*EPA has requested more information regarding the requirements within the Great Swamp National Wildlife Refuge Wilderness Area and FWS’s authority to determine and enforce such requirements. The information below is meant to assist EPA in understanding FWS’s delegated authority and structure.*

**Wilderness Act (16 U.S.C. §§ 1131 – 1136)**

… hereby declared to be the policy of the Congress to secure for the American people of present and future generations the benefits of an enduring resources of wilderness. 16 U.S.C. § 1131(a).

… hereby established a National Wilderness Preservation System to be composed of federally owned areas designated by Congress as “wilderness areas”, and these shall be administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness, and so as to provide for the protection of these areas, the preservation of their wilderness character, and for the gathering and dissemination of information regarding their use and enjoyment as wilderness … *Id.*

A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this chapter an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value. 16 U.S.C. § 1131(c).

… each agency administering any area designated as wilderness shall be responsible for preserving the wilderness character of the area and shall so administer such area for such other purposes for which it may be been established as also to preserve its wilderness character. 16 U.S.C. § 1133(b).

… wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use. *Id.*

**National Wildlife Refuge System Administration Act (16 U.S.C. §§ 668dd-668ee)**

… the “National Wildlife Refuge System” … shall be administered by the Secretary [of the Interior] through the United States Fish and Wildlife Serve. 16 U.S.C. § 668dd(a)(1).

The mission of the System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefits of present and future generations of Americans. 16 U.S.C. § 668dd(a)(2).

With respect to the system, it is the policy of the United States that … each refuge shall be managed to fulfill the mission of the System, as well as the specific purposes for which that refuge was established. 16 U.S.C. § 668dd(a)(3)(A).

The terms “conserving”, “conservation”, “manage”, “managing”, and “management”, mean to sustain and, where appropriate, restore and enhance, healthy populations of fish, wildlife, and plants utilizing, in accordance with applicable Federal and State laws, methods and procedures associated with modern scientific resource programs. Such methods and procedures include, consistent with the provisions of this Act, protection, research, census, law enforcement, habitat management, propagation, live trapping and transplantation, and regulated taking. 16 U.S.C. § 668ee(4).

In administering the System, the Secretary shall—

(A) provide for the conservation of fish, wildlife, and plants, and their habitats within the System;

(B) ensure that the biological integrity, diversity, and environmental health of the System are maintained for the benefit of present and future generations of Americans;

(C) plan and direct the continued growth of the System in a manner that is best designed to accomplish the mission of the System, to contribute to the conservation of the ecosystems of the United States, to complement efforts of States and other Federal agencies to conserve fish and wildlife and their habitats, and to increase support for the System and participation from conservation partners and the public;

(D) ensure that the mission of the System described in paragraph (2) and the purposes of each refuge are carried out, except that if a conflict exists between the purposes of a refuge and the mission of the System, the conflict shall be resolved in a manner that first protects the purposes of the refuge, and, to the extent practicable, that also achieves the mission of the System;

(E) ensure effective coordination, interaction, and cooperation with owners of land adjoining refuges and the fish and wildlife agency of the States in which the units of the System are located;

(F) assist in the maintenance of adequate water quantity and water quality to fulfill the mission of the System and the purposes of each refuge …

16 U.S.C. § 668dd(a)(4).

… the Secretary shall – (i) propose a comprehensive conservation plan for each refuge or related complex of refuges … in the System … 16 U.S.C. § 668dd(e)(1)(A).

Upon completion of a comprehensive conservation plan under this subsection for a refuge or planning unit, the Secretary shall manage the refuge or planning unit in a manner consistent with the plan and shall revise the plan at any time if the Secretary determines that conditions that affect the refuge or planning unit have changed significantly. 16 U.S.C. § 668dd(e)(E).

**FWS Wilderness Preservation and Management Regulations (50 C.F.R. Part 35)**

Each wilderness shall be administered for such other purposes for which the national wildlife refuge was established and shall be also administered to preserve its wilderness character. 50 C.F.R. § 35.2(a).

Except as otherwise provided by law, wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use and shall be administered in such a manner as will leave them unimpaired for future use and enjoyment as wilderness. 50 C.F.R. § 35.2(b).

**FWS Refuge Management Manual, Part 610 (Wilderness Stewardship)** (<https://www.fws.gov/policy/manuals/>)

***Alien or Nonnative Species***. With respect to a particular ecosystem, any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem. 610 FW 1.5(B)

***Minimum Requirement Analysis (MRA)***. A decisionmaking process, documented in writing, that we use to determine if proposed refuge management activities conducted in wilderness are necessary to administer the area as wilderness and to accomplish the purposes of the refuge, including Wilderness Act purposes. If the activities are necessary the MRA also describes how to minimize resultant impacts. 610 FW 1.5(M)

***Native Species***. With respect to a particular ecosystem, a species that, other than as a result introduction, historically occurred or currently occurs in that ecosystem. 610 FW 1.5(P)

***Refuge Management Activity***. An activity conducted by the Service or a Service-authorized agent to fulfill on or more purposes of the national wildlife refuge or the National Wildlife Refuge System mission. Service-authorized agents may include State fish and wildlife agencies. Other Service-authorized agents may include contractors, cooperating agencies, cooperating associations, refuge support groups, and volunteers. 610 FW 1.5(V)

***Refuge Purpose(s)***. The purpose(s) specified in or derived from the law, proclamation, Executive order, agreement, public land order, donation document, or administrative memorandum establishing, authorizing, or expanding a refuge, refuge unit, or refuge subunit. For refuges that encompass congressionally designated wilderness, the purposes of the Wilderness Act are within and supplemental to the refuge purposes for the wilderness portion of the refuge. 610 FW 1.5(X)

***Solitude***. Wilderness solitude is a state of mind, a mental freedom that emerges from setting where visitors experience nature essentially free of the reminders of society, its inventions, and conventions. Privacy and isolation are important components, but solitude also is enhanced by the absence of distractions, such as large groups, mechanization, unnatural noise and light, unnecessary managerial presence (such as signs), and other modern artifacts. 610 FW 1.5(BB)

***Untrammeled***. A key descriptor of wilderness in the Wilderness Act, untrammeled refers to the freedom of a landscape from the human intent to permanently intervene, alter, control, or manipulate natural conditions or processes. 610 FW 1.5(DD)

***Wilderness Values***. Wilderness values are biophysical (e.g., ecosystems, scenery, and natural processes), psychological (e.g., opportunity for solitude or primitive and unconfined recreation), symbolic (e.g., national and natural remnants of American cultural and evolutionary heritage), and spiritual (e.g., sense of connection with nature and values beyond one’s self). 610 FW 1.5(JJ)

***Wildness***. The state of being free from human control and untrammeled. 610 FW 1.5(KK)

***Who is responsible for wilderness stewardship in the Service?***

***Refuge Managers***:

(1) Protect, administer, and monitor wilderness areas in accordance with the wilderness stewardship policy and other applicable authorities.

(2) Ensure that the refuge [comprehensive conservation plan] addresses the stewardship direction of the unit’s designated wilderness.

(3) Develop and implement the [wilderness stewardship plan].

(4) Conduct wilderness reviews, including sending to the refuge supervisor determinations that [wilderness study areas] are suitable for wilderness designation.

(5) Provide information to the Regional wilderness coordinator for the annual Wilderness Acreage and Staff Training Report (see Exhibit 2).

(6) Conduct, document in writing, and approve [minimum requirement analyses] and decisions. Refuge managers without the training described in section 1.23D must send all MRAs to the Regional wilderness coordinator for concurrence and the refuge supervisor for approval (subject to the guidance in section 1.20).

(7) Send copies of all MRAs to the Regional wilderness coordinator.

(8) Conduct all activities identified above in full coordination with State fish and wildlife agency representatives (see section 1.11).

610 FW 1.6(H)

***What is wilderness character*?**

**A.** Preserving “wilderness character,” referenced throughout the Wilderness Act and this policy, is a

primary criterion for judging the appropriateness of proposed refuge management activities and refuge

uses, including public use and enjoyment, in wilderness. Preserving wilderness character requires that we maintain both the tangible and intangible aspects of wilderness. Wilderness character increases as it

approaches the highest measure of natural conditions and being untrammeled.

**B.** The tangible and intangible aspects of wilderness include:

**(1)** Maintaining the natural, scenic condition of the land;

**(2)** Providing environments for native plants and animals, including those threatened or endangered;

**(3)** Maintaining watersheds and airsheds in a healthy condition;

**(4)** Maintaining natural night skies and soundscapes;

**(5)** Retaining the primeval character of and influence on the land;

**(6)** Serving as a benchmark for ecological studies; and

**(7)** Providing opportunities for solitude, primitive and unconfined outdoor recreation, risk, adventure,

education, personal growth experiences, a sense of connection with nature and values beyond one’s self, a link to our American cultural heritage, and mental and spiritual restoration in the absence of urban pressures.

**C**. The character of wilderness refocuses our perception of, relationship to, and use and enjoyment of nature. It requires changing our view of a landscape from the utilitarian, commodity orientation that often dominates our relationship with nature to respect for and deference to other life forms and natural processes. It requires us to recognize that we are embedded in these natural processes. Wilderness character imposes upon us an obligation to leave to future generations what remains of the world we did not make and do not control. Wilderness represents a symbol of respect for the natural conditions and wildness that civilization has displaced.

**D.** We influence wilderness character with every decision about refuge management activities and refuge uses, including public use and enjoyment of wilderness. Maintaining wilderness character requires an attitude of humility and restraint. In wilderness, we do not adjust nature to suit people, but adjust human use and influences so as not to alter natural processes. We strengthen wilderness character with every decision to forego actions that have physical impact or would detract from the idea of wilderness as a place set apart, a place where human uses, convenience, and expediency do not dominate. We preserve wilderness character by our compliance with wilderness legislation and regulation, but also by imposing limits on ourselves.

610 FW 1.13

***What are the principles for administering wilderness*?** We observe five key principles in administering wilderness:

**A.** Accomplish Administration Act purposes, refuge purposes, including Wilderness Act purposes, and the Refuge System mission. The Administration Act, refuge purposes, and Wilderness Act purposes tell us what to accomplish on a refuge. The Wilderness Act, however, may affect how we accomplish these

purposes, and the Refuge System mission.

**B.** Secure “an enduring resource of wilderness” by maintaining and, where appropriate, restoring, a

wilderness area’s biological integrity, diversity, environmental health, and wilderness character.

**C.** Administer wilderness areas to provide a wide variety of public benefits “for the use and enjoyment of the American people” (Wilderness Act, section 2(a)) in a manner that is appropriate and compatible with the Administration Act, refuge purposes, including Wilderness Act purposes, and the Refuge System mission; retains wilderness character; is consistent with the nondegradation principle; and leaves the areas “unimpaired for future use and enjoyment as wilderness . . . .”

**D.** Use restraint in our administration of wilderness. As a place “where the earth and its community of life are untrammeled by man,” we minimize actions for administration of wilderness areas. We may allow exceptions to the generally prohibited uses if the uses are the minimum requirement for administering the area as wilderness and are necessary to accomplish the purposes of the refuge, including Wilderness Act purposes. We may limit even nonmotorized refuge management activities to protect wildness.

**E.** Provide opportunities for primitive recreation, giving priority to compatible wildlife-dependent activities that are enhanced by a wilderness setting. Provide physical, social, and administrative settings that are conducive to experiencing opportunities for solitude, adventure, challenge, inspiration, and other aspects of wilderness character that the American people can use and enjoy.

610 FW 1.14

***What is the relationship between wilderness stewardship and compatibility*?** For a refuge use proposed for designated wilderness areas, the refuge manager must first determine whether the use is compatible with the purposes of the refuge as well as the purposes of the Wilderness Act (603 FW 2). If the use is compatible, the refuge manager must analyze whether we can allow the use under the terms of the area-specific wilderness legislation and the Wilderness Act. 610 FW 1.15

***How does the Service determine if a proposed refuge management activity is the minimum requirement for administering the area as wilderness and necessary to accomplish the purposes of the refuge, including Wilderness Act purposes*?** We conduct and document a minimum requirement analysis (MRA) for all proposed refuge management activities that involve a generally prohibited use (also see section 1.19). The MRA clarifies the need for and impacts of a proposed action. We authorize an activity only if we demonstrate that it is necessary to meet the minimum requirement for administering the area as wilderness and necessary to accomplish the purposes of the refuge, including

Wilderness Act purposes.

**A.** We identify and analyze alternative ways to accomplish refuge purposes, including Wilderness Act purposes, in order to determine whether the proposed refuge management activity is necessary and to identify the techniques that will minimize impacts to the wilderness resource. At a minimum, we evaluate the impacts of:

**(1)** An alternative where we take no management action,

**(2)** An alternative allowing no generally prohibited uses, and

**(3)** Alternative(s) to conduct the activities inside the wilderness and outside the wilderness.

**B.** We consider the full range of wilderness values and character when evaluating the alternatives. These values include the undeveloped and untrammeled natural condition of wilderness, cultural resources, outstanding opportunities for solitude, the potential for the public to have a primitive and unconfined type of recreational experience, and other components of wilderness character.

**C.** We consider the direct impacts of the proposed refuge management activity under each of the alternatives. We also consider the indirect impacts associated with the action and the cumulative impact of the action when it is conducted in conjunction with other existing or planned uses or actions within or adjacent to and affecting the wilderness areas. Under the nondegradation principle, the conditions prevailing in an area at the time of wilderness designation establish a benchmark for assessing the significance of a proposed action’s beneficial and adverse impacts on wilderness character.

**D.** Our refuge management activities preserve wilderness character and only rarely involve generally prohibited uses. The alternative that has the least impact on the area’s wilderness character, including intangible aspects of wilderness character, and accomplishes refuges purposes, including wilderness purposes, constitutes the minimum requirement. We do not use cost or convenience as a factor in determining the minimum requirement or minimum tool. We use primitive tools when possible.

610 FW 1.18

***Who makes minimum requirement decisions*?** Refuge managers may make minimum requirement decisions only if they have attended the Carhart Center’s national wilderness stewardship course (see section 1.23D). If refuge managers have not attended this training, they must send the MRA to their refuge supervisor for approval. If the supervisor lacks the required training, the supervisor must request review and approval from an individual who has had this training and is equal to or higher than the refuge manager in the organizational hierarchy. 610 FW 1.20

***What is the Service’s general policy for wilderness administration and the stewardship of natural and cultural resources in wilderness*?**

**A.** We administer refuge wilderness to conform with the Wilderness Act's purposes of securing “an enduring resource of wilderness,” preserving wilderness character, and providing opportunities for public use and enjoyment and for “solitude or a primitive and unconfined type of recreation” in ways that will leave the wilderness unimpaired for future use and enjoyment as wilderness.

**B.** We must document a Minimum Requirement Analysis (MRA) for all proposed refuge management activities (see 610 FW 1.18) and commercial services (see section 2.12) that may involve any actions generally prohibited by the Wilderness Act.

**C.** We must protect water resources in wilderness areas by maintaining and protecting water quantity and water quality in accordance with legal authorities.

**D.** We must apply the nondegradation principle to wilderness stewardship using each wilderness area’s level of naturalness and wildness at the time of designation as the standard against which we measure the impacts.

610 FW 2.4

If a structure or installation existed before wilderness designation, we may retain it if we determine it is the minimum requirement to administer the areas as wilderness and is necessary to accomplish the purpose of the refuge, including Wilderness Act purposes. We will remove or allow natural deterioration of all structures and installations that do not meet these criteria. 610 FW 2.5(A).

***How does the Service conserve wildlife and habitat in wilderness*?**

**A.** We conserve fish, wildlife, and plant resources and their habitats (including water resources) in wilderness in a manner consistent with the Administration Act and refuge purpose(s), including

Wilderness Act purposes. Fish, wildlife, plants and their habitat are essential and inseparable components of wilderness. On wilderness areas within the Refuge System, we conserve fish, wildlife, and plants by preserving the wilderness environment. Both the Service and State fish and wildlife agencies have authorities and responsibilities for management of fish and wildlife on refuges as described in 43 CFR part 24. We work cooperatively with State fish and wildlife agencies to conserve fish, wildlife, and plant resources and their habitats (including water resources).

**B.** Major ecosystem processes including wildfire, drought, flooding, windstorms, pest and disease outbreaks, and predator/prey fluctuations may be natural ecological and evolutionary processes.

**(1)** We will not interfere with these processes or the wilderness ecosystem’s response to such natural events unless necessary to accomplish refuge purposes, including Wilderness Act purposes, or in cases where these processes become unnatural. Examples of unnatural conditions are:

**(a)** Excess fuel loads from past fire suppression activities,

**(b)** Disrupted predator/prey relationships,

**(c)** Elimination of native grazers, and

**(d)** The spread of alien species.

**(2)** In such cases, we encourage the restoration and maintenance of biological integrity and wilderness character.

**(3)** All decisions and actions to modify ecosystems, species population levels, or natural processes must be:

**(a)** Required to respond to a human emergency, or

**(b)** The minimum requirement for administering the area as wilderness and necessary to accomplish the purposes of the refuge, including Wilderness Act purposes. In addition, such decisions and actions must:

**(i)** Maintain or restore the biological integrity, diversity, or environmental health of the wilderness area; or

**(ii)** Be necessary for the recovery of threatened or endangered species.

**C.** Hunting and fishing, when compatible, are among the priority general public uses of the Refuge

System. We design our wildlife population management strategies to support accomplishing refuge purposes, including Wilderness Act purposes. (See section 2.30 and Refuge System recreation policies in

605 FW 1-7 for further guidance.)

610 FW 2.16

***What are the Service’s general public use guidelines for wildern*ess?** We provide opportunities for appropriate and compatible use and enjoyment of wilderness areas in a manner that will preserve their wilderness character and that will “leave them unimpaired for future use and enjoyment as wilderness”

(Wilderness Act, section 2 (a)). Refuges are generally closed to public access and use unless opened, following an appropriateness finding and a compatibility determination, through the applicable process

(e.g., compatibility determination, NEPA and planning process, special use permit, regulation, etc.) (see 50 CFR 25.21). If we open a refuge, we may impose conditions or restrictions on any activity to ensure that it is appropriate and compatible and, for wilderness areas, preserves wilderness character and values. We emphasize providing “opportunities for solitude or a primitive and unconfined type of recreation” (Wilderness Act, section 2(c)). See 610 FW 5 for some of the specific provisions applicable in

Alaska.

1. We prioritize public uses in wilderness areas of refuges as follows:

**(1) *Compatible wildlife-dependent recreational uses of the Refuge System (hunting, fishing, wildlife observation and photography, and environmental education and interpretation*).** In refuge wilderness, we facilitate these uses that do not generally involve prohibited uses unless specifically allowed by the provisions of the wilderness-establishing legislation or when they are an existing private right. See Refuge System recreation policies at 605 FW 1-7 for further guidance. We will work closely with the State fish and wildlife agencies to ensure close coordination when managing hunting and fishing activities.

**(2) *Other appropriate and compatible recreation uses that are enhanced by a wilderness setting*.**

Hiking, canoeing, and cross-country skiing, for example, allow visitors to experience and observe wildlife and its habitat in a wilderness context. They provide opportunities to experience the physical, psychological, symbolic, and spiritual values of wilderness under conditions that include risk and challenge, self-reliance, and a spirit of exploration, discovery, and adventure.

**B.** Where use conflicts occur or when we must limit the number of visitors, we will give preference to compatible wildlife-dependent recreational uses in accordance with the Administration Act that best preserve the wilderness and are enhanced by a wilderness setting. In cases where it is necessary to limit use, we will seek to provide a fair balance between commercial services and private uses of wilderness, recognizing that in extreme cases, accommodating both types of uses may not always be possible.

610 FW 2.30

**Keeping It Wild: An Interagency Strategy to Monitor Trends in Wilderness Character Across the National Wildlife Preservation System (July 2008)** (<https://www.fs.fed.us/rm/pubs/rmrs_gtr212.pdf>)

The federal land management agencies with responsibility for administering wilderness areas (DOI Fish and Wildlife Service, DOI National Park Service, DOI Bureau of Land Management and USDA Forest Service) developed the following consistent interpretation of the meaning of wilderness character to ensure consistent monitoring of their programs to implement the Wilderness Act.

***What Is Wilderness Character?***

The 1964 Wilderness Act doesn’t define wilderness character and the congressional committees that debated the Wilderness Act did not discuss the meaning of wilderness character (Scott 2002). The Forest Service’s national framework for monitoring wilderness character (Landres and others 2005) identified three mutually reinforcing societal ideals integral

to the historical purpose of wilderness and to understanding wilderness character:

• Natural environments relatively free from modern human manipulation and impacts;

• Personal experiences in natural environments that are relatively free from the encumbrances and signs of modern society; and

• Symbolic meanings of humility, restraint, and interdependence in how individuals and society view their relationship to nature.

Wilderness character may be described as the combination of biophysical, experiential, and symbolic ideals that distinguishes wilderness from other lands. These ideals combine to form a complex and subtle set of relationships among the land, its management, its users, and the meanings people associate with wilderness. In total, these relationships and meanings are described as “wilderness character.”

Zahniser (1956) wrote that “to know the wilderness is to know a profound humility, to recognize one’s littleness, to sense dependence and interdependence, indebtedness, and responsibility.” This and other writings of Zahniser strongly reinforce the idea that, fundamentally, wilderness character is the capacity of an area to elicit humility, awaken a sense of relationship and interconnectedness with the community of life, and evoke a feeling of restraint and obligation toward nature.

***Wilderness Character Is Unique for Each Wilderness***

Congress determines the state of wilderness character at the time an area is designated as wilderness, so every wilderness is unique in its combination of legislative and administrative direction and social and biophysical settings. For example, the character of a wilderness close to an urban area is likely to have more visitors, air pollutants, and sights and sounds of modern civilization than the character of a wilderness that is far from an urban area. Regardless, the agency’s management responsibility is to preserve the wilderness character of each area from further degradation. The legislative history of a wilderness may inform managers about why Congress designated that area and the special values or special features, purposes, and places within it (Meyer 2000).

This uniqueness means that change in wilderness character can only be understood in the context of a particular area and that it cannot be compared from one wilderness to another. Also, there can be no national numerical standard regarding wilderness character other than agency policy to preserve wilderness character relative to the time the area was designated as wilderness.

***Four Qualities of Wilderness Character***

Congressional intent for the meaning of wilderness character is expressed in the Definition of Wilderness, Section 2(c) of the 1964 Wilderness Act (McCloskey 1999; Rohlf and Honnold 1988; Scott 2002). The Forest Service national framework (Landres and others 2005) applied this legal definition to identify four tangible qualities of wilderness that make the idealized description of wilderness character relevant and practical to wilderness stewardship:

* *Untrammeled*—The Wilderness Act states that wilderness is “an area where the earth and its community of life are untrammeled by man,” and “generally appears to have been affected primarily by the forces of nature.” In short, wilderness is essentially unhindered and free from modern human control or manipulation. This quality is degraded by modern human activities or actions that control or manipulate the components or processes of ecological systems inside the wilderness.
* *Natural*—The Wilderness Act states that wilderness is “protected and managed so as to preserve its natural conditions.” In short, wilderness ecological systems are substantially free from the effects of modern civilization. This quality is degraded by intended or unintended effects of modern people on the ecological systems inside the wilderness since the area was designated.
* *Undeveloped*—The Wilderness Act states that wilderness is “an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation,” “where man himself is a visitor who does not remain” and “with the imprint of man’s work substantially unnoticeable.” This quality is degraded by the presence of structures, installations, habitations, and by the use of motor vehicles, motorized equipment, or mechanical transport that increases people’s ability to occupy or modify the environment.
* *Solitude or a primitive and unconfined type of recreation*—The Wilderness Act states that wilderness has “outstanding opportunities for solitude or a primitive and unconfined type of recreation.” This quality is about the *opportunity* for people to experience wilderness; it is not directly about visitor experiences per se. This quality is degraded by settings that reduce these opportunities, such as visitor encounters, signs of modern civilization, recreation facilities, and management restrictions on visitor behavior.

Federal agencies must implement laws in their entirety, not just selected sentences, and this influenced our interpretation of these four qualities. For example, we use the word “essentially” in our interpretation of the untrammeled quality to state, in the strongest terms we could, the importance of wilderness not being manipulated while acknowledging several qualifying words that occur in the legal definition of wilderness.

These four qualities together comprise an approximation of wilderness character for wilderness planning, stewardship, and monitoring. For the purpose of this interagency monitoring strategy, all four qualities are equally important and none is held in higher or lower regard than the others. A detailed discussion of the historical and scientific support and specific concerns for each of the four qualities is provided in the Forest Service national framework (Landres and others 2005) and Technical Guide (Landres and others, in press) and is summarized in the *Framework for Wilderness Character Monitoring* section.

***These Four Qualities Apply to All Wildernesses***

These four qualities apply to all designated wilderness areas—regardless of size, location, administering agency, or other unique place-specific attributes—because they are based on the legal definition of wilderness and every wilderness law includes specific language that ties it to this definition (Hendee and Dawson 2002; Landres 2003). While individual wilderness laws may include specific exceptions or special provisions that apply to the uses and values of particular areas, no Federal legislation changes the 1964 Act’s Section 2(c) Definition of Wilderness, and no legislation changes the management responsibility of Section 4(b) for “preserving the wilderness character of the area.”

***Wilderness Character Is More Than These Four Qualities***

In addition to the four tangible qualities related to wilderness character used in this interagency strategy, there are also important intangible aspects of wilderness character that would be difficult or even impossible to quantify or monitor. These intangible aspects are diverse and include the scenic beauty and immensity of an area and the opportunity for self-discovery, self-reliance, and challenge that comes from wilderness settings. These intangible aspects are important contributors to the inspirational and psychological benefits that many people experience in wilderness (Putney and Harmon 2003; Roggenbuck and Driver 2000; Schroeder 2007). These intangible aspects of wilderness character could be added to this interagency strategy as research develops practical monitoring indicators.

***Decisions and Actions May Preserve or Degrade These Four Qualities***

Wilderness character may be either preserved or degraded by the actions or inactions of managers. For example, the choices to not use a chain saw, build a footbridge across a stream, or suppress a naturally ignited fire may preserve certain qualities of wilderness character. In contrast, other management actions, such as requiring visitors to use designated campsites or authorizing administrative use of motorized equipment and mechanical transportation, may diminish certain qualities of wilderness character.

The challenge of wilderness stewardship, however, is that decisions and actions taken to protect one aspect of wilderness character may diminish another aspect. For example, a bridge built to protect a stream bank from erosion caused by people or horses crossing the stream may also diminish the opportunity for people to experience the challenge of crossing a stream. Similarly, the required use of designated campsites to prevent the proliferation of sites and associated impacts on soil and vegetation may also diminish the opportunity for unconfined recreation and the sense of freedom from the constraints of regulation. In addition, the accumulated result of seemingly small decisions and actions may cause a significant gain or loss of wilderness character over time. Because of this complexity, preserving wilderness character requires that managers approach wilderness stewardship with humility, respect, and restraint.

**Conducting Remedial Investigations/Feasibility Studies for CERCLA Municipal Landfill Site (EPA OSWER Directive 9355.3-11 (February 1991))**

**5.1 Overall Protection of Human Health and the Environment**

When evaluating alternatives in terms of overall protection of human health and the environment, consideration should be given to the manner in which site risks identified in the conceptual site model are eliminated, reduced, or controlled through treatment, engineering controls (for example, containment), or institutional controls. Potential threats to human health and the environment resulting from municipal landfills may include:

• Leachate generation and groundwater contamination

• Soil contamination (including hot spots)

• The landfill contents themselves

• Landfill gas

• Wetlands contamination

• Contamination of surface waters and sediments

The overall assessment of protection of human health and the environment is based on evaluating how each of these potential threats has been addressed in terms of a composite of factors assessed under other evaluation criteria, especially long-term effectiveness and permanence, short-term effectiveness, and compliance with ARARs.

**5.2 Compliance With ARARS**

Onsite remedial actions at CERCLA municipal landfill sites must comply with all ARARs of other environmental statutes, unless a waiver can be justified. These statutes include those established by

U.S. EPA and other federal agencies and those established by the state in which the release occurred, if the state’s standards are promulgated, more stringent than the federal standards, and are identified in a timely manner.

By way of defining “applicable” and “relevant and appropriate”: *applicable requirements* are federal or state requirements that “specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other contaminant, remedial action, location, or other circumstance found at a CERCLA site” (NCP Sec. 300.5). *Relevant and appropriate requirements* are federal or state laws that, while not applicable to a hazardous substance, pollutant, contaminant, remedial action, or other circumstance at a CERCLA site, “address problem or situations sufficiently similar to those encountered at the CERCLA site that their use is well suited to the particular site.” (NCP Sec. 300.5).

Another factor in determining which requirements must be compiled with is whether the requirement is substantive or administrative. Onsite CERCLA response actions must comply with substantive requirement of other environmental laws but not with administrative requirements. Substantive requirements include cleanup standards or levels of control; in general, administrative requirements prescribe methods and procedures such as fees, permitting, inspection, and reporting requirements.

In addition to the legally binding requirements established as ARARs, many federal and state programs have developed criteria, advisories, guidelines, or proposed standards “to be considered” (TBC). This TBC material may provide useful information or recommend procedures if (1) no ARAR addresses a particular situation, or (2) if existing ARARs do not provide protection. In such situations, TBC criteria or guidelines should be used to set remedial action levels. Their use should be explained and justified in the administrative record for the site.

\* \* \* \* \*

**5.2.1.2 Location-Specific ARARs**

Location-specific ARARs are the restrictions placed on the concentration of hazardous substances or the conduct of activities solely because they occur in special locations. These requirements relate to the geographical or physical position of municipal landfill sites rather than to the nature of the contaminants or the proposed remedial actions. These requirements may limit the type of remedial action that can be implemented and may impose additional constraints on the cleanup action.

The restrictions caused by flood plains and wetlands are among the most common location-specific potential ARARs for municipal landfill sites. Federal location-specific ARARs for municipal landfill sites are presented in Table 5-2, at the end of this section. The following is a discussion of the location-specific ARARs that typically are most pertinent to landfill sites.

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| Table 5-2**POTENTIAL FEDERAL LOCATION-SPECIFIC ARARs AT MUNICIPAL LANDFILL SITES** |
| **Location** | **Requirement** | **Prerequisite(s)** | **Citation** | **Comments** |
| 7. | Wilderness areas | Areas must be administered in such a manner as will leave it unimpaired as wilderness and to preserve its wilderness character. | Federally owned area designated as wilderness area. | Wilderness Act (16 USC 1131 et seq.); 50 CRF 35.1 et seq. | Need to verify that the site is not within a Federal Wilderness Area. |
| 8. | Wildlife refuge | Only actions allowed under the provisions of 16 USC Section 668dd(c) may be undertaken in areas that are part of the National Wildlife Refuge System | Area designation as part of National Wildlife Refuge System. | 16 USC 668 dd et seq.; 50 CFR Part 27 | Need to verify that the site is not within a National Wildlife Refuge |

**Presumption Remedy for CERCLA Municipal Landfill Sites (EPA OSWER Directive 9355.0-49FS (September 1993)**

**CONTAINMENT AS A PRESUMPTIVE REMEDY**

Section 300.430(a)(iii)(B) of the NCP contains the expectation that engineering controls, such as containment, will be used for waste that poses a relatively low long-term threat where treatment is impracticable. The preamble to the NCP identifies municipal landfills as a type of site where treatment of the waste may be impracticable because of the size and heterogeneity of the contents (55 FR 8704). Waste in CERCLA landfills usually is present in large volumes and is a heterogeneous mixture of municipal waste frequently co-disposed with industrial and/or hazardous waste. Because treatment usually is impracticable, EPA generally considers containment to be the appropriate response action, or the “presumptive remedy,” for the source areas of municipal landfill sites.

The presumptive remedy for CERCLA municipal landfill sites relates primarily to containment of the landfill mass and collection and/or treatment of landfill gas. In addition, measures to control landfill leachate, affected ground water at the perimeter of the landfill, and/or upgradient ground-water that is causing saturation of the landfill mass may be implemented as part of the presumptive remedy.

The presumptive remedy does not address exposure pathways outside the source area (landfill), nor does it include the long-term ground-water response action. Additional RI/FS activities, including a risk assessment, will need to be performed, as appropriate, to address those exposure pathways outside the source area. It is expected that RI/FS activities addressing exposure pathways outside the source generally will reconducted concurrently with the streamlined RI/FS for the landfill source presumptive remedy. A response action for exposure pathways outside the source (if any) may be selected together with the presumptive remedy (thereby developing a comprehensive site response), or as an operable unit separate from the presumptive remedy.

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**Treatment of Hot Spots**

The decision to characterize and/or treat hot spots is a site-specific judgement that should be based on the consideration of a standard set of factors. Highlight 4 lists questions that should be answered before making overriding question is whether the combination of the waste’s physical and chemical characteristics and volume is such that the integrity of the new containment system will be threatened if the waste is left in place. This question should be answered on the basis of what is known about a site (e.g., from operating records or other reliable information). An answer in the affirmative to all of the questions listed in Highlight 4 would indicate that it is likely that the integrity of the containment system would be threatened, or that excavation and treatment of hot spots would be practicable, and that a significant reduction in risk at the site would occur as a result of treating hot spots. EPA expects that few CERCLA municipal landfills will fall into this category; rather, based on the Agency’s experience, the majority of sites are expected to be suitable for containment only, based on the heterogeneity of the waste, the lack of reliable information concerning disposal history, and the problems associated with excavating through refuse.

The volume of industrial and/or hazardous waste codisposed with municipal waste at CERCLA municipal landfills varies from site to site, as does the amount of information available concerning disposal history. It is impossible to fully characterize, excavate, and/or treat the source area of municipal landfills, so uncertainty about the landfill contents is expected. Uncertainty by itself does not call into question the containment approach. However, containment remedies must be designed to take into account the possibility that hot spots are present in addition to those that have been identified and characterized. The presumptive remedy must be relied upon to contain landfill contents and prevent migration of contaminants. This is accomplished by a combination of measures, such as a landfill cap combined with a leachate collection system. Monitoring will further ensure the continued effectiveness of the remedy.

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**CLOSURE REQUIREMENTS Subtitle D**

In the absence of Federal Subtitle D closure regulations, State Subtitle D closure requirements generally have governed CERCLA response actions at municipal landfills as applicable or relevant and appropriate requirements (ARARs). New Federal Subtitle D closure and postclosure care regulations will be in effect on October 9, 1993 (56 FR 50978 and 40 CFR 258).[] State closure requirements that are ARARs and that are more stringent than the Federal requirements must be attained or waived.

The new Federal regulations contain requirements related to construction and maintenance of the final cover, and leachate collection, ground-water monitoring, and gas monitoring systems. The final cover regulations will be applicable requirements for landfills that received household waste after October 9, 1991. EPA expects that the final cover requirements will be applicable to few, if any, CERCLA municipal landfills, since the receipt of household wastes ceased at most CERCLA landfills before October 1991. Rather, the substantive requirements of the new Subtitle D regulations generally will be considered relevant and appropriate requirements for CERCLA response actions that occur after the effective date.

**Subtitle C**

RCRA Subtitle C closure requirements may be applicable or relevant and appropriate in certain circumstances. RCRA Subtitle C is applicable is the landfill received waste that is a listed or characteristic waste under RCRA, and:

1. The waste was disposed of after November 19, 1980 (effective date of RCRA), or

2**.** The new response action constitutes disposal under RCRA (i.e., disposal back into the original landfill).

The decision about whether a Subtitle C closure requirement is relevant and appropriate is based on a variety of factors, including the nature of the waste and its hazardous properties, the date on which it was disposed, and the nature of the requirement itself. For more information on RCRA Subtitle C closure requirements, see *RCRA ARARs: Focus on Closure Requirements,* Directive No. 9234.2-04FS, October 1989.

**CERCLA Compliance with Other Laws Manual: Part I (August 1988)**

**1.2.3.2 Location-Specific Requirements**

A site's location is a fundamental determinant of its impact on human health and the environment. Location-specific ARARs are restrictions placed on the concentration of hazardous substances or the conduct of activities solely because they are in specific locations. Some examples of special locations include floodplains, wetlands, historic places, and sensitive ecosystems or habitats. An example of a location-specific requirement is the substantive CWA §404 prohibitions of the unrestricted discharge of dredged or fill material into wetlands.

Exhibit 1-2 provides a matrix of location-specific requirements, established under several statutes, that are potential ARARs. At present, the matrix contains requirements established under a number of different environmental statutes. As additional statutes are analyzed, the matrix will be expanded to include their location-specific requirements.

The following location-specific requirements are included in the matrix:

RCRA Location Requirements. RCRA contains a number of explicit limitations on where on-site storage, treatment, or disposal of hazardous waste may occur. In addition to the location criteria already contained in RCRA regulations, the Hazardous and Solid Waste Amendments of 1984 (HSWA) also mandate the development of location requirements concerning vulnerable hydrogeology (see RCRA §3004(o)(7)). When those regulations are promulgated, they will be added to the matrix. It should be emphasized that guidance issued under RCRA also should be considered when necessary to achieve protectiveness, but is not binding (i.e., is not ARAR) for determining what actions should be taken at a particular location.[] HSWA land disposal restrictions also prohibit placement of hazardous wastes in certain formations (salt domes, salt bad formations, and underground mines or caves) and list certain wastes, which will be evaluated for prohibition by EPA under RCRA by August 8, 1988, June 8, 1989, and May 8, 1990 (40 CFR §265.18, 40 CPR Part 268)

National Historic Preservation Act of 1966 (NHPA)\*. Requires action to take into account effects on properties included in or eligible for the National Register of Historic Places and to minimize harm to National Historic Landmarks.

\*Endangered Species Act. Requires action to avoid jeopardizing the continued existence of listed endangered or threatened species or modification of their habitat.

\*Wilderness Act. Establishes nondegradation, maximum restoration, and protection of wilderness areas as primary management principles.

\*Fish and Wildlife Coordination Act. Requires action to protect fish and wildlife from actions modifying streams or areas affecting streams.

\*Wild and Scenic Rivers Act. Requires action to avoid adverse effects on designated wild or scenic rivers.

\*Coastal Zone Management Act. Requires activities affecting land or water uses in a coastal zone to certify noninterference with coastal zone management.

Clean Water Act. Section 404 prohibits discharge of dredged or fill material into navigable waters without a permit. CERCLA on-site actions do not require a permit, but the substantive requirements of §404 regarding such a discharge would be ARAR.[]

40 CFR Part 6 Appendix A. Sets forth EPA policy for carrying out the provisions of Executive Orders 11988 (Floodplain Management) and 11990 (Protection of Wetlands).16

\*These and other statutes will be addressed in a later addition to this manual.

16 Executive orders are binding on the section of government for which they are issues.

EXHIBIT 1-2

SELECTED LOCATION-SPECIFIC POTENTIAL APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

Location Requirement Prerequisite Citation\_\_\_\_\_\_\_\_

\* \* \* \* \*

Wilderness area Areas must be administered Federally-owned area Wilderness Act

 in such manner as will leave designated as (16 USC 1131 et seq.);

 it unimpaired as wilderness wilderness area 50 CFR 35.1 et seq.

 and to preserve its wilderness

Wildlife refuge Only actions allowed under Area designated as 16 USC 668dd et seq.;

 the provisions of 16 USC part of National 50 CFR Part 27

 Section 668 dd(c) may be Wildlife Refuge

 undertaken in areas that System

 are part of the National

 Wildlife Refuge System

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**CERCLA Compliance with Other Laws Manual: Part II (EPA OSWER Directive 9234.1-02 (August 1989)**

**CHAPTER 4**

**OTHER RESOURCE PROTECTION STATUTES**

**4.0 OVERVIEW**

The laws addressed in the following sections contain consultation, documentation, and reporting requirements that must be complied with for off site remedial actions,[]and that are strongly recommended to ensure that on-site remedial activities comply with the substantive ARARs. While EPA interprets CERCLA §121(e) to exempt lead agencies from obtaining Federal, State, or local permits (or documents similar to permits) or from complying with the administrative requirements for on-site remedial activities, it is strongly recommended that lead agencies, nevertheless, consult as specified with administering agencies for on-site actions. The administering agencies have the expertise to determine the impacts of a remedial action on particular aspects of the environment and what steps should be taken to avoid and mitigate adverse impacts.

\* \* \* \* \*

**4.7 WILDERNESS ACT**

The Wilderness Act, 16 USC §§1131 et seq., creates the National Wilderness Preservation System. The intent of the law is to administer units of this System (i.e., Wilderness Areas) in order to preserve their wilderness character and to leave them unimpaired for future use as wilderness.

In complying with the Wilderness Act, the RPM must first identify whether proposed remedial activities will impact designated wilderness areas (see 16 USC §1132). The Regional NEPA Compliance staff should be able to identify these areas. If a proposed remedial activity will impact a wilderness area, the RPM should consult with the NEPA Compliance staff and the administering agency to determine the prohibitions on activities in the wilderness area and whether exemptions to these prohibitions are necessary and can be obtained. For example, the RPM may have to implement a remedial activity that uses only temporary structures and roads, or certain kinds of equipment.

**4.7.1 Documentation**

When remedial activities will impact a wilderness area, the RI/FS should describe compliance with the Wilderness Act. The ROD should identify the Wilderness Act as an ARAR and state whether each alterative will meet the ARAR. For the selected remedy, the ROD should also briefly state what compliance with the Wilderness Act will entail.

***Exhibit 4-5***

**Wilderness Area Review Under Wilderness Area Act and**

**Remedy Selection Under CERCLA**



1 *The Interagency Review Letter (IRL), formerly known as the A-95 Clearing House Letter, is the scoping phase of the process.*

**Ecological Revitalization: Turning Contaminated Properties into Community Assets**

**(EPA OSWER 542-R008-003 (February 2009)**

Revitalizing properties for ecological purposes helps to achieve U.S. Environmental Protection Agency (EPA)’s goal of restoring contaminated properties to environmental and economic vitality. The term “ecological revitalization” refers to the process of returning land from a contaminated state to one that supports functioning and sustainable habitat. Although the final decision on how stakeholders will reuse a property is inherently a local decision that often rests with the property owner, EPA supports and encourages ecological revitalization as part of the cleanup of contaminated properties across all of its cleanup programs. Ecological revitalization has many positive effects that apply to a variety of stakeholders (see text box below). The objectives of ecological revitalization and those of the remediation process are best accomplished if they are carefully coordinated. To this end, this document provides general information for coordinating ecological revitalization during the cleanup of contaminated properties, as well as technical considerations for implementing ecological revitalization of wetlands, streams, and terrestrial ecosystems during cleanup. (page 1-1)

When investigating, designing, and implementing a cleanup, remedial project managers (RPMs) are encouraged to consider, to the extent practical, anticipated future land uses. With careful planning, many Superfund sites can accommodate ecological revitalization while still meeting the requirements under CERCLA and other federal and state regulations. Stakeholders best accomplish the objectives of ecological revitalization and those of the remediation process through careful coordination. For example, CERCLA requires that EPA coordinate with all affected Natural Resource Trustees (Trustees) when conducting a remedial investigation (RI). Trustees are designated under Executive Order 12580 and defined under CERCLA as other federal, state, or tribal governments that act on behalf of the public for natural resources under their trusteeship. Trustees often have information and technical expertise about the biological effects of hazardous substances, as well as the location of sensitive species and habitats that can assist EPA in evaluating and characterizing the nature and extent of site-related contamination. Coordination at the investigation and planning stages provides the Trustees early access to information they need to assess injury to natural resources. This assists Trustees in making early decisions about whether sites need restoration in light of the response actions. (page 2-5)

While property owners and communities generally conduct land use planning with input from stakeholders, it is important for EPA to understand the anticipated future uses for the site when planning and implementing the remedy. Establishing remediation goals for ecological receptors can be challenging if there is limited data on toxicity, effects on receptor species, and contaminant bioavailability. These challenges can be overcome by planning ahead and collecting appropriate ecotoxicological data (such as contaminant bioavailability and site-specific toxicity), reviewing the open literature and previous ERAs for data, and coordinating with stakeholders to identify site-specific receptors and past incidents of exposure. Uncertainties that cannot be addressed should be documented as part of the site-specific ERA and considered when selecting the site remedy or reuse. Stakeholders have the greatest reuse flexibility if remediation and reuse plans are coordinated prior to cleanup. EPA plays an important role in the planning process by communicating key information about the nature of contamination at the site, remedy options, and long-term protectiveness issues. (page 2-6)

