto, AICP	Senior Environmental Scientist	B.S. Biological Sciences; M.S. Environmental Planning. Responsible for project management and review of all sections prepared by Louis Berger staff.	12 years
Spence Smith	Scientist	B.S. Zoology; M.A., Biology-Marine Biology Concentration. Responsible for soils and water quality.	9 years

Name	Title	Education/Responsibility	Experience
Nancy Van Dyke	Senior Consultant	B.A. Biology and Geography; M.S. Environmental Sciences. Responsible for project management and senior technical review of all sections.	26 years
R E D , I n c . C o m m u n i c a t i o n s			
Tracy Stemple	Technical Writer	B.S. English. Responsible for text pull-outs and captions.	16 years
Stephannie Lambert	Graphic Designer	Responsible for cover design, map design and high-resolution photographs.	10 years
Cheryl Priest	Desktop Publisher / Text Processor	Responsible for layout design and formatting.	14 years

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GLOSSARY

Action Alternative — An alternative that proposes a different management action or actions to address the purpose, need, and objectives of the plan; one that proposes changes to the current management. Alternatives B, C, and D are the action alternatives in this planning process. See also: “No-Action Alternative.”

Adaptive Management — The rigorous application of management, research, and monitoring to gain information and experience necessary to assess and modify management activities. A process that uses feedback from research and the period evaluation of management actions and the conditions they produce to either reinforce the viability of objectives, strategies, and actions prescribed in a plan or to modify strategies and actions in order to more effectively accomplish management objectives.

Affected Environment — A description of the existing environment that may be affected by the proposed action (40 CFR 1502.15).

Antibody — An immunoprotein that is produced by lymphoid cells in response to a foreign substance (antigen), with which it specifically reacts.

Antigen — A foreign substance, usually a protein or polysaccharide, which stimulates an immune response upon introduction into a vertebrate animal.

Anthracnose — Any of several plant diseases caused by certain fungi and characterized by dead spots on the leaves, twigs, or fruits.

Biobullet — A single dose, biodegradable projectile comprised of an outer methylcellulose casing containing a solid, semi-solid, or liquid product (usually a vaccine or chemical contraceptive), propelled by a compressed-air gun.

Blight — Any of numerous plant diseases that result in sudden and conspicuous wilting and dying of affected parts, especially young growing tissues.

Bluetongue Virus — An insect-transmitted, viral disease of ruminant animals, including white-tailed deer, which causes inflammation, swelling, and hemorrhage of the mucous membranes of the mouth, nose, and tongue.

Browse Line — A visible delineation at approximately six feet below which most or all vegetation has been uniformly browsed.

Carnivore — An animal that eats a diet consisting solely or mostly of meat.

Carrying Capacity — The maximum number of organisms that can be supported in a given area or habitat.

Cervid — A member of the deer family, such as white-tailed deer, mule deer, elk, moose, and caribou.

Chronic Wasting Disease (CWD) — A slowly progressive, infectious, self-propagating neurological disease of captive and free-ranging deer, elk, and moose. CWD belongs to the transmissible spongiform encephalopathy (TSE) group of diseases and is characterized by accumulations of abnormal prion proteins in neural and lymphoid tissue.

Contragestive — A product that terminates pregnancy.

Contractor — For the purposes of this plan, a contractor is a fully-insured business entity, nonprofit group, or other governmental agency engaged in wildlife management activities that include trapping, immobilization, and lethal removal through sharpshooting and chemical euthanasia. The contractor must possess all necessary permits and be able to pass any needed security clearances.

Cultural Landscape — A geographic area (including both cultural and natural resources and the wildlife or domestic animals therein) associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values.

Cumulative Impacts — Those impacts on the environment that result from the incremental effect of the action when added to the past, present, and reasonable foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7).

Deer Herd — The group of deer living within Catoctin Mountain park that have common characteristics and interbreed among themselves. For the purposes of this plan, this term is synonymous with deer population.

Deer Population — See Deer Herd, above.

Demographic — Referring to the intrinsic factors that contribute to a population's growth or decline: birth, death, immigration, and emigration. The sex ratio of the breeding population and the age structure (the proportion of the population found in each age class) are also considered demographic factors because they contribute to birth and death rates.

Depredation — Damage or loss.

Direct Reduction — Lethal removal of deer; includes both sharpshooting and capture/euthanasia.

Distance Sampling — An analytical method to estimate population density that involves an observer traveling along a transect and recording how far away objects of interest are.

Endemic — Native to or confined to a particular region.

Ecosystem — An ecological system; the interaction of living organisms and the nonliving environment producing an exchange of materials and energy between the living and nonliving.

Epizootic Hemorrhagic Disease — An insect-borne viral disease of ruminants that causes widespread hemorrhages in mucous membranes, skin, and visceral organs.

Environment — The sum total of all biological, chemical, and physical factors to which organisms are exposed; the surroundings of a plant or animal.

Environmental Assessment (EA) — A concise public document, prepared in compliance with NEPA, that briefly discusses the purposes and need for an action, and provides sufficient evidence and analysis of impacts to determine whether to prepare an environmental impact statement or finding of no significant impact (40 CFR 1508.9).

Environmental Consequences — Environmental effects of project alternatives, including the proposed action, any adverse environmental effects which cannot be avoided, the relationship between short term uses of the human environment, and any irreversible or irretrievable commitments of resources which would be involved if the proposal should be implemented (40 CFR 1502.16).

Environmental Impact Statement (EIS) — A detailed written statement required by Section 102(2)(C) of the National Environmental Policy Act, analyzing the environmental impacts of a proposed action, adverse effects of the project that cannot be avoided, alternative courses of action, short term uses of the environment versus the maintenance and enhancement of long term productivity, and any irreversible and irretrievable commitment of resources (40 CFR 1508.11).

Ethnographic Resource — Any site, structure, object, landscape, or natural resource feature assigned traditional legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it.

Euthanasia — Ending the life of an animal by humane means.

Exclosure — An area enclosed by a barrier, such as a fence, to protect vegetation and prevent browsing by animals.

Exotic Species — Any introduced plant, animal or protist species that is not native to the area and may be considered a nuisance; also called non-native or alien species.

Extirpated Species — A species that is no longer present in an area where it once lived.

Exsanguination — The action or process of draining blood.

Forest Regeneration — For the purposes of this plan, the regrowth of forest species and renewal of forest tree cover such that the natural forest sustains itself without human intervention.

Genetic Variability — The amount of genetic difference among individuals in a population.

Habitat — The environment in which a plant or animal lives (includes vegetation, soil, water, and other factors).

Habitat Fragmentation — The breaking up of large, contiguous blocks of habitat into small, discontinuous areas that are surrounded by altered or disturbed lands.

Hectare — A metric unit of area equal to 2.471 acres.

Herbaceous Plants — Non-woody plants; includes grasses, wildflowers, and sedges and rushes (grass-like plants).

Herbivore — An animal that eats a diet consisting primarily of plant material.

Histopathology — The study of the microscopic anatomical changes in diseased tissue.

Home Range — The geographic area in which an animal normally lives.

Hypothesis — A tentative explanation for an observation or phenomenon that can be tested by further investigation.

Immunocontraception — The induction of contraception by injecting an animal with a compound that produces an immune response that precludes pregnancy.

Immunocontraceptive — A contraceptive agent that causes an animal to produce antibodies against some protein or peptide involved in reproduction. The antibodies hinder or prevent some aspect of the reproductive process.

Immunohistochemistry — Identification of specific antigens in tissues by staining them with antibodies that are labeled with fluorescent or colored material.

Impairment — As used in NPS Management Policies, "impairment" means an adverse impact on one or more park resources or values that interferes with the integrity of the park's resources or values, or the opportunities that otherwise would exist for the enjoyment of them, by the present or a future generation. Impairment may occur from visitor activities, NPS activities in managing a park, or activities undertaken by concessioners, contractors, and others operating in a park. As used here, the impairment of park resources and values has the same meaning as the phrase "derogation of the values and purposes for which these various areas have been established," as used in the General Authorities Act.

Infrared — The range of invisible radiation wavelength just longer than the red in the visible spectrum.

Irretrievable — A term that applies to the loss of production, harvest, and consumptive or nonconsumptive use of natural resources. For example, recreation experiences are lost irretrievably when an area is closed to human use. The loss is irretrievable, but the action is not irreversible. Reopening the area would allow a resumption of the experience.

Irreversible — A term that describes the loss of future options. Applies primarily to the effects of use of nonrenewable resources, such as minerals or cultural resources, or to those factors, such as soil productivity that are renewable only over long periods of time.

Leuprolide — A reproductive control agent that prevents secondary hormone secretion, which stops the formation of eggs and ovulation. Leuprolide is a GnRH agonist (see Appendix E for additional details).

Lithic — Of or relating to stone.

Lumbar — Of, near, or situated in the part of the back and sides between the lowest ribs and the pelvis.

Macroinvertebrate — A relatively large, generally soft-bodied organism that lacks a backbone.

Monitoring — A process of collecting information to evaluate if an objective and/or anticipated or assumed results of a management plan are being realized (effectiveness monitoring) or if implementation is proceeding as planned (implementation monitoring).

National Environmental Policy Act of 1969 (NEPA) — A law that requires all Federal agencies to examine the environmental impacts of their actions, incorporate environmental information, and utilize public participation in the planning and implementation of all actions. Federal agencies must integrate NEPA with other planning requirements and prepare appropriate NEPA documents to facilitate better environmental decision making. NEPA requires Federal agencies to review and comment on Federal agency environmental plans/documents when the agency has jurisdiction by law or special expertise with respect to any environmental impacts involved (42 U.S.C. 4321-4327) (40 CFR 1500-1508).

Naturally Regenerating and Sustainable Forest — A forest community that has the ability to maintain plant and animal diversity and density by natural (non-human facilitated) tree replacement.

Nephelometric Turbidity Unit (NTU) — A unit of measure for turbidity.

No-Action Alternative — The alternative in which baseline conditions and trends are projected into the future without any substantive changes in management (40 CFR 1502.14(d)). Alternative A is the no-action alternative in this planning process.

Omentum — One of the folds of the peritoneum that connect the stomach with other abdominal organs.

Opportunistic Surveillance — Taking diagnostic samples for CWD testing from deer found dead or harvested through a management activity within a national park unit.

Palatability — The property of being acceptable to the taste or sufficiently agreeable in flavor to be eaten.

Paleontological Resources — A resource related to the forms of life existing in prehistoric or geologic times, such as fossils of plants, animals, and other organisms.

Parasitism — A symbiotic relationship in which one species, the parasite, benefits at the expense of the other, the host.

Penetrating Captive Bolt Gun — A gun with a steel bolt that is powered by either compressed air or a blank cartridge. When fired, the bolt is driven into the animal's brain and renders it instantly unconscious without causing pain.

Pericardial — Around or surrounding the heart.

Pheromone — A chemical secreted by an animal that influences the behavior or development of others of the same species, often functioning as an attractant of the opposite sex.

Population (or Species Population) — A group of individual plants or animals that have common characteristics and interbreed among themselves and not with other similar groups.

Prion — Proteinaceous infectious particle; a microscopic particle similar to a virus but lacking nucleic acid, thought to be the infectious agent for certain degenerative diseases of the nervous system such as CWD.

Radial Distance — A straight-line distance measured along a radius.

Record of Decision (ROD) — A concise public record of decision prepared by a federal agency, pursuant to NEPA, that contains a statement of the decision, identification of all alternatives, a statement as to whether all practical means to avoid or minimize environmental harm from the alternative selected have been adopted (and if not, why they were not), and a summary of monitoring and enforcement where applicable for any mitigation (40 CFR 1505.2).

Recruitment — Number of organisms surviving and being added to a population at a certain point in time.

Reproductive Control — A method or methods used to limit the numbers of animals in a population by decreasing the reproductive success of the animals, such as contraception or sterilization.

Rhyolite — A fine-grained extrusive volcanic rock used by Native Americans.

Rut — An annually recurring condition or period of sexual excitement and reproductive activity in deer; the breeding season.

Sapling — A young tree, generally not over 4 inches in diameter at breast height.

Scoping — An early and open process for determining the extent and variety of issues to be addressed and for identifying the significant issues related to a proposed action (40 CFR 1501.7).

Secondary Succession — A gradual change from one community to another, characterized by a progressive change in species structure, an increase in biomass and organic matter, and a gradual balance between community production and community respiration.

Seedling — A young plant grown from seed; a young tree before it becomes a sapling.

Seral — A phase in the sequential development of a climax community.

Sex Ratio — The proportion of males to females (or vice versa), in a population. A sex ratio of 50:50 would mean an equal number of does and bucks in a deer population.

Sharpshooting — The authorized shooting of animals by specially trained professionals using appropriate weapons for means of effective and efficient lethal control.

Species Diversity — The variety of different species present in a given area; species diversity takes into account both species richness and the relative abundance of species.

Species Richness — The number of species present in a community.

Spotlight Survey — A method used to estimate deer numbers in an area by shining spotlights at night and counting the number of deer observed. This technique provides an estimate of deer numbers but not density.

Subcutaneous — Under the skin.

Targeted Surveillance — Lethal removal of deer that exhibit clinical signs of CWD, such as changes in behavior and body condition, and testing to determine if CWD is present.

Transect — A line along which sampling is performed.

Transmissible Spongiform Encephalopathies (TSEs) — A group of diseases characterized by accumulations of abnormal prion proteins in neural and lymphoid tissues, which cause distinctive lesions in the brain and result in death.

Turbidity — Visible undissolved solid material suspended in water.

Ungulate — A hoofed, typically herbivorous, animal; includes horses, cows, deer, elk, and bison.

Vaccine — A suspension of killed or attenuated microorganisms that, when introduced into the body, stimulates an immune response against that microorganism.

Vascular Plant — A plant that contains a specialized conducting system consisting of phloem (food-conducting tissue) and xylem (water-conducting tissue). Ferns, trees, and flowering plants are all vascular plants.

Viable White-tailed Deer Population — A population of deer that allows the forest to naturally regenerate, while maintaining a healthy deer population in the park.

Woody Plants — Plants containing wood fibers, such as trees and shrubs (see “Herbaceous Plant”).

ACRONYMS

APHIS	Animal and Plant Health Inspection Service, U.S. Department of Agriculture
AVMA	American Veterinary Medical Association
Bt	<i>Bacillus thuringiensis</i>
CEQ	Council on Environmental Quality
CWD	chronic wasting disease
EPA	Environmental Protection Agency
FDA	Food and Drug Administration
GCIV	GonaCon™ immunocontraceptive vaccine
GnRH	gonadotropin releasing hormone (reproductive control hormone)
HSUS	Humane Society of the United States
INAD	Investigational New Animal Drug (classification by the Food and Drug Administration)
MASS	Maryland Agriculture Statistics Service
MD DNR	Maryland Department of Natural Resources
NASS	National Agricultural Statistics Service
NEPA	National Environmental Policy Act
NIST	National Institute of Standards and Technology
NPS	National Park Service, U.S. Department of the Interior
NWR	National Wildlife Refuge
PZP	porcine zona pellucida
SCWDS	Southeastern Cooperative Wildlife Disease Study
USDA	U.S. Department of Agriculture

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