

Appendix I.
Wilderness Review

This appendix contains the wilderness inventory conducted for the Ash Meadows, Moapa Valley, and Pahrangat National Wildlife Refuges (NWRs) as part of the Comprehensive Conservation Plan (CCP) development process. The wilderness inventory concluded that none of the lands within Ash Meadows and Moapa Valley NWRs meet the criteria for wilderness designation. However, three small units of Pahrangat NWR along the western side of the Refuge and adjacent to the proposed Desert Wilderness on Desert NWR do meet the criteria for wilderness designation.

This appendix also contains a copy of the proposal to designate approximately 1.3 million acres of land within the Desert NWR as wilderness. This wilderness proposal was submitted to Congress in 1974 but Congress has yet to act on the proposal. However the Service continues to manage this area to protect its wilderness values. As part of the CCP implementation, the Service plans to prepare a revised proposal which includes technical corrections to the existing proposed wilderness such as: correcting overlap with US Air Force's bombing range; allowing repair/relocation of hazardous sections of roads; and allowing the use of helicopters to repair/maintain water developments and access remote areas for wildlife surveys. Details of these revisions will be provided in a revised proposal.

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APPENDIX I-1

Wilderness Inventory: Ash Meadows, Moapa Valley, and Pahrnagat NWRs

**Desert National Wildlife Refuge Complex
Clark County, Nevada**

Wilderness Inventory: Ash Meadows, Moapa Valley, and Pahrnagat NWRs

The purpose of a wilderness review is to identify and recommend for Congressional designation National Wildlife Refuge System (System) lands and waters that merit inclusion in the National Wilderness Preservation System (NWPS). Wilderness reviews are a required element of comprehensive conservation plans (CCPs) and conducted in accordance with the refuge planning process outlined in 602 FW 1 and 3, including public involvement and the National Environmental Policy Act (NEPA) compliance.

There are three phases to the wilderness review: 1) inventory, 2) study; and 3) recommendation. Lands and waters that meet the minimum criteria for wilderness are identified in the inventory phase. These areas are called wilderness study areas (WSAs). WSAs are evaluated through the CCP process to determine their suitability for wilderness designation. In the study phase, a range of management alternatives are evaluated to determine if a WSA is suitable for wilderness designation or management under an alternate set of goals and objectives that do not involve wilderness designation. The recommendation phase consists of forwarding or reporting recommendations for wilderness designation from the Director through the Secretary and the President to Congress in a wilderness study report.

If the inventory does not identify any areas that meet the WSA criteria, we document our findings in the administrative record for the CCP, fulfilling the planning requirement for a wilderness review. We inventoried Service lands and waters within Ash Meadows, Moapa Valley, and Pahrnagat NWRs and found no areas that meet the eligibility criteria for a WSA as defined by the Wilderness Act. This appendix summarizes the wilderness inventory for these three refuges.

Inventory Criteria

The wilderness inventory is a broad look at the planning area to identify WSAs. These are roadless areas that meet the minimum criteria for wilderness identified in Section 2(c) of the Wilderness Act.

“A wilderness, in contrast with those areas where man and his works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act 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.”

A WSA must be a roadless area or island, meet the size criteria, appear natural, and provide outstanding opportunities for solitude or primitive recreation. The process for identification of roadless areas and application of the wilderness criteria are described in the following sections.

Identification of Roadless Areas and Roadless Islands

Identification of roadless areas and roadless islands required gathering and evaluating land status maps, land use and road inventory data, and aerial and satellite imagery for the refuges. “Roadless” refers to the absence of improved roads suitable and maintained for public travel by means of motorized vehicles primarily intended for highway use. Only lands currently owned by the Service in fee title or BLM lands managed under a cooperative agreement were evaluated.

Evaluation of the Size Criteria

Roadless areas or roadless islands meet the size criteria if any one of the following standards applies:

- An area with over 5,000 contiguous acres. State and private lands are not included in making this acreage determination.
- A roadless island of any size. A roadless island is defined as an area surrounded by permanent waters or that is markedly distinguished from the surrounding lands by topographical or ecological features.
- An area of less than 5,000 contiguous Federal acres that is of sufficient size as to make practicable its preservation and use in an unimpaired condition, and of a size suitable for wilderness management.
- An area of less than 5,000 contiguous Federal acres that is contiguous with a designated wilderness, recommended wilderness, or area under wilderness review by another Federal wilderness managing agency such as the Forest Service, National Park Service, or Bureau of Land Management.

Evaluation of the Naturalness Criteria

In addition to being roadless, a WSA must meet the naturalness criteria. Section 2(c) defines wilderness as an area that “... generally appears to have been affected primarily by the forces of nature with the imprint of man’s work substantially unnoticeable.” The area must appear natural to the average visitor rather than “pristine.” The presence of historic landscape conditions is not required. An area may include some human impacts provided they are substantially unnoticeable in the unit as a whole. Significant human-caused hazards, such as the presence of unexploded ordnance from military activity, and the physical impacts of refuge management facilities and activities are also considered in evaluation of the naturalness criteria. An area may not be considered unnatural in appearance solely on the basis of the “sights and sounds” of human impacts and activities outside the boundary of the unit.

Evaluation of Outstanding Opportunities for Solitude or Primitive and Unconfined Recreation

In addition to meeting the size and naturalness criteria, a WSA must provide outstanding opportunities for solitude or primitive recreation. The area does not have to possess outstanding opportunities for both solitude and primitive and unconfined recreation, and does not need to have outstanding opportunities on every acre. Further, an area does not have to be open to public use and access to qualify under this criteria; Congress has designated a number of wilderness areas in the Refuge System that are closed to public access to protect resource values.

Opportunities for solitude refer to the ability of a visitor to be alone and secluded from other visitors in the area. Primitive and unconfined recreation means non-motorized, dispersed outdoor recreation activities that are compatible and do not require developed facilities or mechanical transport. These primitive recreation activities may provide opportunities to experience challenge and risk; self reliance; and adventure.

These two “opportunity elements” are not well defined by the Wilderness Act but, in most cases, can be expected to occur together. However, an outstanding opportunity for solitude may be present in an area offering only limited primitive recreation potential. Conversely, an area may be so attractive for recreation use that experiencing solitude is not an option.

Evaluation of Supplemental Values

Supplemental values are defined by the Wilderness Act as “...ecological, geological, or other features of scientific, educational, scenic, or historic value.” These values are not required for wilderness but their presence should be documented.

Inventory Findings:

Ash Meadows NWR

As documented below, Ash Meadows NWR does not meet the criteria necessary for a WSA.

Roadless Areas and Roadless Islands/ Size Criteria

Ash Meadows NWR is a total of approximately 23,488 acres. There are approximately 32 miles of public roads on the Refuge, and these roads divide the refuge into ten units. These units can be classified by their size. Only one unit is greater than 5,000 acres (Area A), and there are numerous unimproved roads within the unit. Three other units are relatively large, consisting of 4,561, 4,058, and 4,461 acres (Areas F, G, & A). Each one of these units also has an extensive network of unimproved roads crossing them.

Naturalness Criteria

The land within Ash Meadows NWR was intensively farmed in the 1960s and 1970s, prior to its establishment as a Refuge. As a result, many of the visual qualities associated with that use are still evident. Agricultural fields, fences, utility lines, fences, levees, roads (maintained and not), ditches, and a reservoir are examples of some of the remains of this agricultural legacy. The Refuge is currently in the habitat restoration stage and will likely remain so for years to come.

Of the four sections that are close to being large enough for wilderness management;

- Area A consists of 4,461 acres, includes several levees, the Peterson Reservoir, the Longstreet cabin, approximately 24 miles of unimproved roads, and extensive agricultural fields.
- Area D consists of 5,092 acres, contains Crystal Springs Reservoir and dam, several levees, approximately 23 miles of unimproved roads and old agricultural fields.
- Area F is 4,561 acres, contains the Point of Rocks interpretive site, has approximately 28 miles of unimproved roads, and old agricultural fields.
- Area G consists of 4,058 acres, contains several structures, irrigation or well infrastructure, old agricultural fields, and approximately 17 miles of unimproved roads.

Outstanding Opportunities for Solitude or Primitive and Unconfined Recreation

There are opportunities for solitude or primitive and unconfined recreation; however, sights and sounds from visitors, refuge personnel, or over flights from the military may interfere with solitude.

Supplemental Values

Ash Meadows NWR consists of more than 23,000 acres of spring-fed wetlands and alkaline desert uplands and is a major discharge point for a large underground aquifer system stretching 100 miles to the northeast. Water-bearing strata reaches the surface in more than 30 seeps and springs, providing a rich and complex variety of habitats. Wetlands, springs, and springbrook channels are scattered throughout the Refuge. Sandy dunes, rising up to 50 feet above the landscape, appear in the central portions of the Refuge. The Refuge provides habitat for at least 25 plants and animals found nowhere else in the world and provides a unique visual opportunity.

Mesquite and ash groves flourish near wetlands and stream channels and saltbush dominates large portions of the Refuge in dry areas adjacent to wetlands. Creosote bush habitat occurs in the drier elevated areas along the east and southeastern portions of the Refuge. Cacti occur along the outer eastern edge of the Refuge with a variety at Point of Rocks.

The Refuge provides excellent views of the night sky for stargazers due to the lack of light sources in the vicinity.

Ash Meadows National Wildlife Refuge Wilderness Evaluation

Refuge Unit and Acreage	(1) has at least 5,000 acres of land or is of sufficient size to make practicable its preservation and use in an unconfined condition, or is a roadless island.	(2) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable	(3a) has outstanding opportunities for solitude OR	(3b) has outstanding opportunities for primitive and unconfined type of recreation;	(4) contains ecological, geological or other features of scientific, educational, scenic, or historical value.	Parcel qualifies as a wilderness study area (meets criteria 1, 2, and 3a or 3b).
A	No, 4,461 acres	Includes several levees, the Peterson Res., the Longstreet cabin, approximately 24 miles of dirt roads, and extensive agricultural fields.	Yes	Yes	Yes, Longstreet cabin and ecological, educational, and scenic values.	No, insufficient size and management as wilderness would conflict with restoration plans.
D	Yes, 5,092 acres	Crystal Springs Res. & dam, several levees, approximately 23 miles of dirt roads and old ag.fields.	Yes	Yes	Yes, ecological, educational, and scenic values.	No, the human imprint on the environment is substantially noticeable.

Refuge Unit and Acreage	(1) has at least 5,000 acres of land or is of sufficient size to make practicable its preservation and use in an unconfined condition, or is a roadless island.	(2) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable	(3a) has outstanding opportunities for solitude OR	(3b) has outstanding opportunities for primitive and unconfined type of recreation;	(4) contains ecological, geological or other features of scientific, educational, scenic, or historical value.	Parcel qualifies as a wilderness study area (meets criteria 1, 2, and 3a or 3b).
F	No, 4,561 acres	Contains Point of Rocks interpretive site, has approx. 28 miles of dirt roads, and old agricultural fields.	Yes	Yes	Yes, ecological, educational, and scenic values.,	No, insufficient size and management as wilderness would conflict with restoration plans.
G	No, 4,058 acres	Contains several structures, irrigation or well infrastructure, old agricultural fields, and approximately 17 miles of dirt roads.	Yes	Yes	Yes, ecological, educational, and scenic values.	No, insufficient size and management as wilderness would conflict with restoration plans.

Moapa Valley NWR

As documented below, none of the parcels in the Moapa Valley NWR meet the criteria necessary for a WSA.

Roadless Areas and Roadless Islands

The Moapa Valley NWR is a total of approximately 116 acres. Warm Springs Road (hwy 168) parallels the eastern border to the Refuge, and from Warm Springs Road there are Refuge roads leading to the stream viewing chamber, and to the Pederson Unit, which leads to the Pederson residence and outbuildings. The Apcar Unit is also bisected by unimproved roads used by both Refuge staff and by the Moapa Valley Water District to access the capped spring head. The Moapa Valley NWR does not meet the size criteria for a wilderness study area. The Refuge is approximately 116 acres total.

Naturalness Criteria

The 116-acres Refuge contains a stream viewing chamber, with parking for visitors. The Refuge is comprised of four adjacent, but visually distinct units. The Pedersen Unit, to the west, is 30 acres in

size. The Plummer Unit, to the east, is 28 acres in size. The Apar Unit is 48 acres in size. The Pederson #2 Unit is 11 acres in size. Each unit has a separate stream system supported by the steady and uninterrupted flow of several springs that come to the surface at various places throughout the Refuge. The Pederson Unit #2 includes a residence and outbuildings. The Apar Unit has a spring house, and the Plummer Unit contains the stream viewing chamber and parking lot.

With an active restoration program, native riparian species have begun to return, including ash trees, honey mesquite, and screw bean mesquite. Plant species on the drier, upland areas of the Refuge are fourwing saltbush and creosote bush. Removal of non-native species, such as Canadian thistle and salt cedar is an on-going task. A visitor on the Refuge may see either see houses or roads and could hear cars driving on these roads.

Outstanding Opportunities for Solitude or Primitive and Unconfined Recreation

There are opportunities for solitude or primitive and unconfined recreation; however, sights and sounds from Warm Springs Road may interfere with solitude, depending on the amount of traffic on the road.

Supplemental Values

The desert landscape combined with the springs can provide the visitor with an interest in geology and ecology and glimpse into an area where the Moapa Dace is uniquely adapted to life in this harsh landscape. The Refuge was created because of the Moapa Dace, as it is found no where except this valley.

Pahrnagat NWR

As documented below, Pahrnagat NWR does not meet the criteria necessary for a WSA.

Roadless Areas and Roadless Islands/Size Criteria

Pahrnagat NWR consists of 5,382 acres. The Refuge is long and narrow in shape, and varies from 0.5 to 2 miles in width (1.5 mile average), with US Highway 93 paralleling the eastern boundary along the Refuge's approximate 10-mile length. The north half of the Refuge, including Upper Pahrnagat Lake is well visited because of a campground located on the east side of the lake and a county road which bisects the Refuge about 1 mile south of Upper Pahrnagat Lake. This road continues on to Bureau of Land Management lands. There are five levees positioned east-west that are used to cross the lake and wetlands for administrative purposes. By using roads to divide the Refuge into units, and eliminating units less than 100 acres results in 14 units in which to evaluate the refuge for wilderness values.

The middle section of the Refuge includes (immediately west of current US Highway 93) a section of old US Highway 93, currently used by vehicles accessing the Refuge. The lower section of the Refuge contains larger units, none larger than 730 acres.

Naturalness Criteria

The Refuge encompasses a ten mile stretch of Pahrnagat Valley and associated desert uplands at an elevation of slightly less than 4,000 feet above sea level. The White River, an ancient perennial stream which was a tributary of the Colorado River, flowed through the Pahrnagat Valley from the north. It established a well-defined, but relatively narrow flood plain. The river bed is dry for many miles upstream and downstream from Pahrnagat Valley, but there is water in the valley that comes from large, thermal springs along the flood plain. This spring water is stored in the Refuge's Upper Lake

and North Marsh and is released to create conditions which will enhance the growth of wildlife food plants and to supplement lakes, marshes, and grasslands south of the Refuge headquarters. Water from the springs rarely flows past Maynard Lake at the southern end of the Refuge. Throughout most of the 5,382-acres Refuge, a visitor may hear cars driving on Highway 93. The inlet to the upper lake is concrete lined for approximately 20 feet on either side of a stop log control structure. There are five levees which are used for water management, and administrative roads on the levees. There is a concrete lined ditch that is used to transfer water. There are campgrounds with fourteen camp sites, and numerous dirt roads, with three of these roads continuing through the Refuge to the west. Roads created in this desert environment tend to remain as scars on the desert floor for a very long time. Refuge buildings consist of an office/shop, equipment shelter, manager residence, bunkhouse, and fire cache.

Outstanding Opportunities for Solitude or Primitive and Unconfined Recreation

The eastern portion of the Refuge does have opportunities for solitude. The section south of Lower Pahranaagat Lake contains the only remaining naturally occurring lake and the only part of the Refuge not accessible by automobile. The section includes an abandoned section of the historic Corn Creek Road that is washed out and can no longer be traveled by auto. Sights and sounds from Highway 93 may interfere with solitude, depending on the amount of traffic on the road.

Supplemental Values

The lower section of the Refuge includes historic dry lake beds, upland desert habitat, a historic (late 1800) home site, naturally occurring springs, petroglyphs, native American artifacts and geological formations including volcanic tuff and other upland areas. The desert landscape, wildlife, and wetland, open water, and riparian habitats on Pahranaagat NWR provide significant scenic value to visitors of the Refuge. The Refuge’s managed water also provides regionally significant ecological value for migratory birds and other wildlife.

Map and Table

The following map and accompanying table show Pahranaagat National Wildlife Refuge segmented by roads, and further grouped into units greater than 100 acres. Refuge units lesser than 100 acres were deemed too small to be suitable for wilderness management.

Pahranaagat National Wildlife Refuge Wilderness Evaluation – Units greater than 100 acres

Refuge Unit and Acreage	(1) has at least 5,000 acres of land or is of sufficient size to make practicable its preservation and use in an unconfined condition, or is a roadless island.	(2) generally appears to have been affected primarily by the forces of nature, with the imprint of man’s work substantially unnoticeable	(3a) has outstanding opportunities for solitude OR	(3b) has outstanding opportunities for primitive and unconfined type of recreation;	(4) contains ecological, geological or other features of scientific, educational, scenic, or historical value.	Parcel qualifies as a wilderness study area (meets criteria 1, 2, and 3a or 3b).
1	No, 208 acres	Yes, Unpaved road on east boundary	Yes, on west boundary	Yes	Scenic	No, insufficient size.
2	No, 143 acres	Inholding	No, bordered by highway	No	No	No, inholding
3	No, 184 acres	Inholding	No, bordered by highway	No	No	No, inholding

Refuge Unit and Acreage	(1) has at least 5,000 acres of land or is of sufficient size to make practicable its preservation and use in an unconfined condition, or is a roadless island.	(2) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable	(3a) has outstanding opportunities for solitude OR	(3b) has outstanding opportunities for primitive and unconfined type of recreation;	(4) contains ecological, geological or other features of scientific, educational, scenic, or historical value.	Parcel qualifies as a wilderness study area (meets criteria 1, 2, and 3a or 3b).
4	No, 730 acres	No, Highway and dirt roads evident	Yes, on the w. boundary.	Yes	Yes, ecological, scenic.	No, insufficient size.
5	No, 195 acres	No, levees on n. & s. boundary, roads on e. & w. boundary, channelized stream.	Yes, on the w. boundary	Yes	Yes, ecological, scenic	No, insufficient size.
6	No, 605 acres	No, Roads on e. and w. boundary, levee on the s. boundary, check dams in stream.	Yes	Yes	Yes, ecological, and Cottonwood Spring	No, insufficient size.
7	No, 133 acres	Highway, petroglyphs, old agricultural fields, abandoned portion of highway.	No, too close to hwy.	Yes	Yes, petroglyphs	No, insufficient size.
8	No, 333 acres	Highway, levee to s. & n., road on e. & w. shore, campsites, levee overlook.	No, lake used for fishing, campers nearby	Yes	Yes, scenic Upper Pahrnagat Lake	No, insufficient size.
9	No, 245 acres	Eastside road defines boundary.	Yes	Yes	Yes, scenic desert	No, insufficient size.
10	No, 206 acres	Water control structure, refuge boundary fence, hwy, levee on south boundary.	No, lake used for fishing, road nearby	Yes	Yes, scenic Upper Pahrnagat Lake	No, insufficient size.
11	No, 195 acres	Dirt roads and Hwy.	Yes	Yes	Yes, scenic desert	No, insufficient size.

Refuge Unit and Acreage	(1) has at least 5,000 acres of land or is of sufficient size to make practicable its preservation and use in an unconfined condition, or is a roadless island.	(2) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable	(3a) has outstanding opportunities for solitude OR	(3b) has outstanding opportunities for primitive and unconfined type of recreation;	(4) contains ecological, geological or other features of scientific, educational, scenic, or historical value.	Parcel qualifies as a wilderness study area (meets criteria 1, 2, and 3a or 3b).
12	No, 115 acres	Abandoned agricultural fields, concrete ditch, levee on s. boundary, roads on e. & w. boundary.	No, too close to refuge headquarters	No, too close to headquarters	No	No, insufficient size.
13	No, 346 acres	Inholding	Yes, little used area	Yes	Scenic, ecological	No, inholding
14	No, 715 acres	Highway on the e. boundary	Yes, on the w. boundary	Yes	house foundation, and Lone Tree Spring	No, insufficient size.

APPENDIX I-2

1971 Desert NWR Wilderness Proposal

**Desert National Wildlife Refuge Complex
Clark County, Nevada**

United States Department of the Interior
Fish and Wildlife Service

CHANGES AS A RESULT OF THE PUBLIC HEARING

There were two changes made in the area proposed for wilderness status as the result of the public hearing and additional information gained subsequent to our initial recommendations. These changes are as follows:

1. The Mule Deer Ridge Trail was determined to be unnecessary and is to be closed and let revert to its natural condition. This, in effect, consolidated Units III and IV into a single unit.
2. The lands outside the existing range suitable for addition to the range and for wilderness status were recalculated at 76,000 acres instead of 58,000 acres. These lands are proposed as "Potential Wilderness Addition".

As a result of these changes the proposed wilderness units are as follows:

<u>UNIT</u>	<u>ACRES</u>	<u>P.W.A.</u>
Unit I Gass Peak	40,900	
Unit II Las Vegas	123,640	40,000
Unit III Sheep Range	463,900	36,000
Unit IV Hole-in-the-Rock	115,700	
Unit V Desert Pintwater	339,500	
Unit VI Spotted Range	300,700	

Final Recommendations

Based upon our review, the surface lands of this proposal are suitable for wilderness designation. However, our knowledge of the minerals which may underlie the proposed area is conjectural. Without the benefit of a thorough mineral survey of the area, we are unable to balance its wilderness values and mineral resources. For this reason, we recommend that the Congress appropriate the funds necessary to conduct such a survey and defer action on this proposal until its completion.