

Sheldon National Wildlife Refuge
Wilderness Review
2010

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Introduction

Sheldon National Wildlife Refuge was initially established by Executive Order in 1931 as a refuge and breeding ground for wild animals and birds, and later expanded to include additional lands and for the conservation and development of natural wildlife resources and for the protection and improvement of public grazing lands and natural forage resources.

After a comprehensive inventory and evaluation of the wilderness character and value of the entire Sheldon Refuge with public input and involvement, the Service prepared an Environmental Impact Statement and recommended portions of Sheldon Refuge for designation as wilderness under the Wilderness Act of 1964. This recommendation was later expanded and a proposal was submitted to Congress by the President in 1974. At that time, the President requested Congress not act on his proposal until a mineral survey for Sheldon Refuge could be completed. The mineral survey was completed by the U.S. Geologic Survey in 1975, but since that time Congress has taken no action to designate any portion of Sheldon Refuge as wilderness.

Wilderness Review Process

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 CCPs and are conducted in accordance with the Service's wilderness review and evaluation policy outlined in 610 FW 4 and in accordance with the refuge planning process outlined in 602 FW 1 and 3, including public involvement and National Environmental Policy Act (NEPA) compliance.

There are three phases to a wilderness review: 1) inventory, 2) study; and 3) recommendation.

- 1) **Wilderness Inventory**—the wilderness inventory identifies those lands within the Refuge that might have wilderness character and satisfy the definition of wilderness as stated in the Wilderness Act and in Service Policy. The inventory preliminarily classifies each unit of land that meets these requirements as a wilderness study area (WSA).
- 2) **Wilderness Study**—the wilderness study further evaluates each WSA for values, resources, and uses to determine if each one merits recommendation from the Service to the Secretary of the Interior as wilderness.
- 3) **Wilderness Recommendation**—the recommendation phase consists of forwarding or reporting recommendations for wilderness designation from the Director of the U.S. Fish and Wildlife Service through the Secretary of the Interior and the President to Congress in a wilderness study report.

This appendix summarizes the wilderness inventory for the Sheldon NWR.

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 appear natural, provide outstanding opportunities for solitude or primitive recreation, meet the size criteria, and may provide other supplemental values. The process for identification of roadless areas in the Sheldon NWR and application of the wilderness criteria are described in the following sections.

Identification of Roadless Areas

Identification of roadless areas required gathering and evaluating land status maps, land uses, road inventory data, and aerial photographs for the Sheldon NWR. By definition, a “roadless area” is a reasonably compact area of undeveloped Federal land that has the general characteristics of a wilderness and within which there is no improved road suitable for public travel by means of four-wheeled, motorized vehicles intended primarily for highway use. A route maintained solely by the passage of vehicles does not constitute a road (610 FW 1.5 Z).

Using the Service definition of a road, there are six roaded areas within Sheldon Refuge. These areas include Highway 140, county roads 34 and 34A, county road 8A, Summit Lake Road, Bog Hot Road, and the Dufurrena/ Virgin Valley Road. All other routes within Sheldon Refuge are maintained solely by the passage of vehicles and do not constitute roads for the purposes of the Sheldon Refuge Wilderness Inventory completed in 2010.

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.” An area is apparently natural if it looks natural to the average visitor who is not familiar with historic conditions or human influences in a given area. Areas which have been, or are in the process of being restored to a

substantially natural appearance following previous significant disturbances such as grazing or agriculture may still be found suitable.

An area may also meet the naturalness criteria if human impacts are relatively minor and substantially unnoticeable in the unit as a whole. Minor impacts may include trails, fire towers, fire breaks, pit toilets, fire rings, hitching posts, snow gauges, research monitoring devices, wildlife enhancement facilities (e.g. guzzlers or exclosures), fencing, spring developments and small reservoirs.

Established or proposed refuge management activities or refuge uses that require the use of temporary roads, motor vehicles, motorized equipment, mechanical transport, landing of aircraft, structures, and installations generally prohibited within designated wilderness or “sights and sounds” of human impacts and activities outside the boundary of the unit do not disqualify an area from meeting the wilderness naturalness criteria. The physical impacts of these practices within the unit should be the focus of the naturalness evaluation. We evaluate existing and proposed refuge management activities and refuge uses in the study phase of the wilderness review.

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.

An area does not need to have outstanding opportunities for both a primitive and unconfined type of recreation and solitude and does not need to have outstanding opportunities on every acre to meet the criteria. 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 primitive and unconfined recreational use that it would be difficult to maintain opportunities for solitude (e.g., around water).

Opportunities are evaluated for each area on its own merits independent from other areas. When an area is contiguous to proposed wilderness, recommended wilderness, a WSA, or other Federal lands that a land management agency has already determined to have wilderness character (i.e., Service, BLM, Park Service, or Forest Service lands), an additional evaluation of outstanding opportunities is not required.

Evaluation of the Size Criteria

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

- 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 managing agency such as the Forest Service, National Park Service, or BLM.

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 Process

Based upon the location of the existing 1974 proposed wilderness area boundaries¹, improved roads, well used and long-standing unimproved roads determined necessary for vehicle access, natural features such as cliffs, canyons, and mountain ranges, and the location of disconnected Refuge lands—Refuge staff identified 34 discrete wilderness inventory units (refer to Figure 1 Sheldon Refuge Wilderness Inventory Units, and Figures 2-35).

Wilderness Inventory

Thirty-four Wilderness Inventory Units were identified during the inventory process. Thirteen Wilderness Inventory Units represent the eight areas proposed for wilderness designation in 1974. Five of the eight proposed wilderness areas (Rye Creek, Round Mountain, Catnip Mountain, Big Mountain, and Sage Hen Hills WSAs) are determined to still meet the criteria for wilderness study throughout. As a result the recommended boundaries for these WSAs remain unchanged from the 1974 Wilderness Proposal. For the remaining three proposed wilderness areas (Big Spring, Gooch Table, and Alkali Peak) natural condition, opportunities for solitude or a primitive and unconfined type of recreation, or size/ contiguous status (through acquisition) have changed to the extent that portions either no longer meet the criteria and have been removed

¹ The Proposed Wilderness Area boundaries have been corrected and adjusted slightly from earlier Refuge planning documents based upon a detailed review of the final 1974 Sheldon Refuge Wilderness Proposal submitted to Congress and updated digital land status and Refuge boundary data.

from wilderness study or now do meet criteria and have been added for wilderness study. As a result, the boundaries for these three areas have been adjusted (refer to Figures 1, and discussions for the Big Spring Creek, Mud Springs, and Rodero wilderness inventory units). An explanation for these adjustments is included in Table 1.

Of the 21 Wilderness Inventory Units which are not currently proposed for designation, 10 are determined to meet the criteria for further wilderness study and have been identified as WSAs. Of the 11 remaining units not identified as WSAs, all but one (Badger Mountain) were determined to not meet the criteria for wilderness study in both the 1973 and 2009 wilderness inventories and for largely the same reasons

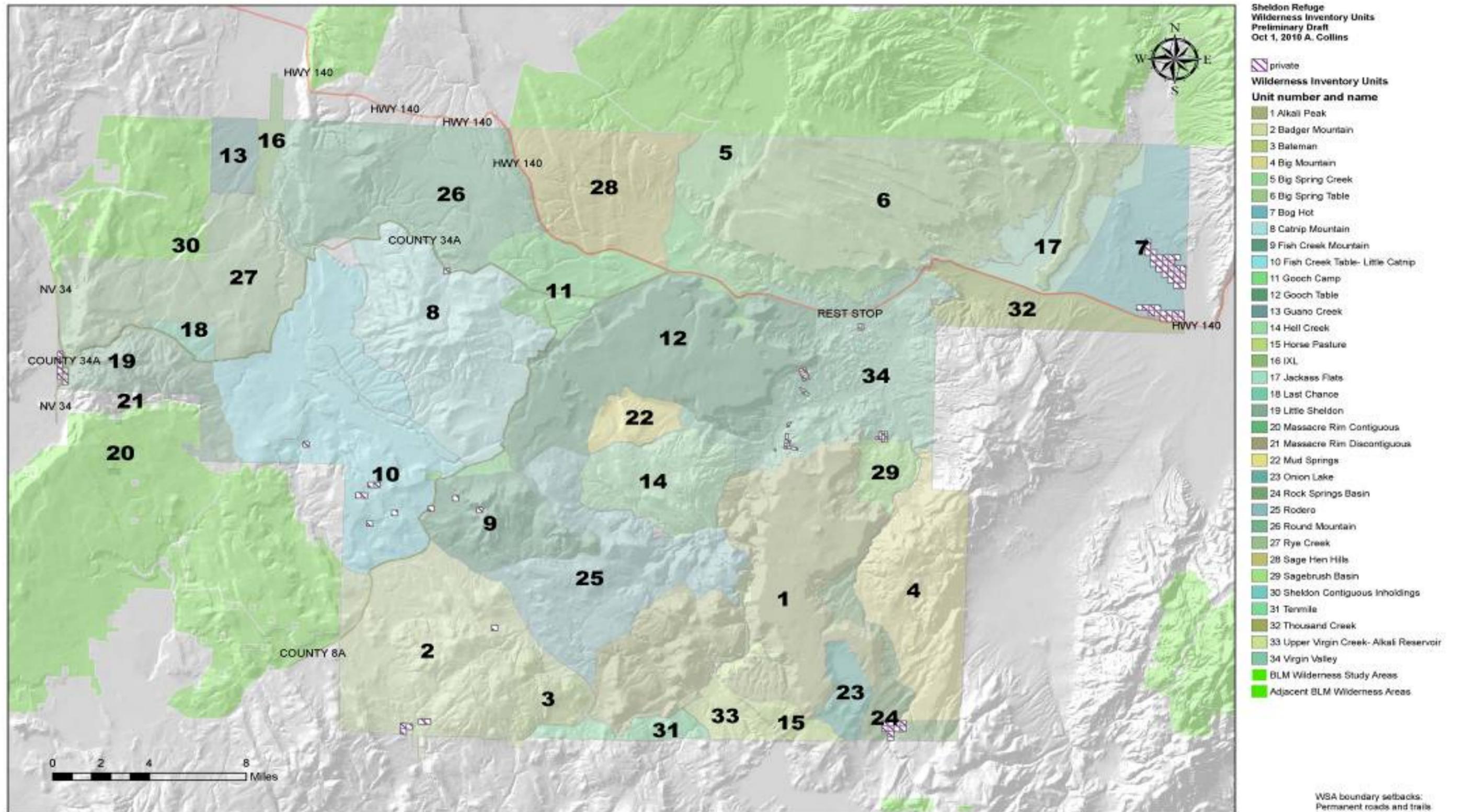


Figure 1 Sheldon Refuge Wilderness Inventory Units

Table 1. Overview of Units on Sheldon NWR

| Refuge Unit | Proposed Wilderness Area (PWA) 1974 | Criteria 1: Naturalness | Criteria 2: Outstanding Opportunities for Solitude or Primitive and Unconfined Recreation (at least one of three required) | | | Criteria 3: Size | Supplemental Values | Unit qualifies as WSA? |
|----------------------------|-------------------------------------|--|--|--|---|---|--|---|
| | | (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; | (2a) has outstanding opportunities for solitude; | (2b) has outstanding opportunities for a primitive and unconfined type of recreation; | (2c) is contiguous to proposed wilderness, recommended wilderness, or WSA | (3) at least 5,000 acres; or of sufficient size as to make practicable its preservation; or is contiguous with an area of other Federal lands identified as a WSA, under wilderness review or recommended or proposed for wilderness designation. | (4) contains ecological, geological or other features of scientific, educational, scenic, or historical value. | Unit meets criteria 1, 2a or 2b or 2c, and 3) |
| Alkali Peak Unit 1 | PWA | Yes | | | Yes | Yes (51,414 acres) | Yes: Scenic canyons and prehistoric cultural sites | Yes |
| Badger Mountain Unit 2 | | No: The number and density of primitive vehicle routes and impacts from past wildfire suppression activities detract from the overall natural appearance of the unit | No: Ongoing Refuge management activities and relatively high amounts of visitation during summer and fall hunting seasons reduce opportunities for solitude. | No: Recreation activities within this unit are supported by motorized vehicles and a network of primitive motorized routes | | Yes (37,252 acres) | Yes: Mountain mahogany habitat | No |
| Bateman Unit 3 | | Yes | | Yes | | Yes (5,772 acres) | Yes: Mountain mahogany habitat | Yes |
| Big Mountain Unit 4 | PWA | Yes | | | Yes | Yes (23,361 acres) | Yes: Scenic views | Yes |
| Big Spring Creek 5 Unit | PWA | No: A large number of mining disturbances, including disturbance unnoticed during 1974 inventory or which have occurred subsequent to the 1974 wilderness proposal are readily apparent from areas within the Unit and detract from the natural appearance of the Unit as a whole. | | | Yes | Yes (13,191 acres) | | No |
| Big Spring Table Unit 6 | PWA | Yes | | | Yes | Yes (52,200 acres) | Yes: Antelope research, rare habitats, geologic feature | Yes |
| Bog Hot Unit 7 | | No: The unit does not appear natural as a whole due to the presence of permanent roads and additional developments on private lands. | No: Activities and uses associated with private inholdings reduce opportunities for solitude or a primitive type of recreation. | | | Yes (16,662 acres) | | No |
| Catnip Mountain Unit 8 | PWA | Yes | | | Yes | Yes (33,227 acres) | | Yes |
| Fish Creek Mountain Unit 9 | PWA | Yes | | | Yes | Yes (13,786 acres) | | Yes |

| Table 1. Overview of Units on Sheldon NWR | | | | | | | | |
|---|-------------------------------------|--|---|---|---|---|--|---|
| Refuge Unit | Proposed Wilderness Area (PWA) 1974 | Criteria 1: Naturalness | Criteria 2: Outstanding Opportunities for Solitude or Primitive and Unconfined Recreation (at least one of three required) | | | Criteria 3: Size | Supplemental Values | Unit qualifies as WSA? |
| | | (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; | (2a) has outstanding opportunities for solitude; | (2b) has outstanding opportunities for a primitive and unconfined type of recreation; | (2c) is contiguous to proposed wilderness, recommended wilderness, or WSA | (3) at least 5,000 acres; or of sufficient size as to make practicable its preservation; or is contiguous with an area of other Federal lands identified as a WSA, under wilderness review or recommended or proposed for wilderness designation. | (4) contains ecological, geological or other features of scientific, educational, scenic, or historical value. | Unit meets criteria 1, 2a or 2b or 2c, and 3) |
| Fish Creek Table—Little Catnip Unit 10 | | Yes: One of the most pristine and undeveloped portions of Sheldon Refuge. Swan Lake Reservoir is noticeable, but does not detract from the natural appearance of the Unit as a whole. | Yes: Few visitors, very rugged remote terrain which provides outstanding opportunities for solitude and primitive recreation in an unconfined setting. | Yes | | Yes (43,609 acres) | | Yes |
| Gooch Camp Unit 11 | | No: Density of roads and other developments give the appearance of unnatural conditions throughout the unit as a whole | No: The presence of major access roads, highways, developed campgrounds, and management facilities provide little or no opportunities for solitude or primitive recreation. | | | Yes (16,957 acres) | | No |
| Gooch Table Unit 12 | PWA | Yes | | | Yes | Yes (40,038 acres) | | Yes |
| Guano Creek Unit 13 | | Yes | | | Yes | Yes: (4,133 acres contiguous with BLM Sheldon Contiguous WSA) | | Yes |
| Hell Creek Unit 14 | | Yes | | | Yes | Yes (13,969 acres) | | Yes |
| Horse Pasture Unit 15 | | Yes | No | No | No | No (2,651 acres) | | No |
| IXL Unit 16 | | No: Developments, structures, and manipulations from water control and farming are readily apparent throughout the majority of the unit | | | Yes | Yes (2,506 acres contiguous with the Round Mountain Proposed Wilderness Area) | Yes: Historic structures | No |
| Jackass Flats Unit 17 | | Yes | | | Yes | Yes (7,815 acres) | | Yes |
| Last Chance Unit 18 | | No: Density and size of roads and historic livestock developments give the appearance of unnatural conditions throughout the unit as a whole. | | | Yes | Yes (1,886 acres contiguous with Rye Creek Proposed Wilderness Area) | Yes: Historic structures | No |

Table 1. Overview of Units on Sheldon NWR

| Refuge Unit | Proposed Wilderness Area (PWA) 1974 | Criteria 1: Naturalness | Criteria 2: Outstanding Opportunities for Solitude or Primitive and Unconfined Recreation (at least one of three required) | | | Criteria 3: Size | Supplemental Values | Unit qualifies as WSA? |
|------------------------------------|-------------------------------------|---|---|---|---|---|--|---|
| | | (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; | (2a) has outstanding opportunities for solitude; | (2b) has outstanding opportunities for a primitive and unconfined type of recreation; | (2c) is contiguous to proposed wilderness, recommended wilderness, or WSA | (3) at least 5,000 acres; or of sufficient size as to make practicable its preservation; or is contiguous with an area of other Federal lands identified as a WSA, under wilderness review or recommended or proposed for wilderness designation. | (4) contains ecological, geological or other features of scientific, educational, scenic, or historical value. | Unit meets criteria 1, 2a or 2b or 2c, and 3) |
| Little Sheldon Unit 19 | | No: Density of roads and other developments give the appearance of unnatural conditions throughout the unit as a whole | | | Yes | Yes (11,722 acres) | Yes: Scenery and wildlife viewing opportunities | No |
| Massacre Rim Contiguous Unit 20 | | Yes: Some historic livestock developments and nearby roads and/or motorized trails, but parcels appear natural, especially when considered in context of the contiguous BLM WSA as a whole. | | | Yes | Yes (334 acres contiguous with the BLM Massacre Rim WSA) | | Yes |
| Massacre Rim Discontiguous Unit 21 | | No: surrounded by lands found not suitable for wilderness study by BLM and contain misc. historic developments for livestock management | No: Opportunities for solitude or primitive recreation greatly affected by proximity (less than 0.25 miles) to motorized vehicle routes and other mechanized and motorized uses | | | No (142 acres) | No | No |
| Mud Springs Unit 22 | PWA | No: A number of developments in this portion of the unit have been enlarged, improved, or added since the 1974 proposal. The size and density of these developments now detract from the substantially natural appearance of the unit as a whole. | | | Yes | Yes (4,641 acres contiguous with the Gooch Table Proposed Wilderness Area) | | No |
| Onion Lake Unit 23 | PWA | No: Density of historic livestock developments, existing trails, and Onion Reservoir are readily apparent and detract from the overall natural appearance of the unit as a whole. | | | Yes | Yes (4,252 acres contiguous with the Alkali Peak Proposed Wilderness Area) | | No |
| Rock Springs Basin Unit 24 | | No | | | Yes | Yes (7,220 acres) | | No |
| Rodero Unit 25 | PWA | No: Density of historic livestock developments, camping, and existing trails are readily apparent and detract from the overall natural appearance of the unit as a whole. | | | Yes | Yes (28,321 acres) | | No |
| Round Mountain Unit 26 | PWA | Yes | | | Yes | Yes (36,148 acres) | | Yes |

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|--|-------------------------------------|--|--|---|---|---|--|---|
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| | | (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; | (2a) has outstanding opportunities for solitude; | (2b) has outstanding opportunities for a primitive and unconfined type of recreation; | (2c) is contiguous to proposed wilderness, recommended wilderness, or WSA | (3) at least 5,000 acres; or of sufficient size as to make practicable its preservation; or is contiguous with an area of other Federal lands identified as a WSA, under wilderness review or recommended or proposed for wilderness designation. | (4) contains ecological, geological or other features of scientific, educational, scenic, or historical value. | Unit meets criteria 1, 2a or 2b or 2c, and 3) |
| Rye Creek Unit 27 | PWA | Yes | | | Yes | Yes (28,151 acres) | Yes: Scenic views, wildlife viewing opportunities, prehistoric rock art/ petroglyphs | Yes |
| Sage Hen Hills Unit 28 | PWA | Yes | | | Yes | Yes 21,068 acres) | | Yes |
| Sagebrush Basin Unit 29 | | Yes: Some disturbance from past mineral prospecting and mining which are gradually returning to a more natural appearance and do not detract from the natural appearance of the unit as a whole | | | Yes | Yes (4,241 acres contiguous with the Alkali Peak Proposed Wilderness Area | | Yes |
| Sheldon Contiguous WSA inholding Unit 30 | | Yes: Parcels are remote, undeveloped areas within an existing recommended BLM WSA. | | | Yes | Yes (119 acres contiguous with the BLM Sheldon Contiguous WSA) | | Yes |
| Tenmile Unit 31 | | Yes | | Yes | Yes | Yes (3,702 acres contiguous with the BML Ten Mile Spring Wilderness Inventory Unit) | Yes: Mountain mahogany habitat | Yes |
| Thousand Creek Unit 32 | | No: the unit does not appear natural as a whole due to the presence of permanent roads and additional developments on private lands. | No: Activities and uses associated existing roads and private lands reduce opportunities for solitude or a primitive type of recreation. | | | Yes (10,766 acres) | | No |
| Upper Virgin Creek/ Alkali Reservoir Unit 33 | | Yes | | | Yes | Yes (5,715 acres) | | Yes |

| Table 1. Overview of Units on Sheldon NWR | | | | | | | | |
|---|-------------------------------------|---|---|---|---|---|--|---|
| Refuge Unit | Proposed Wilderness Area (PWA) 1974 | Criteria 1: Naturalness | Criteria 2: Outstanding Opportunities for Solitude or Primitive and Unconfined Recreation (at least one of three required) | | | Criteria 3: Size | Supplemental Values | Unit qualifies as WSA? |
| | | (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; | (2a) has outstanding opportunities for solitude; | (2b) has outstanding opportunities for a primitive and unconfined type of recreation; | (2c) is contiguous to proposed wilderness, recommended wilderness, or WSA | (3) at least 5,000 acres; or of sufficient size as to make practicable its preservation; or is contiguous with an area of other Federal lands identified as a WSA, under wilderness review or recommended or proposed for wilderness designation. | (4) contains ecological, geological or other features of scientific, educational, scenic, or historical value. | Unit meets criteria 1, 2a or 2b or 2c, and 3) |
| Virgin Valley Unit 34 | | No: The number, size and, density of developments and disturbances resulting from mining, ranching, and Refuge management activities make this the least naturally appearing unit within Sheldon Refuge. It is unlikely this unit would appear natural even with extensive restoration and rehabilitation or a substantial amount of time to naturally recover. | No: Constant commercial mining activities, public use, motorized vehicle use, and other activities eliminate nearly all opportunities for solitude or a primitive type of recreation. | No: Recreation activities and uses within the unit are highly mechanized, supported by modern development, and controlled through rules and regulation. | | Yes (31,220 acres) | Yes: Geology and opals | No |

Alkali Peak Unit

This wilderness study unit is located in the southeast portion of Sheldon Refuge and consists of approximately 51,414 acres. This unit is surrounded by the Virgin Valley, Sagebrush Basin, Rock Springs Basin, Onion Lake, Horse Pasture, Upper Virgin Creek—Alkali Reservoir, and Rodero inventory units. The southern boundary of the unit is defined by the Summit Lake Road and the Horse Pasture vehicle route, with the remaining boundary segments primarily defined by the mineral withdrawal area and various topographic features.

Roadless Area

Except for the roads bordering the unit, there are no improved or maintained roads within the unit. All routes and roads within this unit were closed to vehicle use as a result of the 1974 Wilderness Proposal.

Naturalness Criteria

The majority of the unit is comprised of Rock Springs Table located between Virgin and Sagebrush creeks. This basalt table is remote and inaccessible and exists mostly in a primitive undisturbed natural condition consisting primarily of low sagebrush habitats. Rock Springs Table provides important habitat for antelope and sage grouse, with mountain mahogany located at elevations above 6,300 feet within the unit providing important habitat for mule deer.

Downstream from Upper Virgin Creek/ Alkali Reservoir Unit, Virgin Creek is confined into a spectacular, steep walled narrow canyon about 125 feet deep and 40 to 80 feet in width. The canyon is strewn with huge angular boulders, widens near the confluence of Hell Creek, and then narrows again. These rock cliffs provide nesting habitat for golden eagles and prairie falcons.



Figure 2 Virgin Creek Gorge within the Alkali Peak Proposed Wilderness Area (photo Gail H. Collins)

There are seven water developments within the unit including, three small pit reservoirs, one stock pond, and three developed springs with water troughs. While none of these developments are maintained, several of the stock ponds and developed springs remain at least partially functional. The East Rock Spring Campground, the abandoned Alkali Reservoir Dam, and several other abandoned range developments located near adjacent roads are not within the unit.

Seven abandoned unmaintained two-track routes, most of which historically were used to access and maintain livestock developments, are located within the unit. One route bisects the western portion of the unit, but the remaining routes are relatively short and dead-end at abandoned range developments or natural vehicle barriers. These routes continue to be used on an intermittent basis for Sheldon Refuge administrative purposes and illegally by OHVs and other vehicles for recreation purposes. As a result of continued use, some routes remain clearly visible while others are not readily apparent and can be difficult to find. The appearance of these routes detracts from the natural character of certain portions of the unit, but not the unit as a whole.

Solitude or Primitive and Unconfined Recreation Criteria

This unit provides excellent opportunities for primitive recreation, such as backcountry hiking, camping, and wildlife observation and photography. The majority of the unit, especially the high basalt tables and

Mahogany Mountain offer outstanding opportunities for solitude away from the sights and sounds of people and human activities. Exceptions include areas around the access roads, East Rock Spring and Devaney campgrounds, and Alkali Reservoir, which are more frequently visited.

Size Criteria

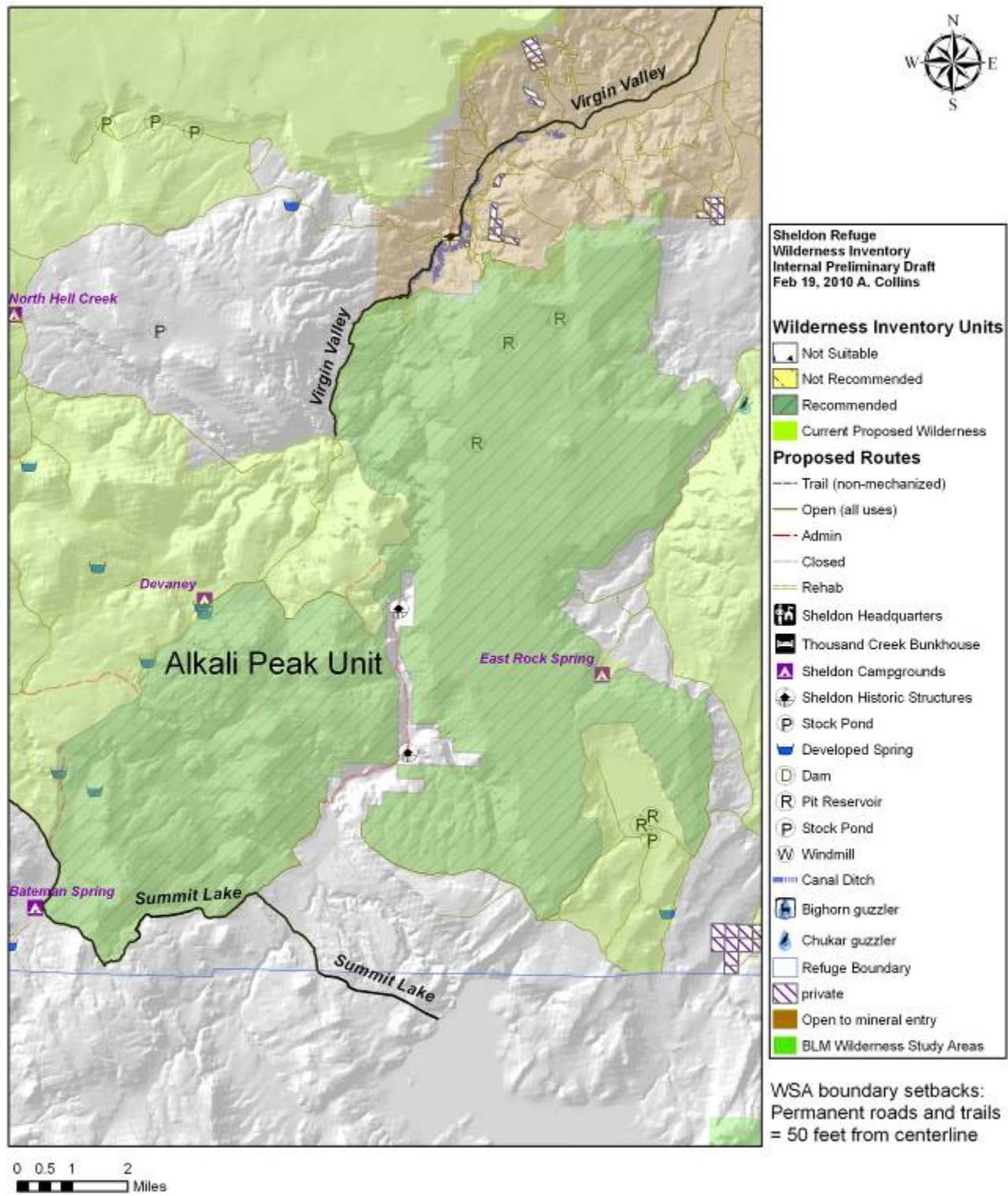
This unit is more than 5,000 acres in size and meets the size criteria.

Supplemental Values

This unit contains numerous prehistoric cultural sites and artifacts, including petroglyphs, rock shelters, campsites, and stone hunting blinds. The scenic quality of the Virgin Creek Canyon is outstanding and provides opportunities found in few other portions of Sheldon Refuge.

Wilderness Quality

Based on the above discussion, the Alkali Peak Unit continues to satisfy the definition of wilderness and meets the criteria for a WSA.



Badger Mountain Unit

The Badger Mountain Unit encompasses approximately 37,252 acres located in the southwestern corner of Sheldon Refuge. The unit is characterized primarily by Badger Mountain itself with its various ravines and small canyons. Higher elevations included scattered stands of mountain mahogany while lower elevations consist of various sagebrush habitats.

Roadless Area

A number of primitive vehicle routes are located throughout this unit. While these routes are unimproved and do not meet the definition of a road, they are heavily used by four-wheel vehicles intended primarily for highway use. With the exception of the Virgin Valley Unit, this portion of Sheldon Refuge has the greatest density of vehicle routes and vehicle use for recreation purposes.

Naturalness Criteria

The number and density of vehicle routes within this unit substantially affects the overall natural appearance of the unit. Addition disturbances have been created as a result of fire suppression activities. The unit also contains the Wheeler Spring and Badger campgrounds and the Badger Work Station. Six developed springs, two pit reservoirs, and 12 stock ponds distributed throughout the unit further detract from the overall natural character of this unit. The various developments and disturbances prevent this unit from meeting the natural criteria for wilderness character.

Solitude or Primitive and Unconfined Recreation Criteria

This unit provides excellent opportunities for unconfined recreation, especially hunting, and camping. Due to the extensive network of vehicle routes and motorized access, these opportunities are not considered primitive and do not allow opportunities for solitude.

Size Criteria

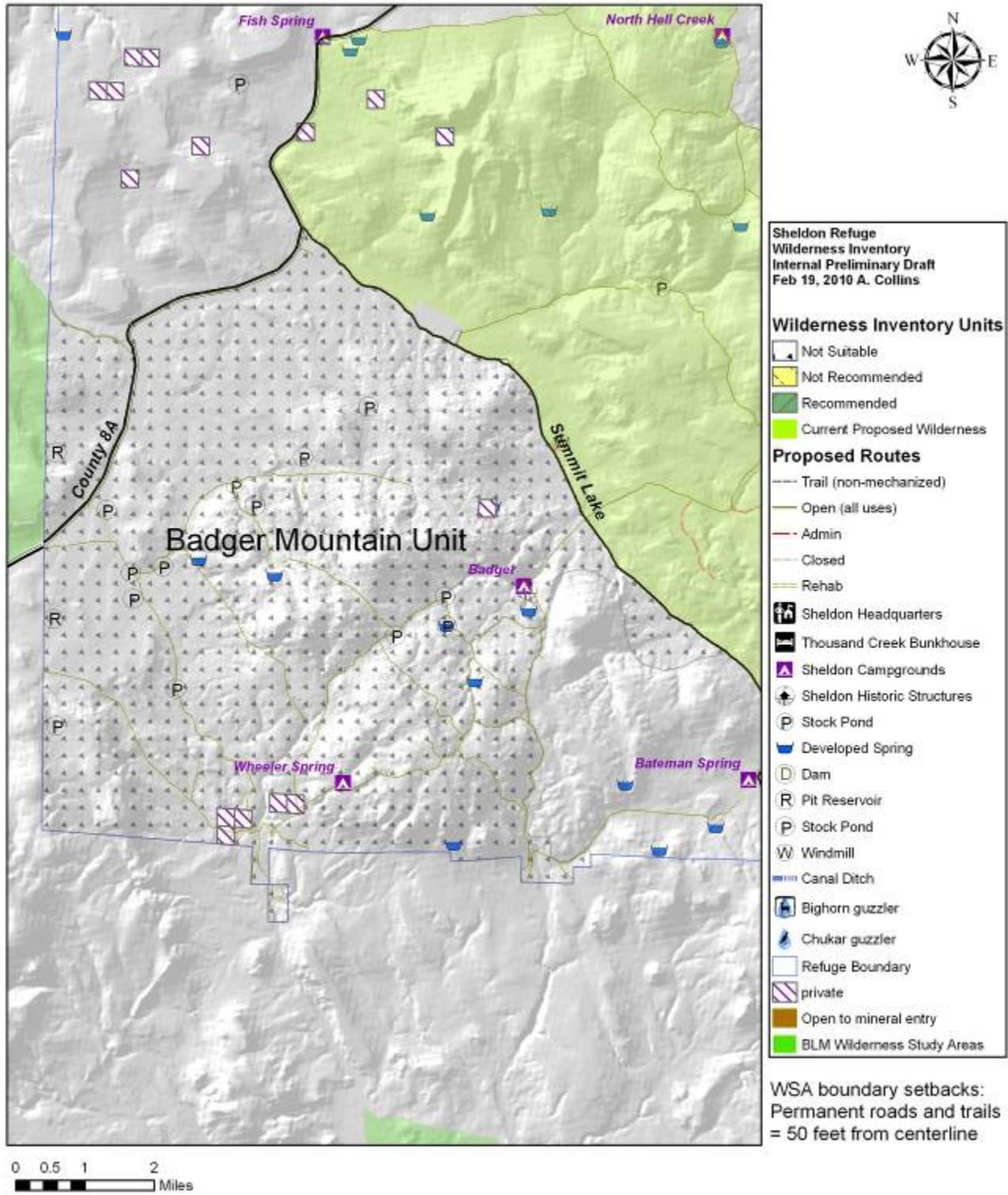
This unit is more than 5,000 acres in size and meets the size criteria.

Supplemental Values

Stands of mountain mahogany at the higher elevations of this unit are an important and valuable resource.

Wilderness Quality

Based on the above discussion, the Badger Unit does not satisfy the definition of wilderness and does not meet the criteria for a WSA.



Bateman Unit

The Bateman Unit encompasses 5,772 acres on the eastern side of Badger Mountain in the south central portion of Sheldon Refuge. The boundaries of this unit are defined primarily by primitive vehicle routes, topographic features, and a segment of the Summit Lake Road.

Roadless Area

Except for the roads bordering the unit, there are no improved or maintained roads within the unit. An abandoned route to Dude Spring continues to be used on an intermittent basis for Refuge administrative purposes and illegally by OHVs and other vehicles for recreation purposes.



Figure 3 The Summit Lake- Badger Mountain Road divides the Bateman Wilderness Inventory Unit (at the left of the photo) from the Rodero Wilderness Inventory Unit (photo Gail H Collins)

Naturalness Criteria

The natural character has been affected by past wildfire suppression activities and development of one spring to support commercial livestock grazing. The spring development has been abandoned and is no longer maintained. Disturbances from wildfire suppression are gradually returning to a more natural condition and do not affect the appearance or condition of the unit as a whole.

Large stands of mountain mahogany at higher elevations within the unit remain largely undisturbed and in their natural state and provide important habitat for mule deer and other wildlife. As stands of mountain mahogany in surrounding areas have gradually decreased in size, the stands within this unit have become increasingly important for meeting the purposes of Sheldon Refuge.

Solitude or Primitive and Unconfined Recreation Criteria

Outstanding opportunities for solitude are provided by the rugged terrain of this relatively small unit which provides screening and isolation from the sights and sounds of nearby activities, vehicle use, and other users. This unit provides excellent opportunities for primitive recreation, such as hunting, backcountry hiking, camping, rockhounding, and wildlife observation and photography.

Size Criteria

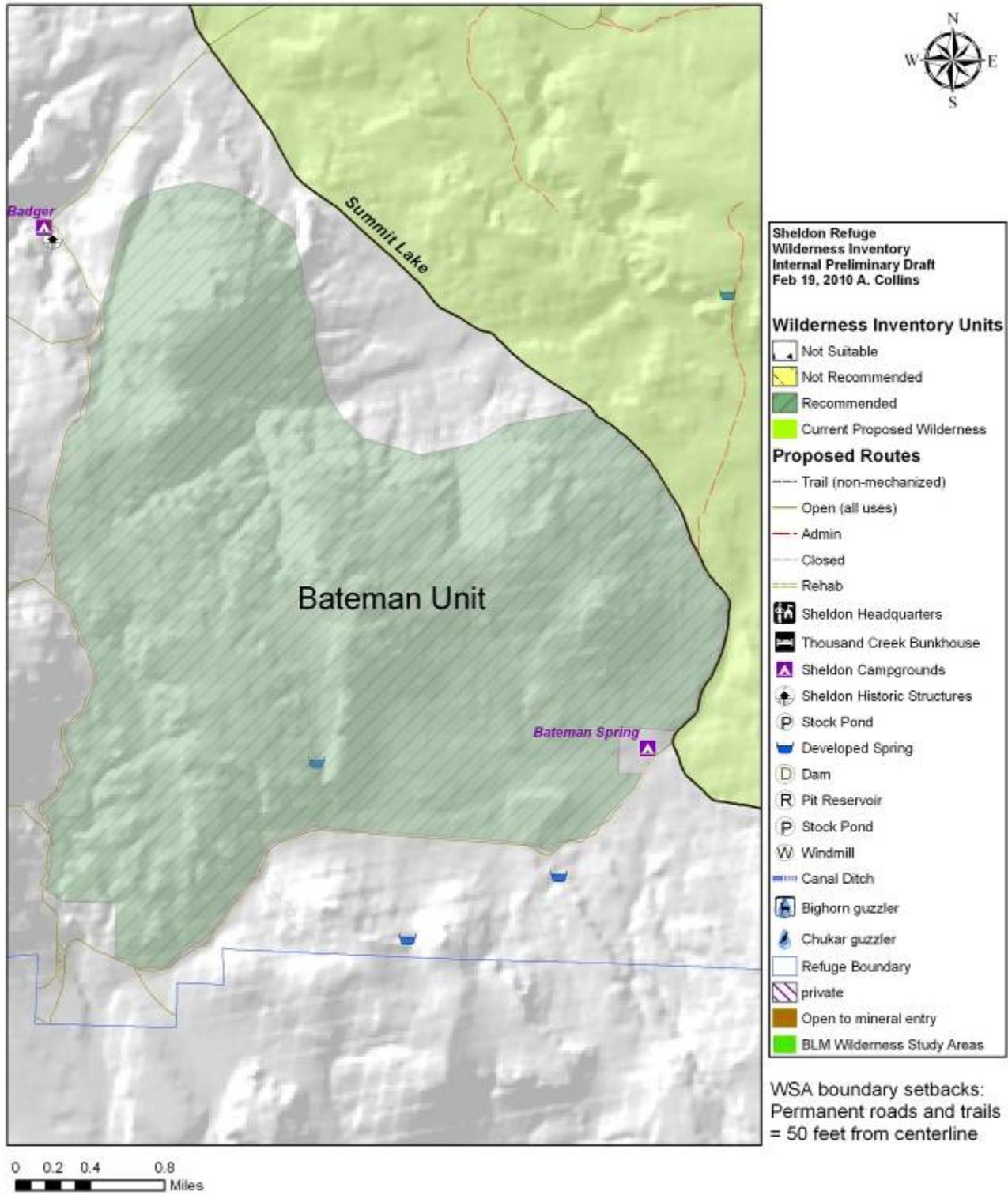
This unit is more than 5,000 acres in size and meets the size criteria.

Supplemental Values

The stands of mountain mahogany habitat within this unit are key for maintaining healthy populations of mule deer and other species of wildlife within and adjacent to Sheldon Refuge.

Wilderness Quality

Based on the above discussion, the Bateman Unit satisfies the definition of wilderness and meets the criteria for a WSA.



Big Mountain Unit

This unit encompassing 23,361 acres is located in the easternmost portion of Sheldon Refuge. Big Mountain and Idaho Canyon dominate the unit and provide a wide range of topography and vegetation types. The western boundary of the unit is defined by the Sagebrush Creek Road, the eastern boundary generally corresponds to Sheldon Refuge boundary and both the north and south boundaries follow legal lines forming the boundaries of the Virgin Valley and Rock Springs Basin inventory units respectively.

Roadless Area

Except for the roads bordering the unit, there are no improved or maintained roads within the unit. All routes and roads within this unit were closed to vehicle use as a result of the 1974 Wilderness Proposal.

Naturalness Criteria

Except for six water developments constructed during the 1990s for small game and bighorn sheep, the majority of the unit remains in a primitive natural condition. Two additional wildlife water developments located along the eastern boundary of Sheldon Refuge are outside the unit. The unit provides important habitat for mule deer in the winter and for a number of reintroduced bighorn sheep.

Two abandoned unmaintained two-track routes, most of which historically were used to access and maintain livestock developments, are located within the unit. While the entire unit is closed to the use of vehicles, a route which leads to higher elevations of Big Mountain continues to be used illegally by OHVs and other vehicles for recreation purposes. As a result of continued use, this route remains visible and detracts somewhat from the natural appearance within this portion of the unit.

Solitude or Primitive and Unconfined Recreation Criteria

This unit provides excellent opportunities for primitive recreation, such as hunting, backcountry hiking, camping, and wildlife observation and photography. Opportunities for solitude are outstanding as well. Rugged terrain and few trails and routes ensure visitors have little interaction with others.

Size Criteria

This unit is more than 5,000 acres in size and meets the size criteria.

Supplemental Values

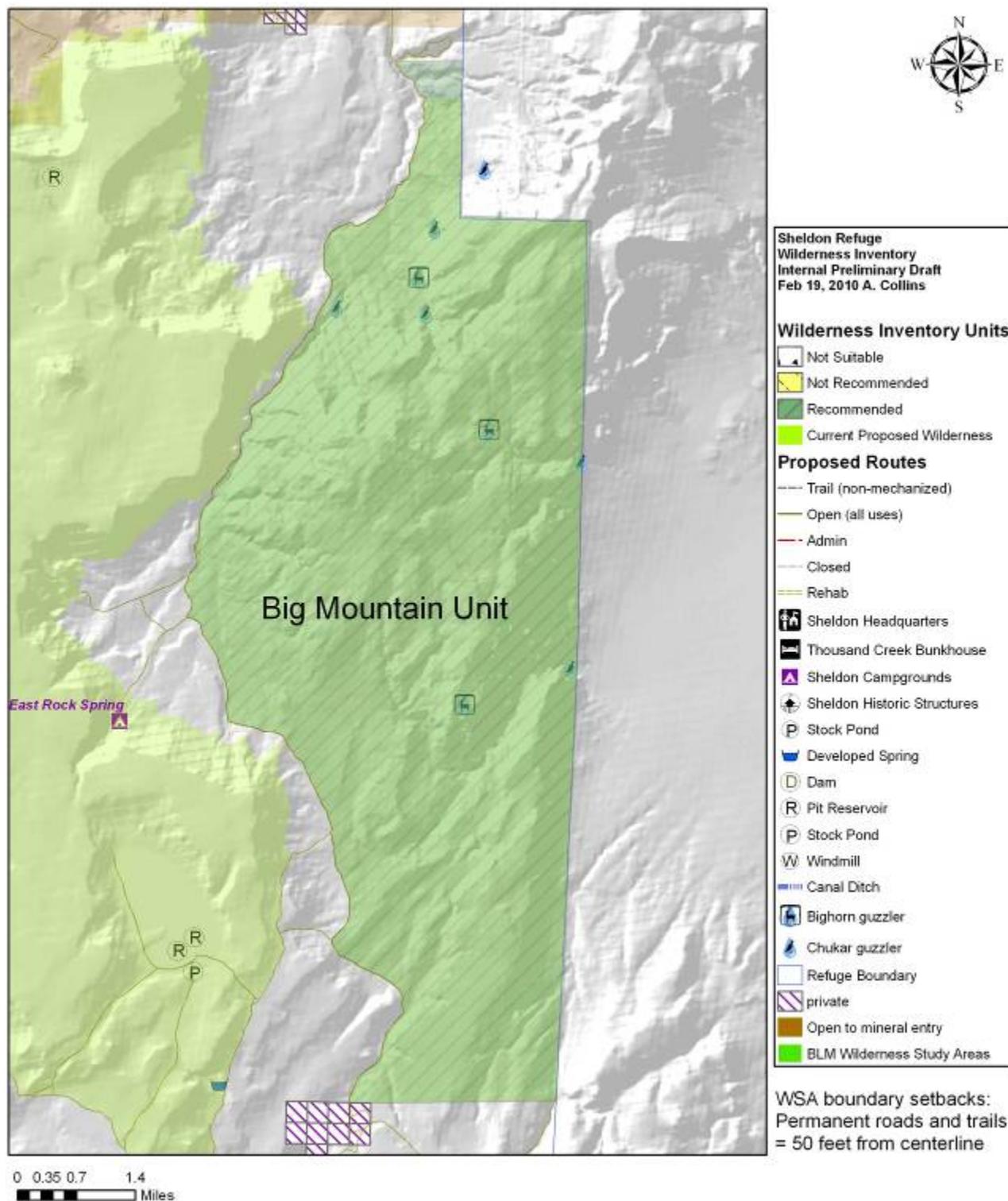
Outstanding scenic features are the colorful pink cliffs bordering the east face of the unit and the rugged ridge ascending to Big Mountain from the northeast which provide expansive views of Virgin Valley to the west, Knott Creek Valley and the Pine Forest Range (including the Blue Lakes WSA) to the east, and the North Black Rock Range (including the Lahontan Cutthroat Trout WSA and Black Rock Range Wilderness Area) to the east and southeast. Idaho Canyon has its own escarpment of pink cliffs which are also scenic.



Figure 4 View from the Big Mountain Proposed Wilderness Area of the Lahontan Cutthroat Trout Instant Wilderness Study Area and other lands managed by BLM (photo by Gail H. Collins)

Wilderness Quality

Based on the above discussion, the Big Mountain Unit continues to satisfy the definition of wilderness and meets the criteria for a WSA.



Big Spring Creek Unit

This unit includes 13,191 acres located between Highway 140 and the Big Spring Table Unit and extends from the area around the Big Spring Campground easterly to the top of the Highway 140 grade above Jackass Flat and Thousand Creek. Vegetation in the unit consists of sparse sagebrush steppe habitat along the southern flanks of the Big Spring Table and of bunchgrass and wildrye grass along Big Spring Creek.

Roadless Area

Except for the roads bordering the unit, there are no improved or maintained roads within the unit. All routes and roads within this unit were closed to vehicle use as a result of the 1974 Wilderness Proposal.

Naturalness Criteria

Mining prospects, trails, and six abandoned vehicles routes are scattered throughout this unit and continue to remain visible despite the fact the area has been given several decades to naturally recover. It is expected these disturbances will remain visible and detract from the natural appearance of this unit for several more decades or longer due the highly erodible, arid, alkaline soils in which native plants to not readily become reestablished and the occasional use of vehicles on abandoned routes for administrative purposes.

Solitude or Primitive and Unconfined Recreation Criteria

While this unit is contiguous with the 51,779 acre Big Spring Table Unit, much of it overlooks Highway 140, Sheldon Refuge Headquarters at Dufurrena, the historic McKenny Ranch, and Big Spring Campground. Vehicle use and other activities associated with these facilities can be seen and heard year-round from most areas within the unit which eliminates opportunities for solitude during much of the year. Opportunities for primitive and unconfined recreation are available, but due to the developed nature of the Highway 140 corridor and Big Spring Campground, these opportunities are not outstanding.



Figure 5 Looking east over the Big Spring Creek Wilderness Inventory Unit with the Big Spring Table Wilderness Inventory Unit shown in the left side of the photo and the Thousand Creek Wilderness Inventory Unit in the upper far right (photo Gail H Collins)

Size Criteria

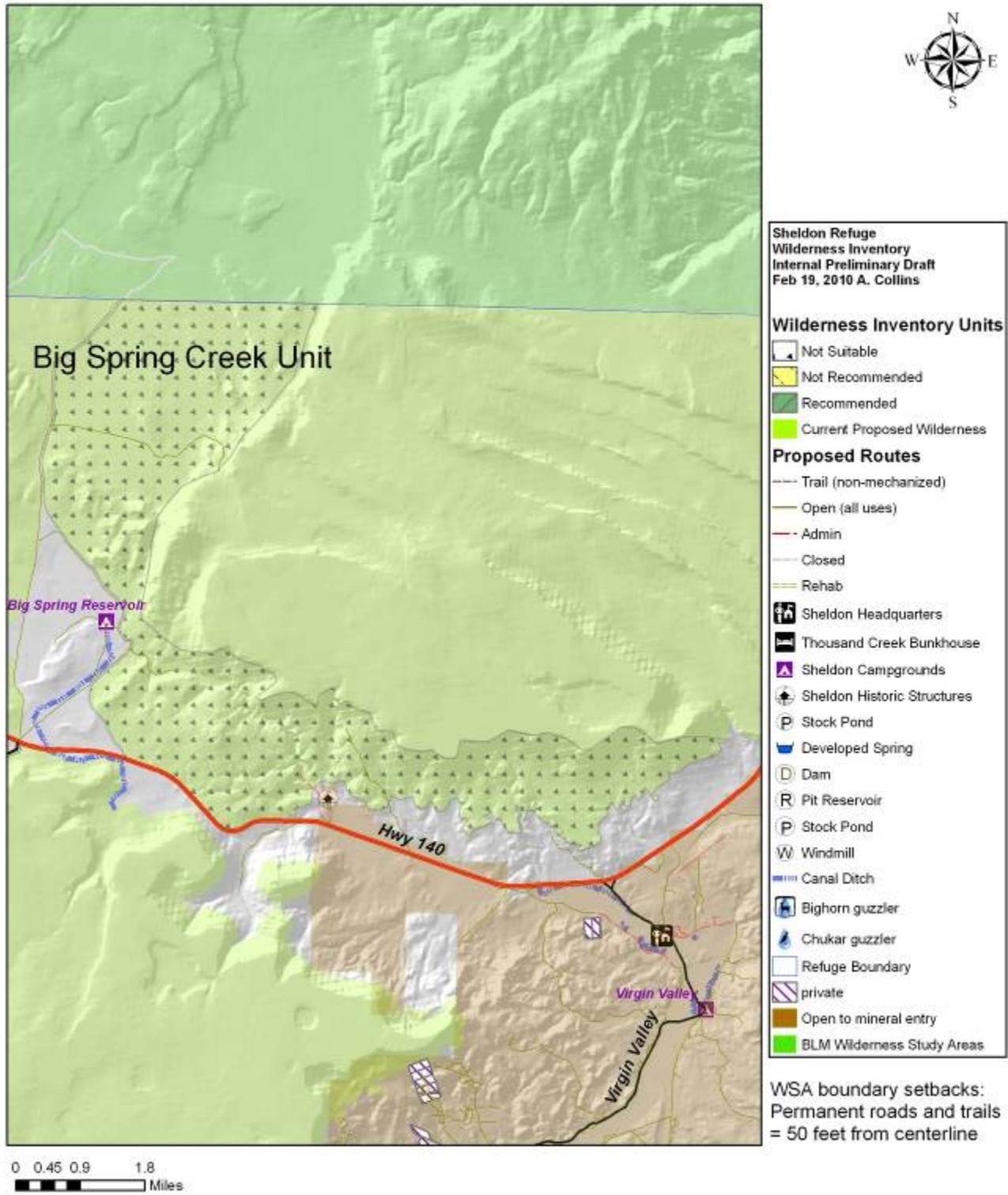
This unit is more than 5,000 acres in size and meets the size criteria.

Supplemental Values

No supplemental values have been identified for this unit.

Wilderness Quality

Based on the above discussion, the Big Spring Creek Unit no longer satisfies the definition of wilderness and does not meet the criteria for a WSA.



Big Spring Table Unit

At 52,200 acres, this is the second largest unit within Sheldon Refuge. The northern boundary of the unit corresponds with Sheldon Refuge boundary, while the remaining boundary is defined by the elevation contour which generally corresponds with the upper edge of the basalt table rim.

Roadless Area

Except for the roads bordering the unit, there are no improved or maintained roads within the unit. All routes and roads within this unit were closed to vehicle use as a result of the 1974 Wilderness Proposal.

Naturalness Criteria

This unit remains remarkably untouched by the influence of people—perhaps more so than any of the other wilderness inventory units. This unit was almost entirely excluded from livestock grazing in the past, with only one stock pond located on Railroad Point. However since 1995, five water developments have been constructed for small game and bighorn sheep within the unit.

A single primitive two-track route used by OHVs and high-clearance four wheel drive vehicles bisects the eastern portion of the unit and continues to be used on an intermittent basis for Sheldon Refuge administrative purposes and illegally by OHVs and other vehicles for recreation purposes. An extremely rugged route east of Big Spring Reservoir was historically constructed to salvage the wreckage of a military aircraft. Two additional short dead-end abandoned routes are also located within the unit. As a result of continued, but very intermittent use—routes remain somewhat visible but do not detract from the natural appearance of the unit as a whole.

Solitude or Primitive and Unconfined Recreation Criteria

This unit provides excellent opportunities for primitive recreation, such as hunting, backcountry hiking, camping, and wildlife observation and photography. The majority of this unit also provides outstanding opportunities for solitude. Near Highway 140 and in areas adjacent to Big Springs Reservoir and Campground, opportunities for solitude are somewhat limited due to frequent vehicle traffic and visitation.

Opportunities for solitude are greatly enhanced by the adjacent 45,604 acre Hawk Mountain WSA and 7,988 acre Sage Hen Hills WSA managed by BLM making the Big Spring Table Unit the most isolated and remote place within Sheldon Refuge. Opportunities for primitive recreation are also somewhat enhanced by the adjacent WSA.

Size Criteria

This unit is more than 5,000 acres in size and meets the size criteria.

Supplemental Values

The unit provides outstanding scientific research value as a large intact and undisturbed area of important antelope winter range. It is believed this unit is the only portion of Sheldon Refuge which exclusively provides winter range for resident and migratory antelope during severe winters.

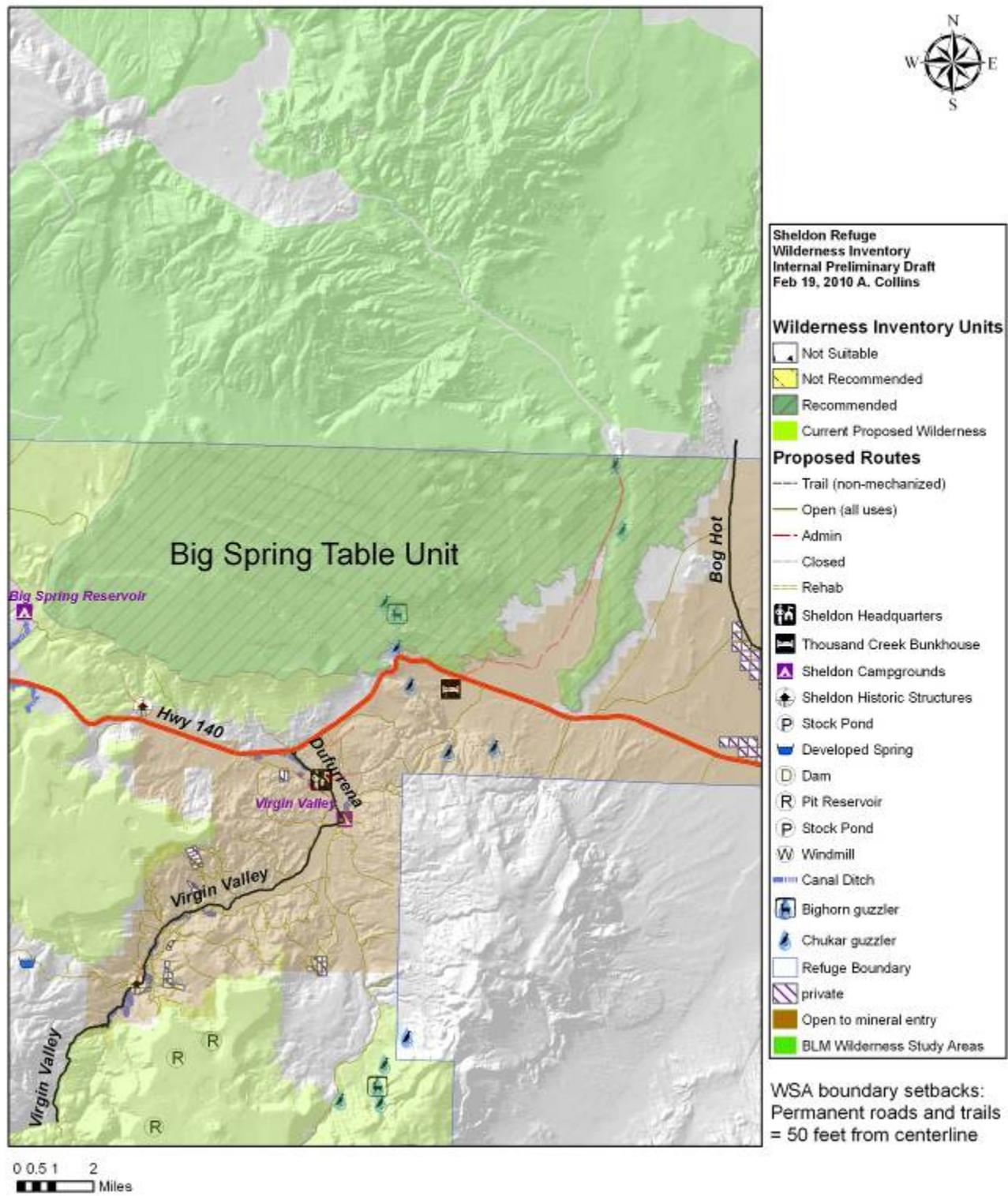
Railroad Point is a prominent and easily recognizable flat-topped peninsula of basalt flow in the eastern portion of the unit and contains important habitats found in few other portions of Sheldon Refuge.

Wilderness Quality

Based on the above discussion, the Big Springs Table Unit continues to satisfy the definition of wilderness and meets the criteria for a WSA.



Figure 6 Looking southwest across the northern portion of Big Spring Table Unit (*photo Gail H. Collins*)



Bog Hot Unit

This unit includes 16,662 acres located in the lower elevation areas at the northeastern portion of Sheldon Refuge. The northern and eastern boundaries of the unit correspond with the Sheldon Refuge Boundary. The remaining boundaries correspond with the Jackass Flats and Virgin Valley/ Thousand Creek units with the southern boundary defined by Highway 140, and the western boundary defined by the primitive vehicle route connecting Highway 140 and the Bog Hot Road. Vegetation in the unit consists of greasewood, hopsage, budsage, and other species commonly found in sandy alkaline soils at lower elevation of the northern Great Basin.

Roadless Area

This unit contains the improved and maintained Bog Hot Road and an unimproved primitive vehicle route connecting the Bog Hot Road and Highway 140.

Naturalness Criteria

Roads, private inholdings and associated developments and disturbances detract from the overall natural appearance and conditions of this unit as a whole. The entire unit is open to mineral location and entry and has a high potential for geothermal resource development in the future which would further diminish the natural character and appearance of the unit.

Solitude or Primitive and Unconfined Recreation Criteria

There are few opportunities for solitude within in this unit due to the open flat terrain which exposes visitors to the sights and sounds of motorized vehicles and other people both within and adjacent to the unit.

Size Criteria

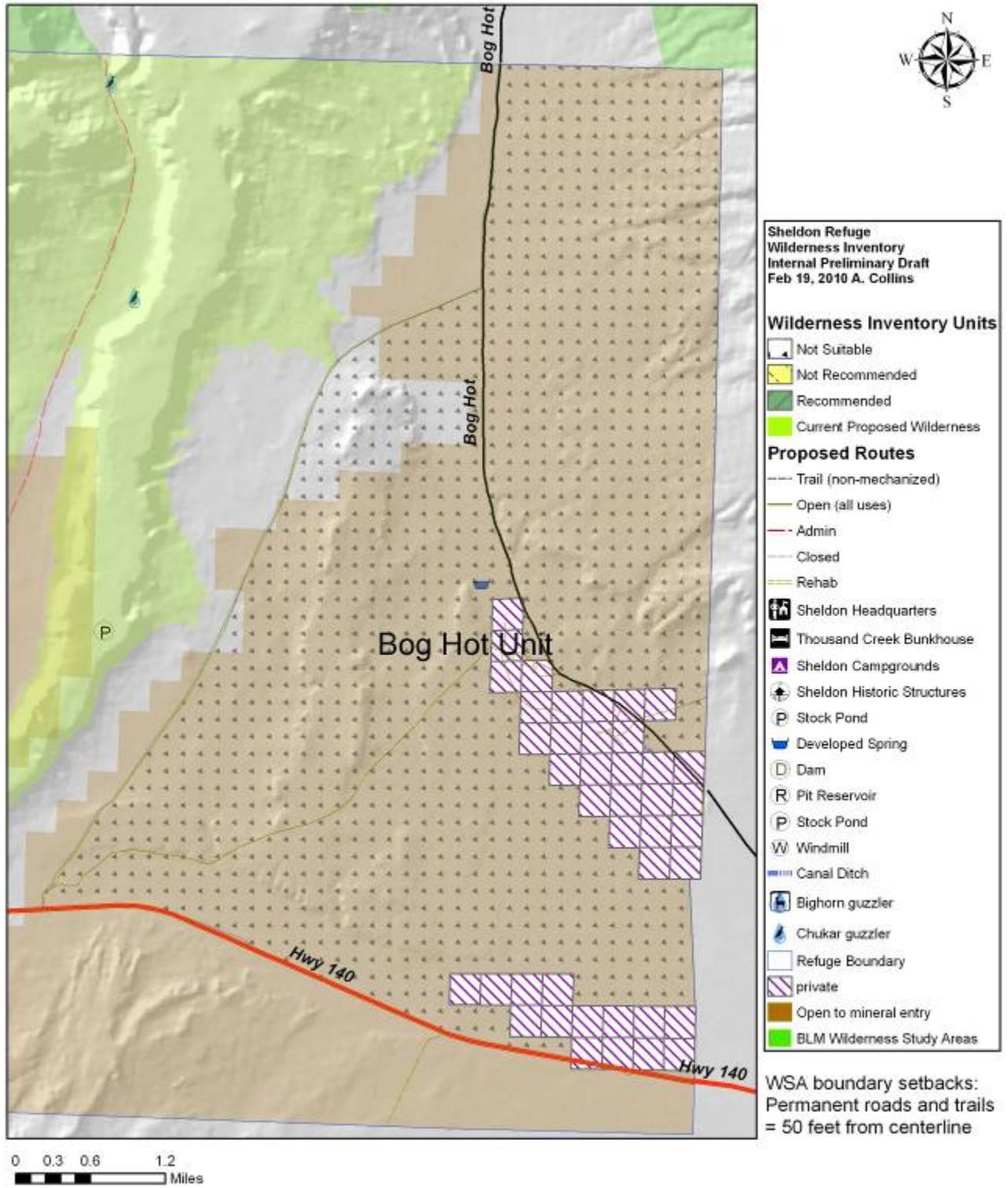
This unit is more than 5,000 acres in size and meets the size criteria.

Supplemental Values

No supplemental values have been identified for this unit.

Wilderness Quality

Based on the above discussion, the Bog Hot Unit does not satisfy the definition of wilderness and does not meet the criteria for a WSA.



Catnip Mountain Unit

This unit encompasses about 33,227 acres and is located near the center of Sheldon Refuge. Terrain gently ascends to the 7,194-foot summit of Catnip Mountain which has an irregular appearance formed by low broken basalt rimrock and rolling hills. Catnip Mountain is about five miles long forming a “U” shape open to the northeast. There are three discernible high points called Cat, Nip, and Catnip. The unit is bounded to the north by Country Road 34A, to the southeast by County Road 8A and to the west and northwest by the Little Catnip Spring Road.

Roadless Area

Except for the roads bordering the unit, there are no improved or maintained roads within the unit. All routes and roads within this unit were closed to vehicle use as a result of the 1974 Wilderness Proposal.

Naturalness Criteria

The unit contains eight abandoned water developments including six stock ponds and two developed springs. Three stock ponds are located close together near the center of the unit. Other range developments are located near adjacent roads, but are not within the unit. A water trough at Horse Canyon Spring continues to function and does provide additional water for wildlife and feral horses.

Several abandoned unmaintained two-track routes, most of which historically were used to access and maintain livestock developments, are located within the unit. These routes continue to be used on an intermittent basis for Sheldon Refuge administrative purposes. Illegal use by OHVs and other vehicles for recreation purposes continues to be a common occurrence within this popular hunting area. As a result of continued use, routes remain clearly visible and detract somewhat from the natural appearance of the unit as a whole.

Solitude or Primitive and Unconfined Recreation Criteria

This unit provides excellent opportunities for primitive recreation, such as hunting, backcountry hiking, camping, rockhounding, and wildlife observation and photography. Majority of the unit also offers outstanding opportunities for solitude, with the exception of areas along the major adjacent access roads, which are more frequently visited.

Size Criteria

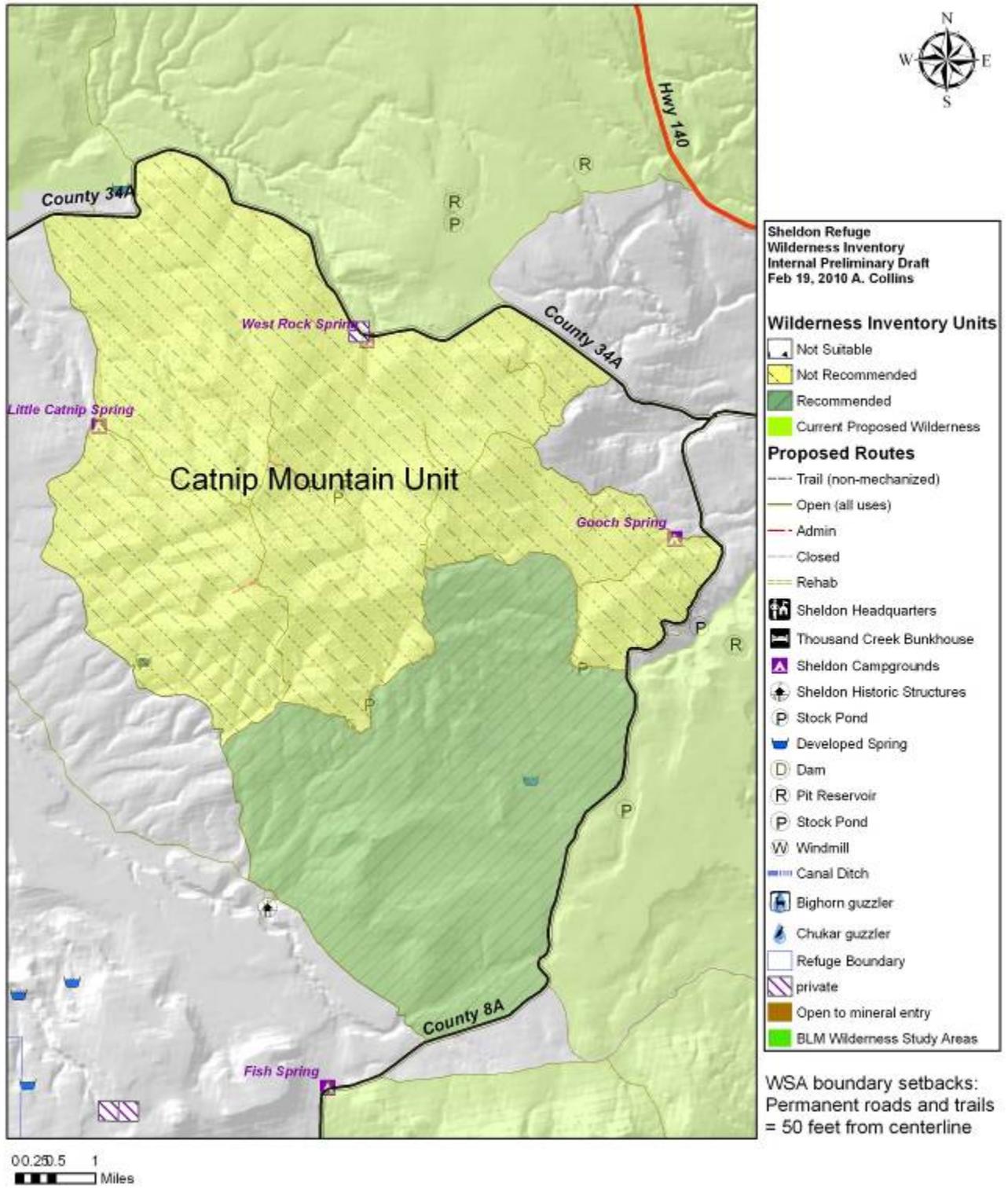
This unit is more than 5,000 acres in size and meets the size criteria.

Supplemental Values

Higher portions of this unit provide unobstructed views of the entire surrounding landscape for more than 50 miles in almost every direction, including the majority of Sheldon Refuge and portions of Nevada and California. These scenic values are outstanding and add to the overall wilderness value of the unit.

Wilderness Quality

Based on the above discussion, the Catnip Mountain Unit continues to satisfy the definition of wilderness and meets the criteria for a WSA.



Fish Creek Mountain Unit

The 13,786 acre Fish Mountain Unit is located in the west central portion of Sheldon Refuge and is the northwest portion of the 1974 Alkali Peak Proposed Wilderness Area. The western boundary of this unit is defined by County Road 8A with the remaining boundaries defined by primitive vehicle routes.

This unit provides excellent mule deer habitat. Thick groves of mountain mahogany are found at higher elevations, while the meadows and gently sloped areas provide valuable sage grouse habitat.

Roadless Area

Except for the roads bordering the unit, there are no improved or maintained roads within the unit. All routes and roads within this unit were closed to vehicle use as a result of the 1974 Wilderness Proposal.



Figure 7 Existing route within the Fish Creek Mountain Wilderness Inventory Unit on the north side of Blowout Mountain (photo Aaron P. Collins)

Naturalness Criteria

Several abandoned unmaintained two-track routes, most of which historically were used to access and maintain livestock developments, extend from the perimeter of the unit. One non-motorized route is used to access a private inholding. These routes continue to be used on an intermittent basis for Sheldon

Refuge administrative purposes and illegally by OHVs and other vehicles for recreation purposes. As a result of continued use, routes remain clearly visible and detract somewhat from the natural appearance within portions of the unit. Sheldon Refuge has determined vehicle access is not necessary for the use and access to the two private inholdings located within this unit. Access by foot or on horseback may be authorized, but would not detract from the natural character of the area.

In addition to vehicle disturbances, there are three abandoned spring developments and scattered evidence of illegal digging for petrified wood specimens.

Solitude or Primitive and Unconfined Recreation Criteria

This unit provides excellent opportunities for primitive recreation, such as hunting, backcountry hiking, camping, rock hounding, and wildlife observation and photography. Majority of the unit also offers outstanding opportunities for solitude, with the exception of areas along County Road 8A which are more frequently visited.

Size Criteria

This unit is more than 5,000 acres in size and meets the size criteria.

Supplemental Values

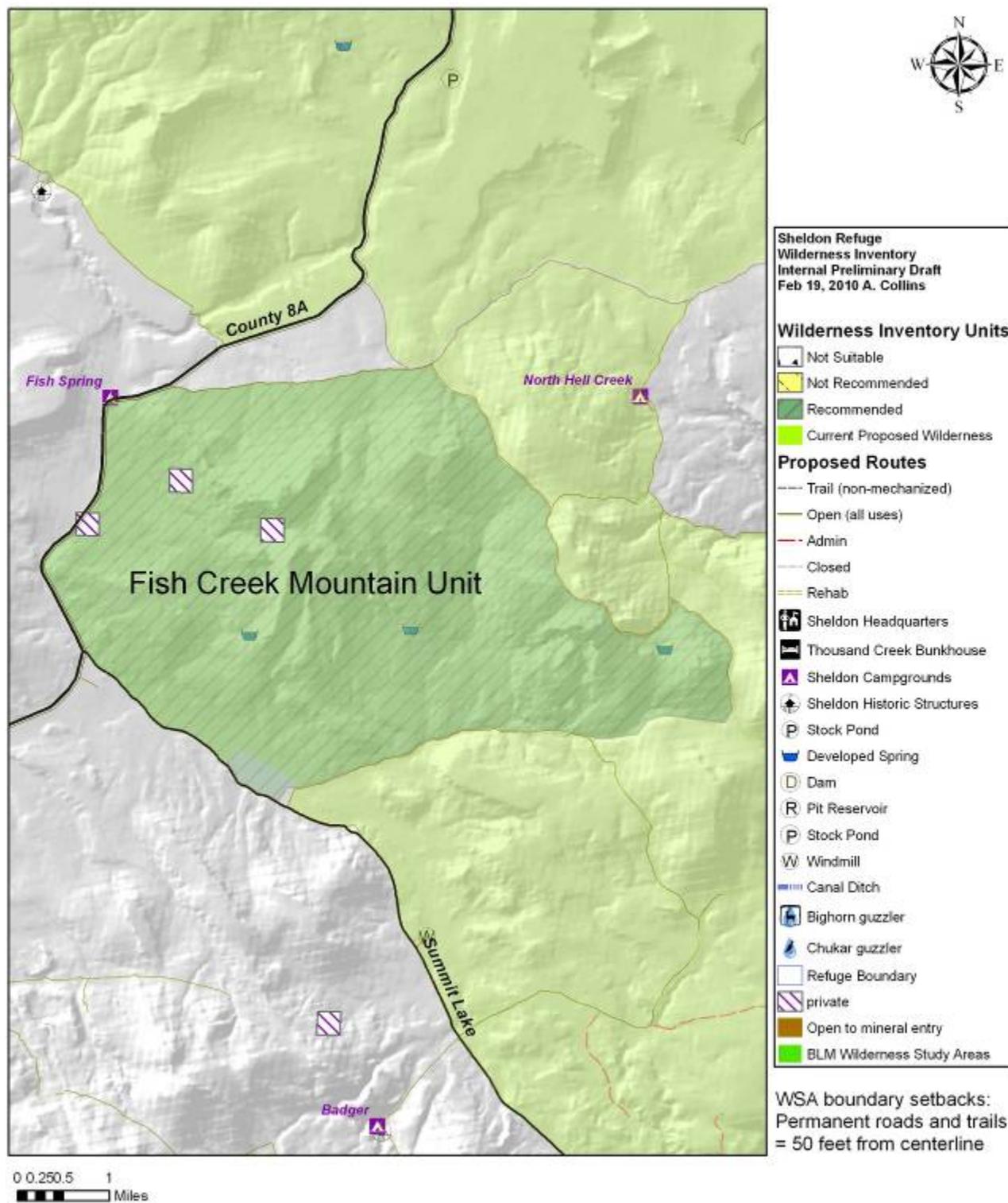
This unit includes Blowout Mountain which is one of the highest points within Sheldon Refuge. The western face of Blowout Mountain rises more than 360 vertical feet. Just upslope from the edge of this cliff, the summit of Blowout Mountain affords spectacular scenic views of Gooch Table, Hell Creek Canyon, and Rock Springs Table.



Figure 8 Blowout Mountain in the southeast corner of the Fish Creek Mountain Wilderness Inventory Unit (photo Gail H. Collins)

Wilderness Quality

Based on the above discussion, the Fish Creek Mountain Unit continues to satisfy the definition of wilderness and meets the criteria for a WSA.



Fish Creek Table—Little Catnip Unit

This unit consists of 43,609 acres located in the eastern portion of Sheldon Refuge. The northern boundary of the unit is defined by County Road 34A, the eastern boundary is defined by the Little Catnip Spring Campground Road and County Road 8A, and the remaining boundary is defined by Sheldon Refuge boundary and the Bitner Butte Road.

Roadless Area

Except for the roads bordering the unit, there are no improved or maintained roads within the unit. However, motorized vehicle use of one primitive two-track route is allowed by Refuge Special Use Permit for access to an inholding of private property located in the southwest portion of the unit. Other routes within the unit either dead-end or were created as short-cuts between two roads. Some of these routes continue to be used on an intermittent basis for Refuge administrative purposes and recreation purposes.

Naturalness Criteria

Even though commercial livestock grazing was permitted throughout this unit in the past, it remains one of the most undisturbed, pristine, and ecologically intact natural areas within Sheldon Refuge. Habitats in this unit include mountain mahogany at the higher elevations of Bitner Butte, western juniper, big and low sagebrush, bitterbrush, playa wetlands, and rye grass meadows. These habitats are important for a number of key species including pronghorn antelope, sage grouse, mule deer, and American pika.

One vehicle route within this unit is authorized by Refuge Special Use Permit for access to a private inholding. The conditions of the Special Use Permit stipulate that only vehicle use is authorized along the single motorized route within the unit and no grading or other ground disturbing maintenance is allowed. As a result of continued occasional use, this route remains visible and detracts somewhat from the natural appearance within this portion of the unit. Sheldon Refuge has determined vehicle use is not necessary for the use and access to four other private inholdings within this unit. Foot and horseback access may be authorized, but would not detract from the natural character of the area.

Six water developments remain within this unit, of which only the Swan Lake Reservoir is maintained by Sheldon Refuge. The remaining developments include two pit reservoirs and three developed springs near the southwest boundary of the unit.

Solitude or Primitive and Unconfined Recreation Criteria

This unit provides excellent opportunities for primitive recreation, such as hunting, backcountry hiking, camping, rockhounding, and wildlife observation and photography. Much of the unit also offers outstanding opportunities for solitude, with the exception of areas along county roads 34A and 8A and near Catnip Reservoir and Campground, Little Catnip Spring Campground, and Fish Spring Campground which are more frequently visited.

Size Criteria

This unit is more than 5,000 acres in size and meets the size criteria.

Supplemental Values

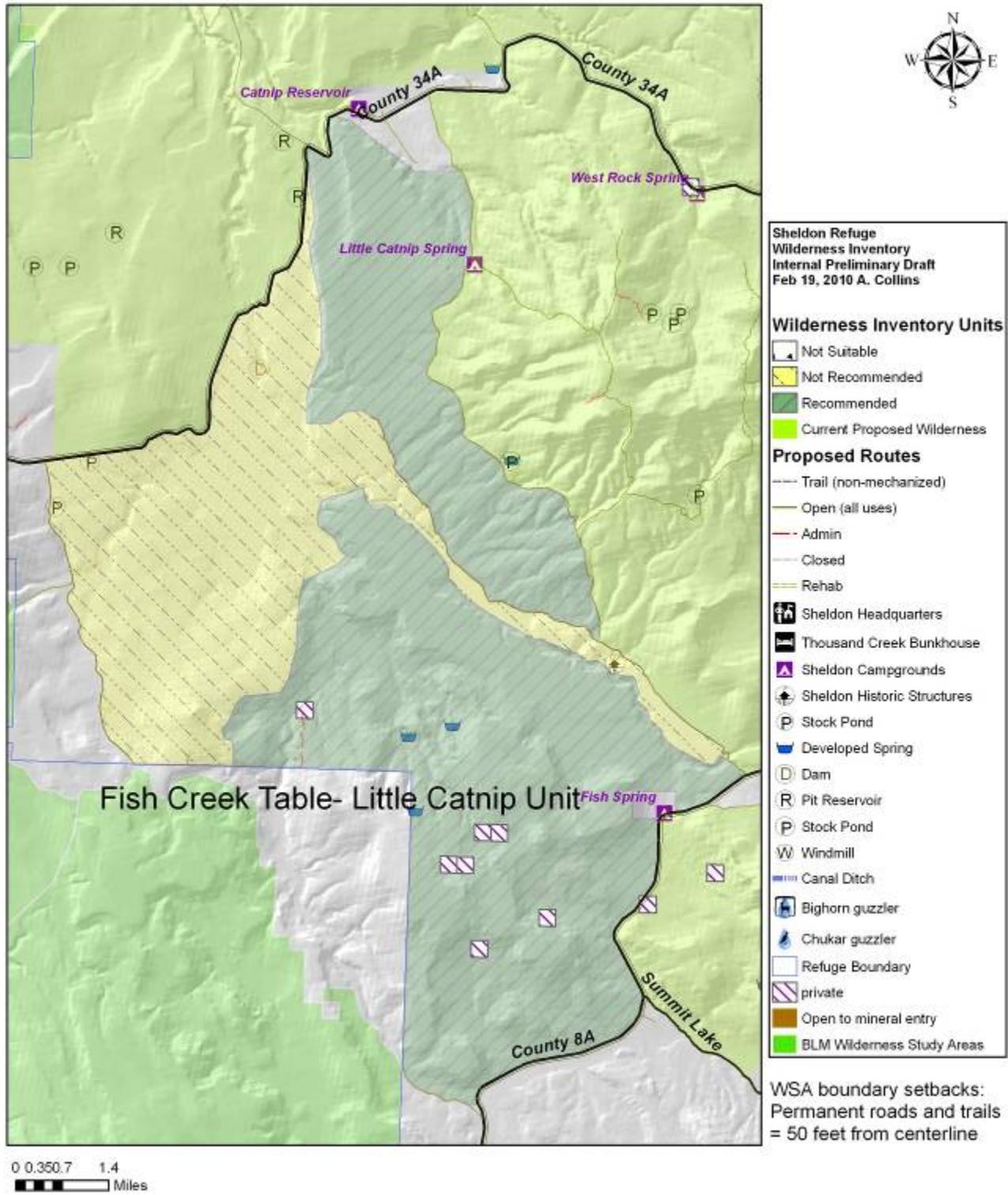
No supplemental values have been identified for this unit.

Wilderness Quality

Based on the above discussion, the Fish Creek Table—Little Catnip Unit satisfies the definition of wilderness and meets the criteria for a WSA.



Figure 9 View of Bitner Butte within the Fish Creek Table- Little Catnip Wilderness Inventory Unit (photo Gail H. Collins)



Gooch Camp Unit

The Gooch Camp is approximately 16,957 acres in size. The unit includes those portions of Sheldon Refuge surrounded by the Big Spring Creek, Virgin Valley, Gooch Table, Catnip Mountain, Round Mountain, and Sage Hen Hills inventory units. Terrain within the unit consists of low rolling hills, swales, and several small ravines. A broad flat expanse of sagebrush steppe habitat is located in the center of the unit which is surrounded by the bluffs and basalt tables of the surrounding wilderness inventory units.

Roadless Area

The unit is traversed by State Highway 140, County Road 34A, County Road 8A, the Big Springs Campground Road and number of other primitive vehicle routes. The largest portion of the unit which does not contain any maintained or improved roads is a large relatively flat area located between Highway 140 and county roads 34A and 8A.

Naturalness Criteria

In addition to the two-lane paved highway and improved graded gravel roads within the unit are a number of borrow pits, including one very large pit which covers approximately three acres. A number of facilities are associated with Big Springs Reservoir, including a developed campground, information kiosk, directional signs, and a large readily apparent abandoned irrigation canal. Various mining prospect pits scattered throughout the unit, two abandoned stock ponds, Gooch Spring Campground, and historic structures at Gooch Camp are also located within the unit.



Figure 10 Multiple developments within the Gooch Camp Unit include Big Spring Reservoir, maintained public roads, an irrigation canal, and unmaintained access routes (photo Gail H Collins)

Solitude or Primitive and Unconfined Recreation Criteria

Opportunities for primitive and unconfined recreation are not provided in this unit. Most of the unit is managed for a developed and structured type of recreation supported by facilities, access roads, directional signs and information kiosks. Most of these facilities are constructed of modern materials which do not readily blend with the surrounding area. Despite the relatively large size (approximately 9,000 acres) of the unroaded and undeveloped portion of this unit, there is little topography or vegetation to screen the sights and sounds of year-round vehicle traffic and visitation. As a result, opportunities for solitude are not available.

Size Criteria

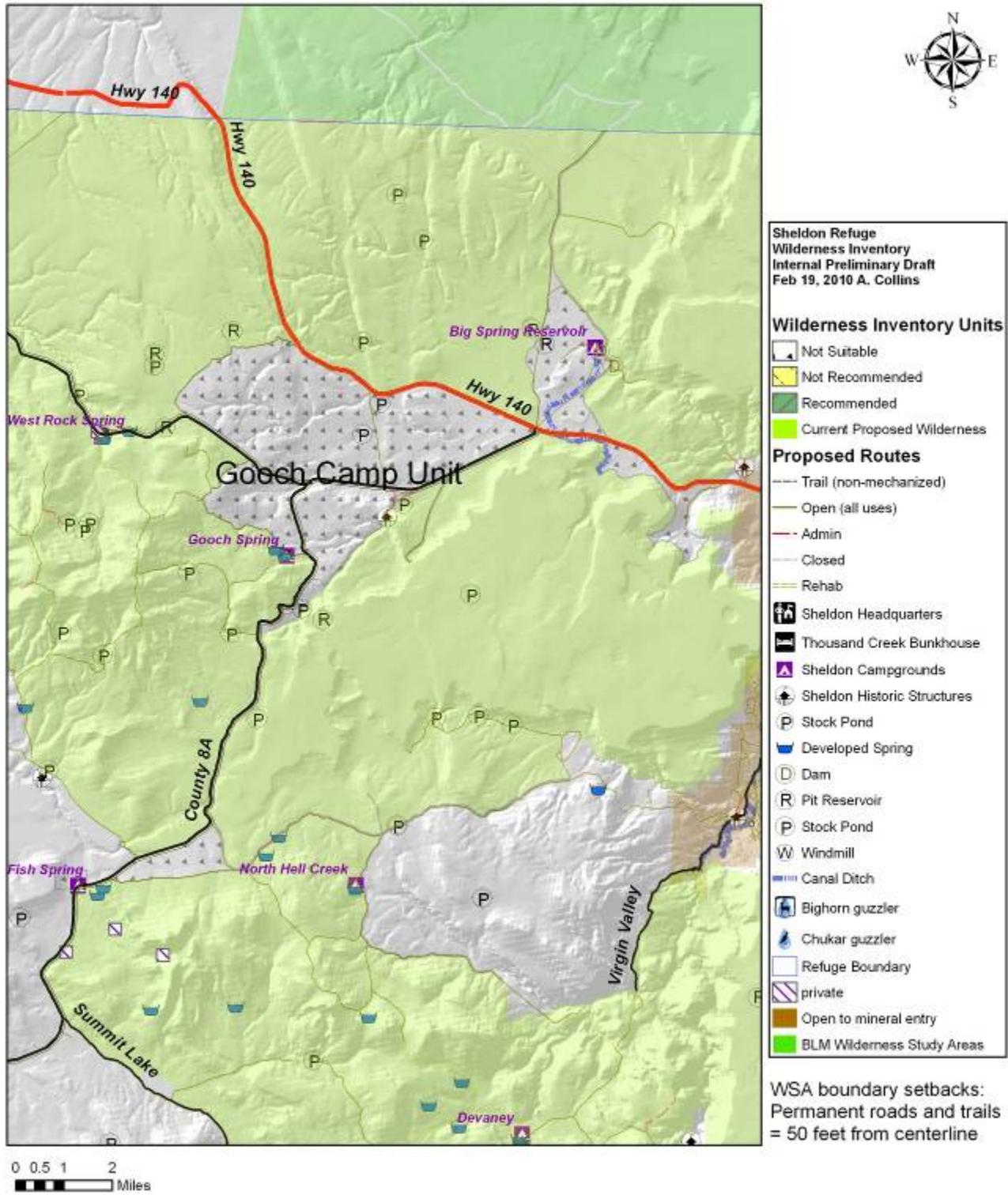
This unit is more than 5,000 acres in size and meets the size criteria.

Supplemental Values

No supplemental values have been identified for this unit.

Wilderness Quality

Based on the above discussion, the Gooch Camp Unit does not satisfy the definition of wilderness and does not meet the criteria for a WSA.



Gooch Table Unit

The 40,038 acre Gooch Table Unit is located in the center of Sheldon Refuge. The unit generally lies between County Road 8A, Mud Springs Road, and the roaded area around Virgin Valley not withdrawn from mineral entry. The exact boundary of the unit follows a variety of topographic features, roads, routes, and legal survey lines.

Roadless Area

Except for the roads bordering the unit, there are no improved or maintained roads within the unit. All routes and roads within this unit were closed to vehicle use as a result of the 1974 Wilderness Proposal.

Naturalness Criteria

This unit exists almost totally in a natural condition and much of the unit was historically closed to livestock grazing. When observed from any direction, it is a classic example of the “tabled” land-form typical of this high desert region. Two stock ponds and a pit reservoir located in the western portion of the unit are the only water developments. None of these developments are maintained, but one of the stock ponds continues to function.

Gooch Table is important antelope habitat, but other wildlife such as sage grouse occur as well. Geese, shore birds and other waterfowl use the intermittent dry lakes during wet years.

Five abandoned unmaintained two-track routes, most of which historically were used to access and maintain livestock developments, are located within the unit. These routes continue to be used on an intermittent basis for Sheldon Refuge administrative purposes and illegally by OHVs and other vehicles for recreation purposes. As a result of continued use, routes remain clearly visible and detract somewhat from the natural appearance of the northwest portion of the unit.

Solitude or Primitive and Unconfined Recreation Criteria

This unit provides excellent opportunities for primitive recreation, such as hunting, backcountry hiking, camping, and wildlife observation and photography. The majority of the unit also offers outstanding opportunities for solitude, with the exception of areas near the adjacent major access roads which are more frequently visited.

Size Criteria

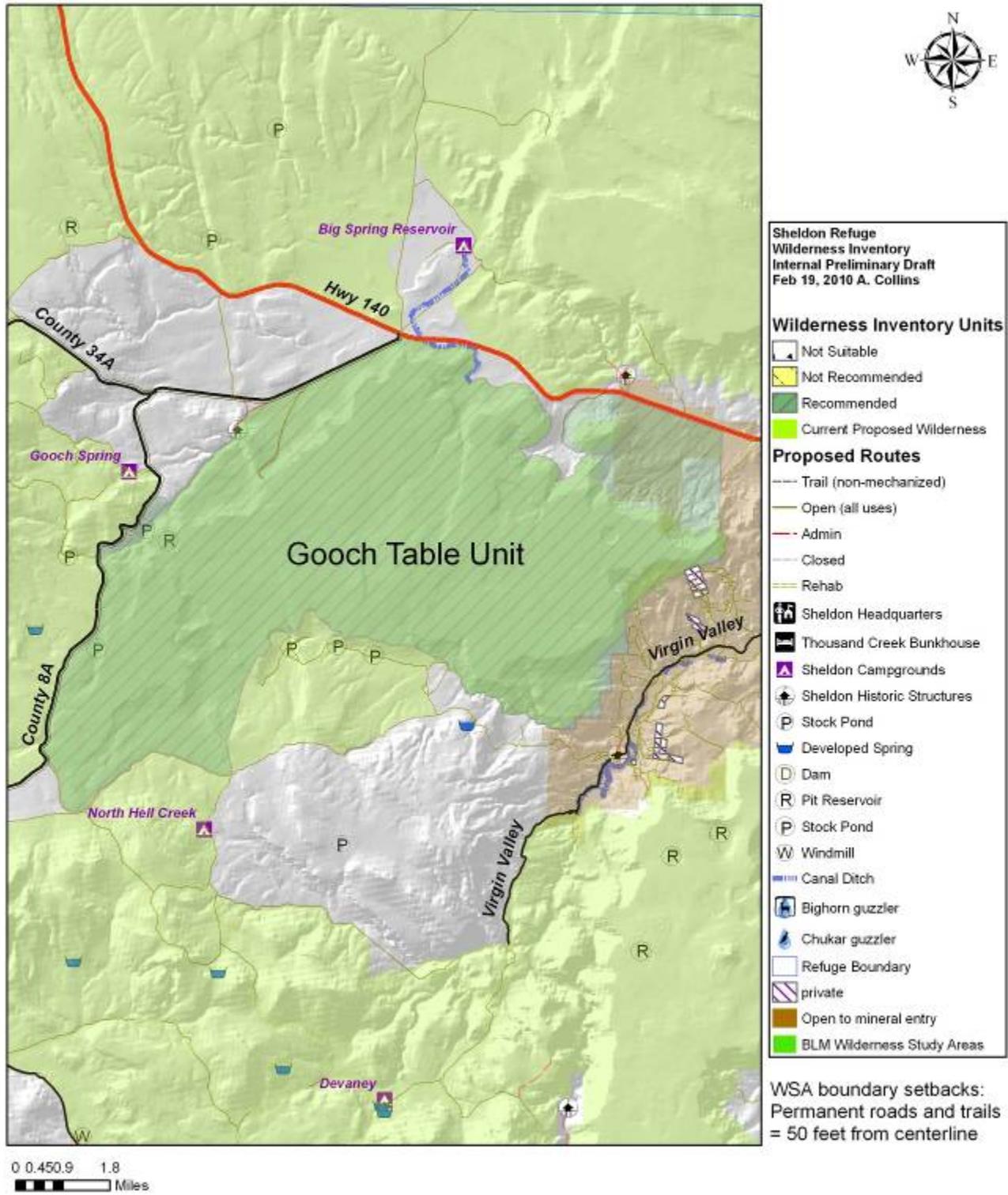
This unit is more than 5,000 acres in size and meets the size criteria.

Supplemental Values

No supplemental values have been identified for this unit.

Wilderness Quality

Based on the above discussion, the Gooch Table Unit continues to satisfy the definition of wilderness and meets the criteria for a WSA.



Guano Creek Unit

This 4,133 acre unit is located in the northwest corner of Sheldon Refuge. The north and west boundaries of the unit correspond with Sheldon Refuge boundary, while the east and south boundaries are defined by primitive vehicle routes.

Roadless Area

Except for the roads bordering the unit, there are no improved or maintained roads within the unit.

Naturalness Criteria

Portions of the unit with past agriculture activities have been restored to more natural condition and appearance. Overall the unit appears undeveloped and unaltered from its natural condition.

Solitude or Primitive and Unconfined Recreation Criteria

This unit provides excellent opportunities for primitive recreation, such as hunting, backcountry hiking, camping, and wildlife observation and photography. Opportunities for solitude are outstanding as well. Rugged terrain without established trails or routes in conjunction with the adjacent Sheldon Contiguous WSA managed by BLM ensures visitors have little interaction with others.

Size Criteria

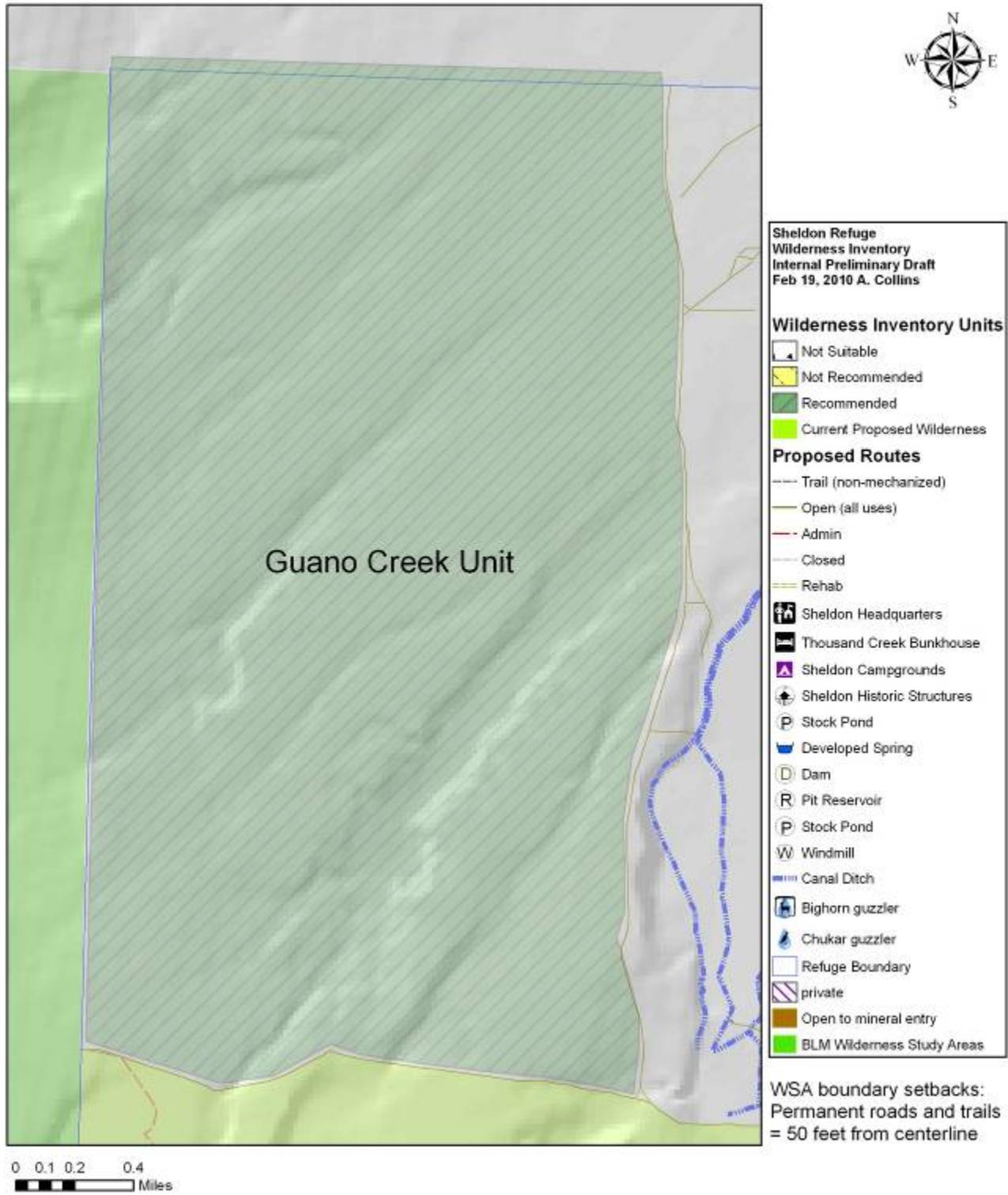
This unit by itself is less than 5,000 acres in size, but is contiguous with the adjacent 23,700 acre Sheldon Contiguous WSA managed by WSA. When considered with these contiguous WSA lands, the Guano Creek Unit does meet the size criteria.

Supplemental Values

No supplemental values have been identified for this unit.

Wilderness Quality

Based on the above discussion, the Guano Creek Unit satisfies the definition of wilderness and meets the criteria for a WSA.



Hell Creek Unit

The Hell Creek Unit consists of 13,969 acres located south of the Mud Springs Canyon Road. The western and southern boundary of the unit is defined by the North Hell Creek Campground Road while the eastern boundary is defined by the Virgin Valley Road and the boundary of mineral withdrawal area.

Roadless Area

Except for the roads bordering the unit, there are no improved or maintained roads within the unit. A single primitive route extending from the Mud Springs Canyon Road nearly bisects the unit and was historically used to access livestock developments and bighorn sheep reintroduction developments. These routes continue to be used on an intermittent basis for Refuge administrative purposes and illegally by OHVs and other vehicles for recreation purposes.

Naturalness Criteria

During the original wilderness inventory, a number of developments and disturbances were noted within this unit. These included a 1,700 acre bighorn sheep enclosure constructed to support reintroduction efforts, and a number of mining prospects, mines, and active claims. While mining disturbances remain, they have become less noticeable over time through erosion, natural revegetation, and a lack of use and activity. The bighorn sheep enclosure has been removed, but the location of the fenceline is still visible. A stock pond in the center of the unit and developed spring with a water trough near the northern edge have been abandoned, but still remain somewhat noticeable. Overall these past disturbances are no longer substantially noticeable and do not detract from the natural appearance of the unit as a whole.



Figure 11 The namesake of the Hell Creek Wilderness Inventory Unit-- the visible line in the left side of the photo is all that remains of the bighorn sheep exclosure removed several years ago (photo Gail H. Collins)

Solitude or Primitive and Unconfined Recreation Criteria

This unit provides excellent opportunities for primitive recreation, such as hunting, backcountry hiking, camping, and wildlife observation and photography. The majority of the unit also offers outstanding opportunities for solitude, with the exception of areas near the adjacent access roads and North Hell Creek Campground, which are more frequently visited.

Size Criteria

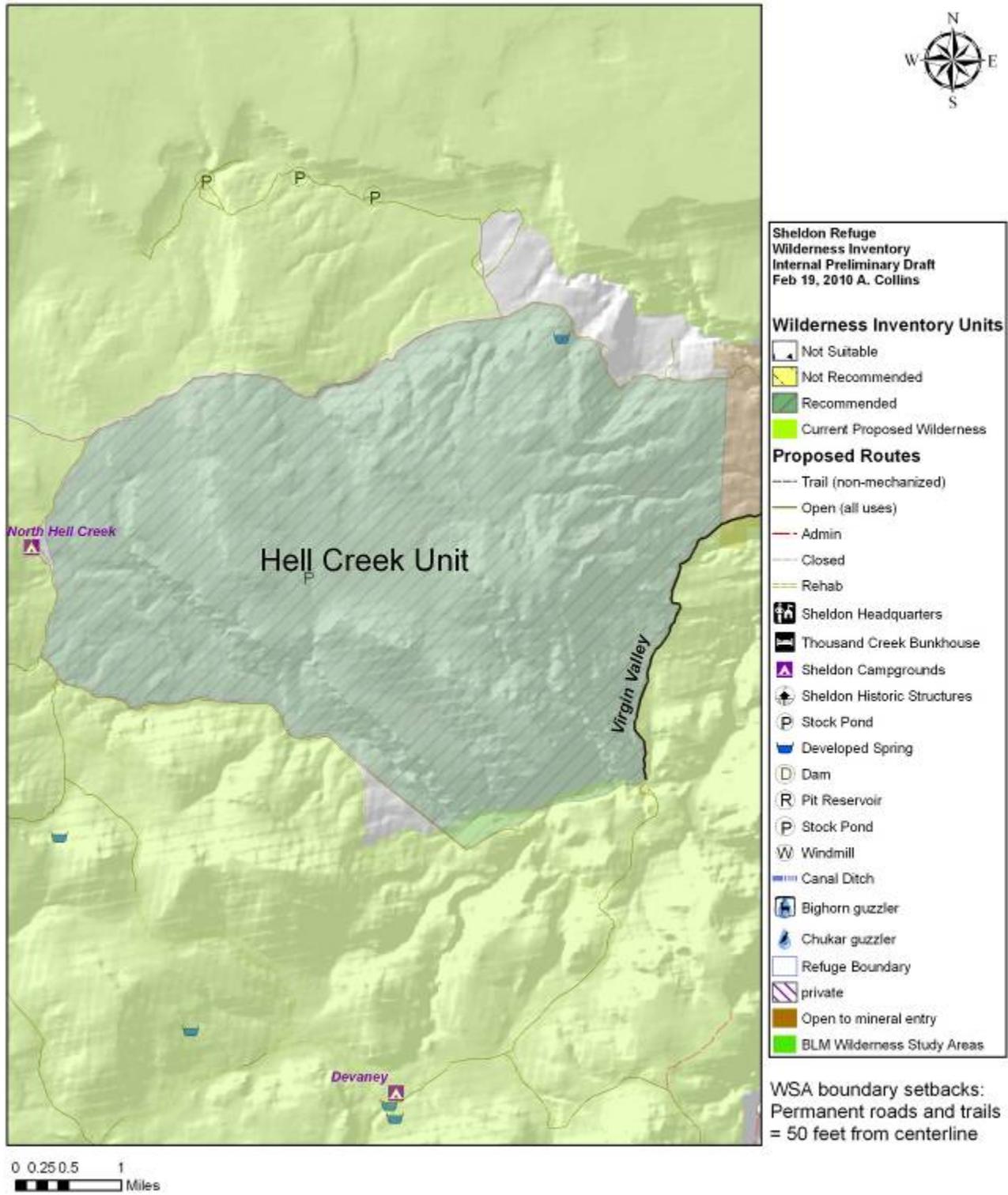
This unit is more than 5,000 acres in size and meets the size criteria.

Supplemental Values

This unit contains extensive evidence of past use by people in both prehistoric and historic times. This evidence includes the only site within Sheldon Refuge currently listed on the National Register of Historic Places.

Wilderness Quality

Based on the above discussion, the Hell Creek Unit satisfies the definition of wilderness and meets the criteria for a WSA.



Horse Pasture Unit

This 2,651 acre unit encompasses the basalt table overlooking Alkali Reservoir between the table rim and the Alkali Peak Unit. The table rim defines the southern boundary and a motorized route defines the northern boundary.

Roadless Area

This unit contains a primitive motorized route open to public use along its northern edge. While not an improved road for the purposes of this inventory, the route is managed for public access and use by four-wheel drive vehicles primarily intended for highway use.

Naturalness Criteria

With the exception of the primitive motorized route along the northern edge, this unit generally appears natural and largely unaffected by human activities.

Solitude or Primitive and Unconfined Recreation Criteria

This unit does provide some opportunities for solitude and primitive and unconfined types of recreation. However, these opportunities are not especially remarkable or outstanding when compared with other opportunities available within Sheldon Refuge or other nearby wilderness areas and wilderness study areas.

Size Criteria

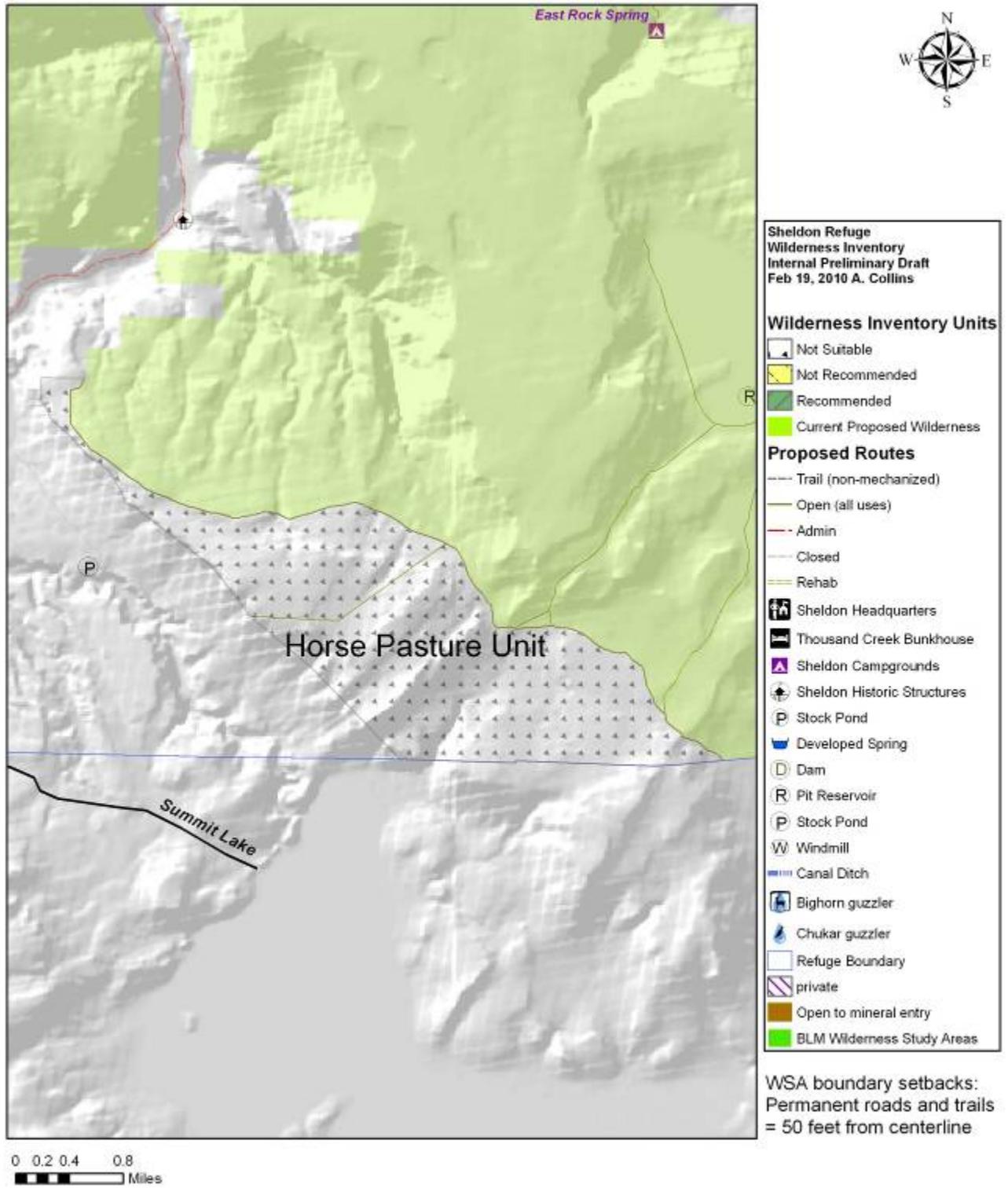
This unit is less than 5,000 acres in size and does not meet the size criteria.

Supplemental Values

No supplemental values have been identified for this unit.

Wilderness Quality

Based on the above discussion, the Horse Pasture Unit does not satisfy the definition of wilderness and does not meet the criteria for a WSA.



IXL Unit

The IXL Unit is 2,506 acres in size and includes the majority of the former IXL Ranch which was purchased by Sheldon Refuge and is now maintained and managed as seasonal waterfowl habitat.

Roadless Area

A network of primitive vehicle routes provide access to the numerous facilities and structures throughout this unit

Naturalness Criteria

This unit is dominated by irrigated hay meadows, constructed wetlands, ranch buildings, impoundments, water control structures, canals, fences, and vehicle routes. There is almost no portion of this unit where the influences of human activity are not readily apparent.



Figure 12 Irrigation developments and buildings of the historic ranch dominate the IXL Wilderness Inventory Unit (photo D.J.)

Solitude or Primitive and Unconfined Recreation Criteria

Due to the developed nature, motorized access, and the relatively small size of this unit—there are few opportunities for solitude or primitive recreation.

Size Criteria

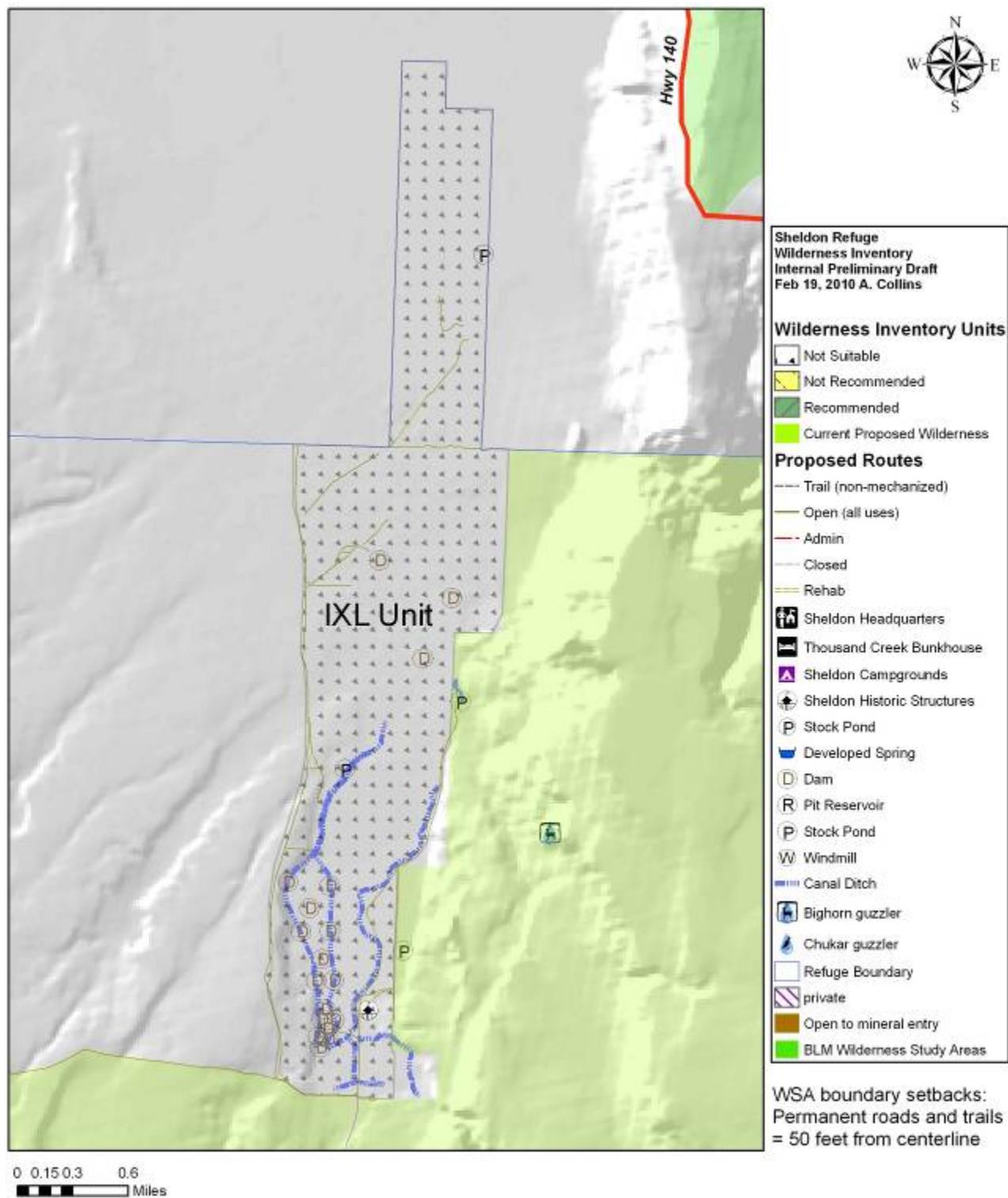
This unit by itself is less than 5,000 acres in size, but is contiguous with the adjacent 36,148 acre Round Mountain Proposed Wilderness Area. When considered with the Round Mountain Proposed Wilderness Area, the IXL Unit does meet the size criteria.

Supplemental Values

The abandoned buildings at IXL Ranch are fairly intact and have some historic value as a representation of early farming and ranch life in the northern Great Basin.

Wilderness Quality

Based on the above discussion, the IXL Unit does not satisfy the definition of wilderness and does not meet the criteria for a WSA.



Jackass Flats Unit

This unit includes 7,815 acres located in the lower elevation areas at the eastern portion of Sheldon Refuge. The northern and western boundaries of the unit correspond with the elevation contour boundary of the Big Springs Table Unit, the southern boundary is defined by Highway 140, and the eastern boundary is defined by the primitive vehicle route connecting Highway 140 and the Bog Hot Road. Vegetation in the unit consists of greasewood, hopsage, budsage, and other species commonly found in sandy alkaline soils at lower elevation of the northern Great Basin.

Roadless Area

Except for the roads bordering the unit, there are no improved or maintained roads within the unit. A single unmaintained primitive vehicle route bisects the unit and extends from Highway 140 to the southern boundary of the Big Springs Table Unit. This route is for Refuge administrative purposes, but is frequently used by hunters.

Naturalness Criteria

As with the Big Spring Table Unit to the north, this unit remains remarkably untouched by the influence of people. This unit was historically excluded from livestock grazing, and despite the fact much of the unit remains open to the location of mining claims, little mining activity or disturbance has occurred.

As a result of continued, but very intermittent use—vehicle routes remain somewhat visible but do not detract from the natural appearance of the unit as a whole.

Solitude or Primitive and Unconfined Recreation Criteria

This unit provides excellent opportunities for primitive recreation, such as hunting, backcountry hiking, camping, and wildlife observation and photography. The majority of this unit also provides outstanding opportunities for solitude. This unit is contiguous with the 51,779 acre Big Spring Table Unit which also provides excellent opportunities for solitude and primitive and unconfined types of recreation. Near Highway 140 opportunities for solitude are somewhat limited due to frequent year-round vehicle traffic and visitation.

Size Criteria

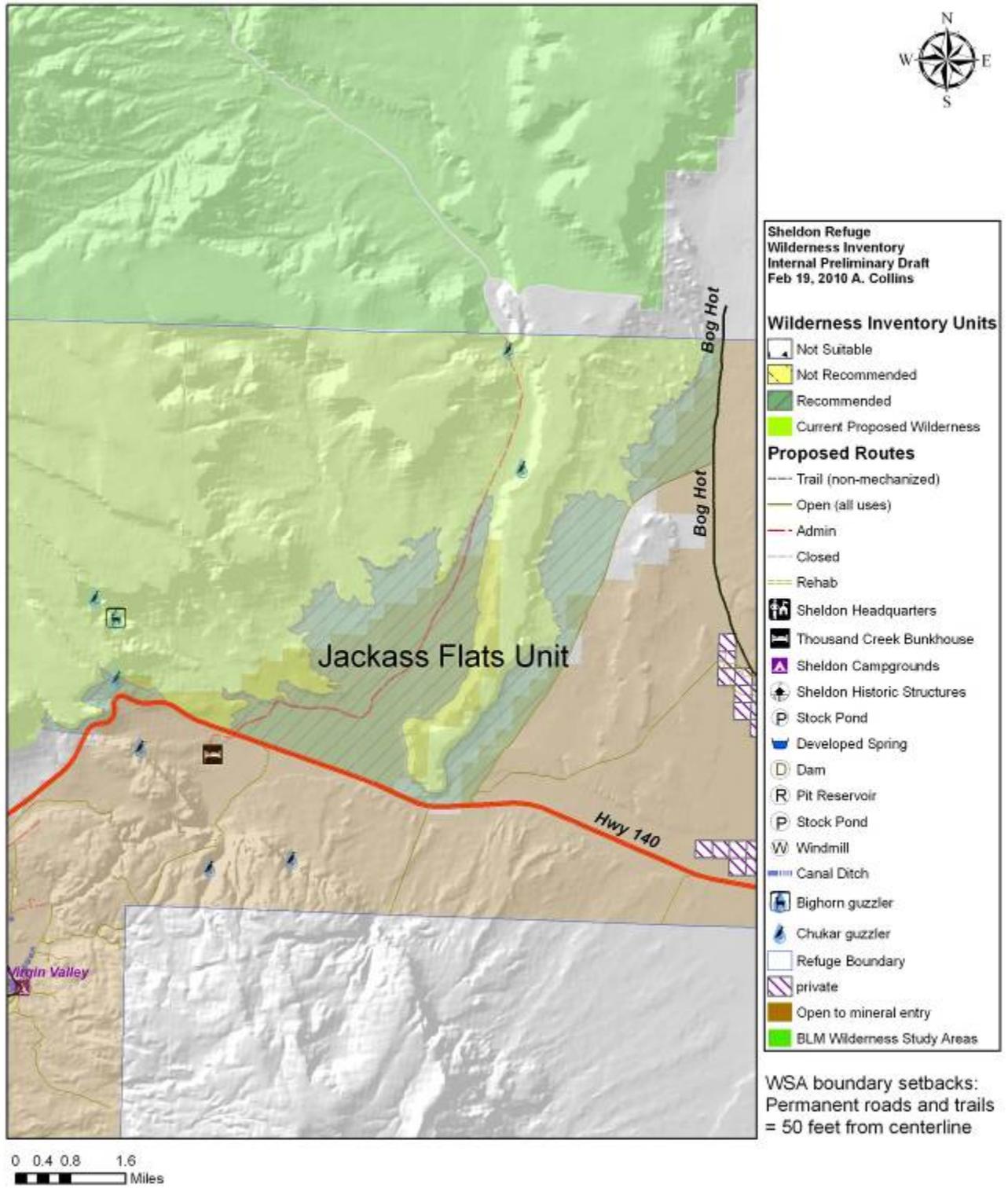
This unit is more than 5,000 acres in size and meets the size criteria.

Supplemental Values

No supplemental values have been identified for this unit.

Wilderness Quality

Based on the above discussion, the Jackass Flats Unit satisfies the definition of wilderness and meets the criteria for a WSA.



Last Chance Unit

The Last Chance Unit consists of approximately 1,886 acres situated in the western portion of Sheldon Refuge between the Rye Creek Unit and County Road 34A.

Roadless Area

Except for the roads bordering the unit, there are no improved or maintained roads within the unit. All routes within this unit are closed to vehicle use.

Naturalness Criteria

This unit contains several abandoned, but still partially functional, range developments. These developments include two developed springs, two stock ponds, and dugout pit reservoirs in Bald Mountain Lake. One short unimproved route historically used to access the range developments within this unit continues to be used illegally by OHVs and other vehicles for recreation purposes.



Figure 13 Bald Mountain Lake within the Last Chance Wilderness Inventory Unit.

This unit also contains an abandoned primitive airstrip and the historic Last Chance Ranch which was a homestead before becoming the first Headquarters for Sheldon Refuge. This site continues to be managed and maintained as an important historic structure. Human

developments and disturbances are fairly concentrated considering the relatively small size of this unit and detract from the overall natural appearance of the unit.



Figure 14 Last Chance Ranch (photo M. Y. G.)

Solitude or Primitive and Unconfined Recreation Criteria

When considered in conjunction with the adjacent Rye Creek Proposed Wilderness Area, this unit provides excellent opportunities for primitive recreation such as backcountry hiking, camping, and wildlife observation and photography. Opportunities for solitude are outstanding as well. Rugged terrain without established trails or routes ensures visitors have little interaction with others.

Size Criteria

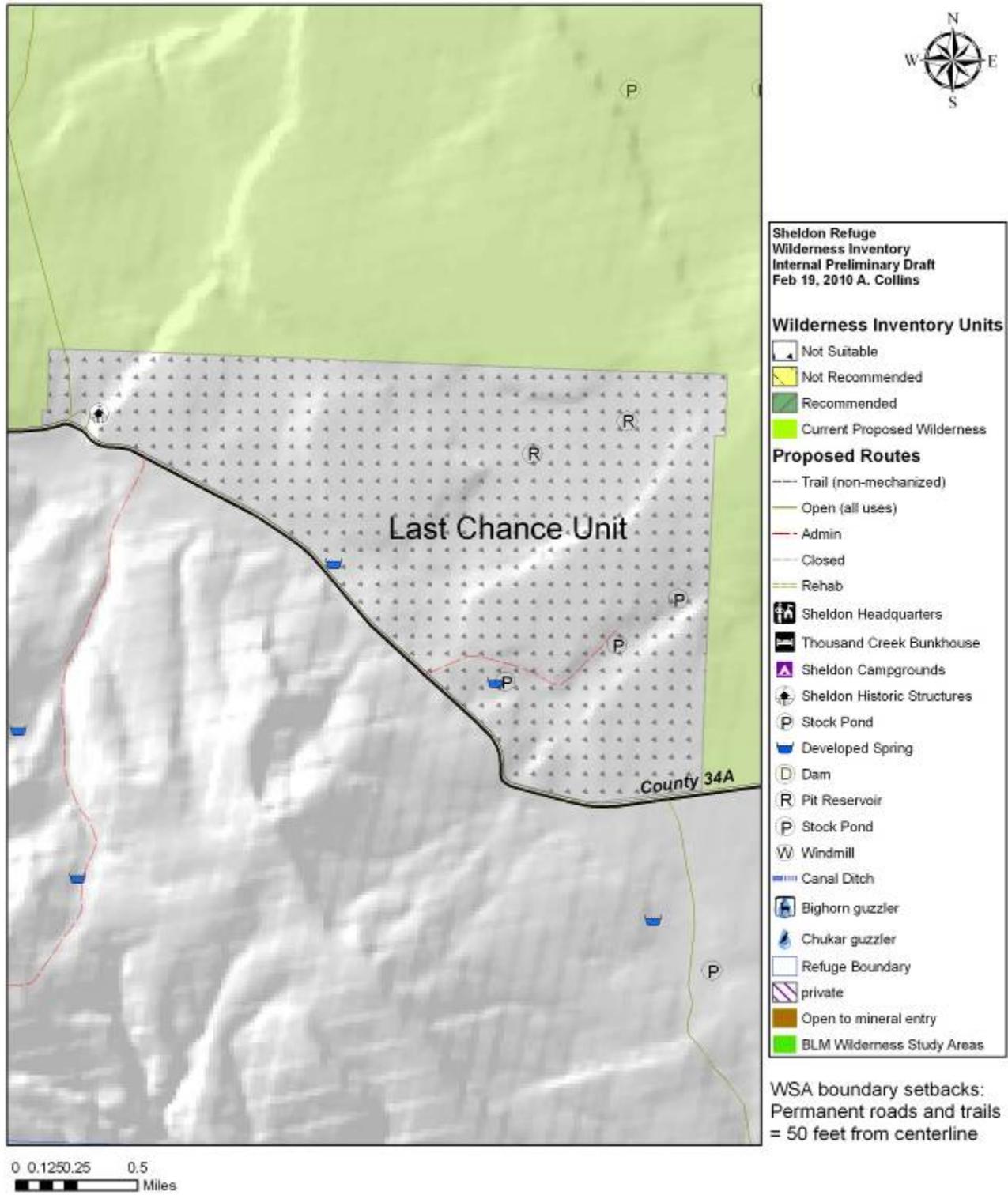
This unit by itself is less than 5,000 acres in size, but is contiguous with the adjacent 28,048 acre Rye Creek Proposed Wilderness Area (which itself is contiguous with the 23,700 acre Sheldon Contiguous WSA managed by BLM). When considered with the Rye Creek Proposed Wilderness Area, the Last Chance Unit does meet the size criteria.

Supplemental Values

The historic Last Chance Ranch is an important site in the context of regional and Refuge history and is considered to have substantial historic value. This unit is also within a portion of Sheldon Refuge closed to hunting and provides some of the best opportunities in the region to view a diversity of wildlife in a primitive undeveloped natural setting with little or no disturbance or influence from human activities.

Wilderness Quality

Based on the above discussion, the Last Chance Unit does not satisfy the definition of wilderness and does not meet the criteria for a WSA.



Little Sheldon Unit

This unit is in the westernmost portion of Sheldon Refuge and consists of approximately 11,722 acres. Elevations in the unit vary about 1,660 feet from the edge of Calcutta Lake at 5,530 feet elevation to 7,191 feet at the summit of Bald Mountain. This variation in elevation allows for a wide variation in vegetation with alkaline shrubs such as hopsage and horsebrush at lower elevations, western juniper and sagebrush at mid elevations, and bunchgrasses and mountain mahogany at higher elevations. The unit is bounded on the north by Rye Creek Unit, to the east by the Fish Creek Table- Little Catnip Unit, with the remaining boundary corresponding with the Sheldon Refuge boundary.

Roadless Area

This unit contains a number of vehicle routes including County Road 34, 34A, a maintained administrative vehicle route from County Road 34A and to the Yellow Peak fire lookout, and a primitive vehicle route in the eastern portion of the unit which provides access to the BLM managed Massacre Rim WSA and connects to County Road 8A in the southwest portion of Sheldon Refuge. There are other abandoned routes used illegally by OHVs and other vehicles for recreation purposes.

Naturalness Criteria

A variety of different structures and developments are found within this unit, including eight developed springs and one stock pond, the Yellow Peak fire lookout, and the historic Sheldon Refuge Headquarters and various associated outbuildings and structures. Mechanical thinning of western juniper within this unit to restore more natural vegetation and fire regimes has somewhat altered the natural appearance of the western portion of the unit.

Routes within this unit are maintained through grading and gravel surfacing and as a result are wider and more apparent than routes within Sheldon Refuge which are not maintained. In addition, maintained routes are lower than the surrounding area and can easily be seen from most locations within the unit. As a result, routes within this unit are clearly visible and detract from the natural appearance of the unit as a whole.

Solitude or Primitive and Unconfined Recreation Criteria

Due to the developed nature, motorized access, and proximity to the relatively busy travel corridors of route 34 and 34A the opportunities for solitude or primitive recreation are somewhat limited and are primarily within the southern portion of the unit along the Sheldon Refuge boundary.

Size Criteria

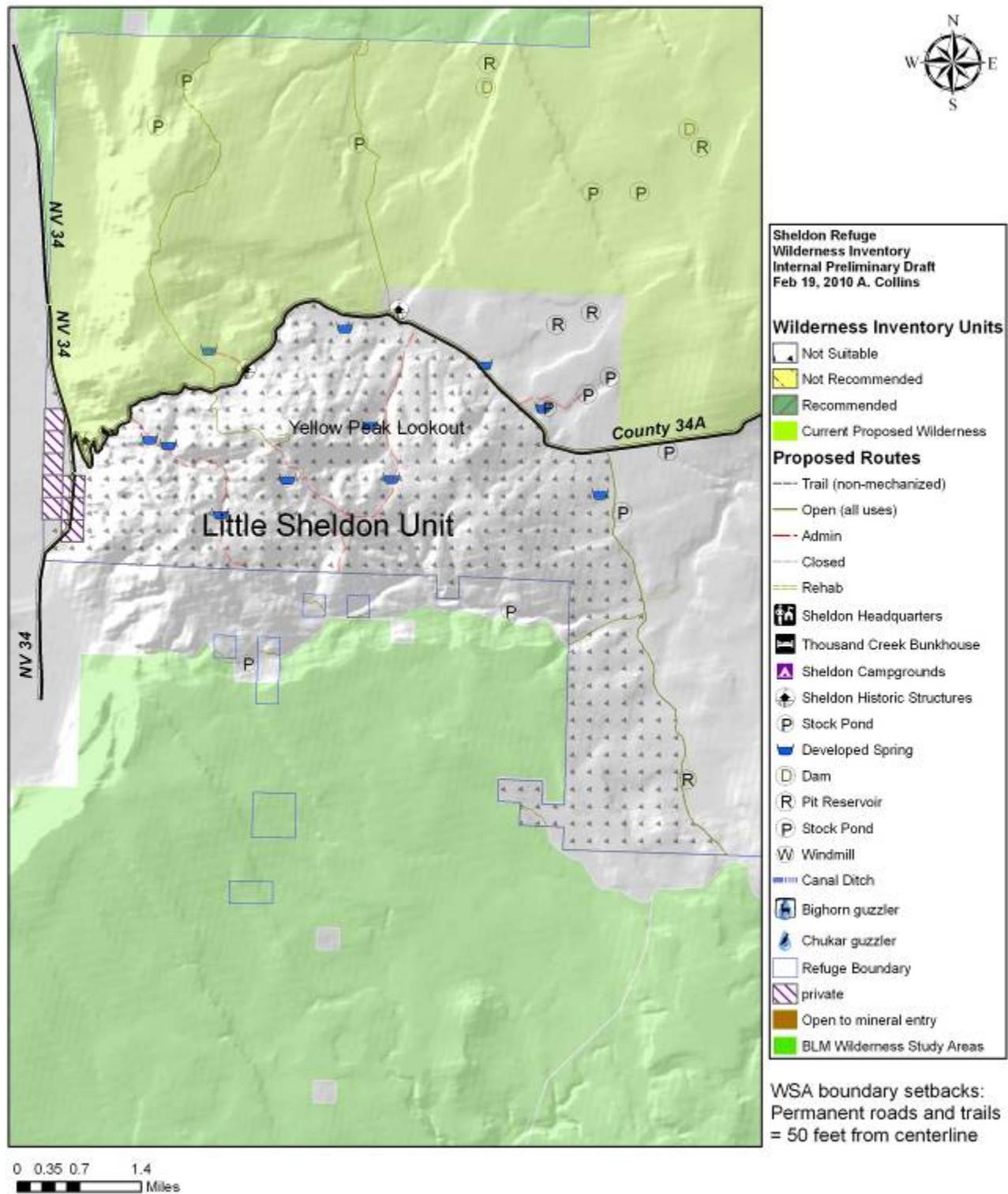
The Little Sheldon Unit is larger than 5,000 acres and meets the size criteria

Supplemental Values

This unit offers outstanding scenic views from Bald Mountain which on clear days extends for 50 miles or more across Sheldon Refuge and adjacent lands. This unit is within a portion of Sheldon Refuge closed to hunting and offers excellent opportunities to view a diversity of wildlife in a natural setting with little influence from human activities.

Wilderness Quality

Based on the above discussion, the Little Sheldon Unit does not satisfy the definition of wilderness and does not meet the criteria for a WSA.



Massacre Rim Contiguous Unit

This unit consists of five separate portions of parcels located outside the main portion Sheldon Refuge which are either entirely within or are immediately adjacent to the northern portion of the Massacre Rim WSA managed by the BLM. Together these five portions total 334 acres.

The Massacre Rim WSA ranges in elevation from 5,520 to 6,780 feet and includes Massacre Rim and all of the Massacre and Bitner benches and their southern slopes. The topography is generally rolling, open terrain dominated by sagebrush, with scattered juniper in the western portion of the WSA. Massacre Rim, a 1,200 foot fault block exposure, dominates the northwestern portion of the WSA. The WSA is bounded by the main portion of the Sheldon Refuge, Nevada Highway 34, private lands, the Cottonwood Canyon Road, the Bald Mountain Canyon Road and the Bitner and Bitner Butte Roads on the northern portion. On the south side, the WSA is bounded by Nevada Highway 8A, the Salt Grass-Evans Road, private property, the West Lake-Johnson Reservoir Road, the Little Basin Spray Road, and a 750 KV powerline (BLM 2000a).

Roadless Area

Except for the roads bordering the unit, there are no improved or maintained roads within the unit.

Naturalness Criteria

According to the BLM (BLM 2000a) the western edge of the Massacre Rim WSA is formed by a spectacular fault scarp with huge rims above vegetated talus slopes. The WSA is primarily natural in character. The remainder of the area consists of a series of wide benches generally sloping gently toward the south. The benches are covered primarily by great expanses of low sagebrush. Pockets with deeper soils support western juniper and big sagebrush. Several small but important spring fed meadows form islands of green in the rocky, shallow soils. The eastern two-thirds above the rim contain few man related intrusions while the western third and the southern and northern boundary areas contain practically all of the man caused intrusions.

The Massacre Rim Contiguous Unit includes portions of several springs and spring fed meadows in the northern portion of the Massacre Rim WSA. While the unit does contain some evidence of past developments for commercial livestock grazing, these developments do not detract from the natural appearance or condition of the contiguous WSA as a whole.

Solitude or Primitive and Unconfined Recreation Criteria

While none of the portions of the unit themselves are large enough to provide outstanding opportunities for solitude or primitive and unconfined types of recreation, the vastness of the surrounding Massacre Rim WSA as a whole contributes to limited opportunities for wilderness type recreation such as hiking, backpacking, and camping. Excellent wildlife values in the Massacre Rim WSA also provide opportunities for viewing and hunting.

Size Criteria

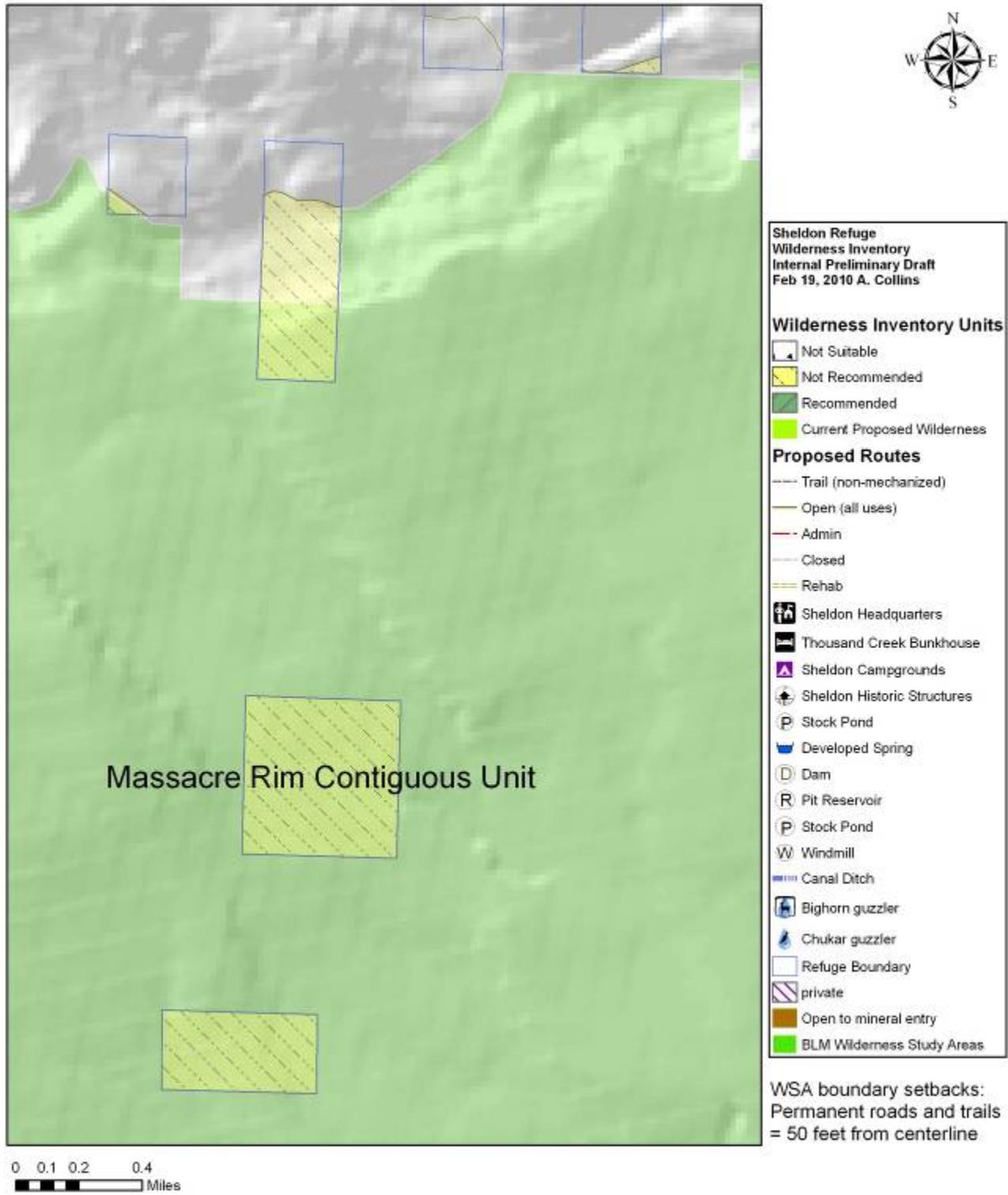
None of the five portions of this unit are 5,000 acres or larger, but all are contiguous with the 101,290 acre Massacre Rim WSA managed by the BLM. When considered together with the Massacre Rim WSA, this unit does meet the size criteria.

Supplemental Values

No supplemental values have been identified by Sheldon Refuge. However, the BLM has identified the outstanding cultural resources associated with 10,000 years of human occupancy in the Massacre Lakes Basin and the wide range of site types found on the around the [sic] Massacre Bench as special features of the surrounding WSA.

Wilderness Quality

Based on the above discussion, the Massacre Rim Contiguous Unit satisfies the definition of wilderness and meets the criteria for a WSA.



Massacre Rim Discontiguous Unit

This unit is comprised of four parcels of land totaling approximately 142 acres managed by Sheldon Refuge. The parcels are located south of the Little Sheldon Unit, but are outside of the larger Sheldon Refuge boundary. Two parcels are completely surrounded by public lands managed by the BLM, The remaining two parcels are separated from portions of the Massacre Rim Contiguous Unit, by road segments.

Roadless Area

Each of the four parcels which comprise this unit are traversed by a segment of road open to motorized vehicle use.

Naturalness Criteria

As a result of continued vehicle use within each parcel of this unit, routes remains visible and detracts from the natural appearance of each parcel and the unit as a whole.

Solitude or Primitive and Unconfined Recreation Criteria

The close proximity of all portions of this unit to roads and related vehicle use and activities prevents this unit from meeting the criteria for solitude or primitive and unconfined types of recreation.

Size Criteria

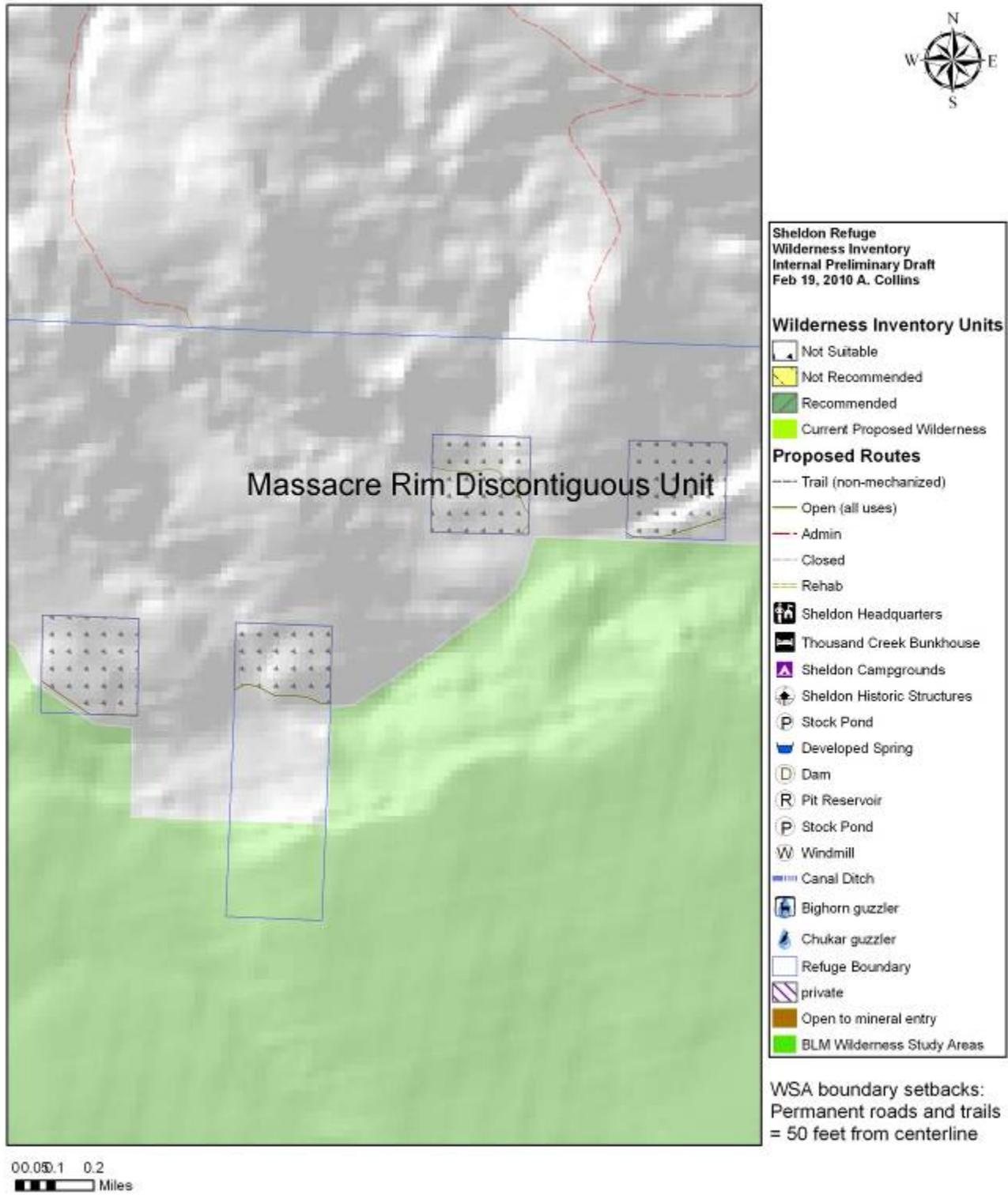
None of the parcels within this unit are larger than 5,000 acres in size and none are contiguous with larger wilderness areas, proposed wilderness areas, or previously identified wilderness study areas. This unit does not meet the size criteria.

Supplemental Values

No supplemental values have been identified for this unit.

Wilderness Quality

Based on the above discussion, the Massacre Rim Discontiguous Unit does not satisfy the definition of wilderness and does not meet the criteria for a WSA.



Mud Springs Unit

The 4,641 acre Mud Springs Unit is located between the Gooch Table Unit and the Mud Springs Road. The unit includes the base of the Gooch Table and the low lying areas along Mud Spring Creek.

Roadless Area

Except for the roads bordering the unit, there are no improved or maintained roads within the unit. All routes and roads within this unit were closed to vehicle use as a result of the 1974 Wilderness Proposal.

Naturalness Criteria

The unit includes features and habitats common within Sheldon Refuge. Three abandoned stock ponds remain within the northern portion of the unit, but are no longer functional. The entire unit was used historically for ranching and farming with abandoned hay fields, irrigation ditches, a large constructed catchment pond, corrals, and fence enclosures still apparent.

One abandoned unmaintained two-track route, historically used to access and maintain the three stock ponds mentioned above, is located within the northern half of this unit. This route continues to be used on an intermittent basis for Sheldon Refuge administrative purposes and illegally by OHVs and other vehicles for recreation purposes. As a result of continued use, the route remains clearly visible and detracts from the natural appearance of the unit as a whole.

Solitude or Primitive and Unconfined Recreation Criteria

This unit by itself provides limited opportunities for solitude or primitive recreation. However, when considered with the adjacent Gooch Table Unit, excellent opportunities for solitude and for primitive recreation, such as hunting, backcountry hiking, camping, and wildlife observation and photography are available.

Size Criteria

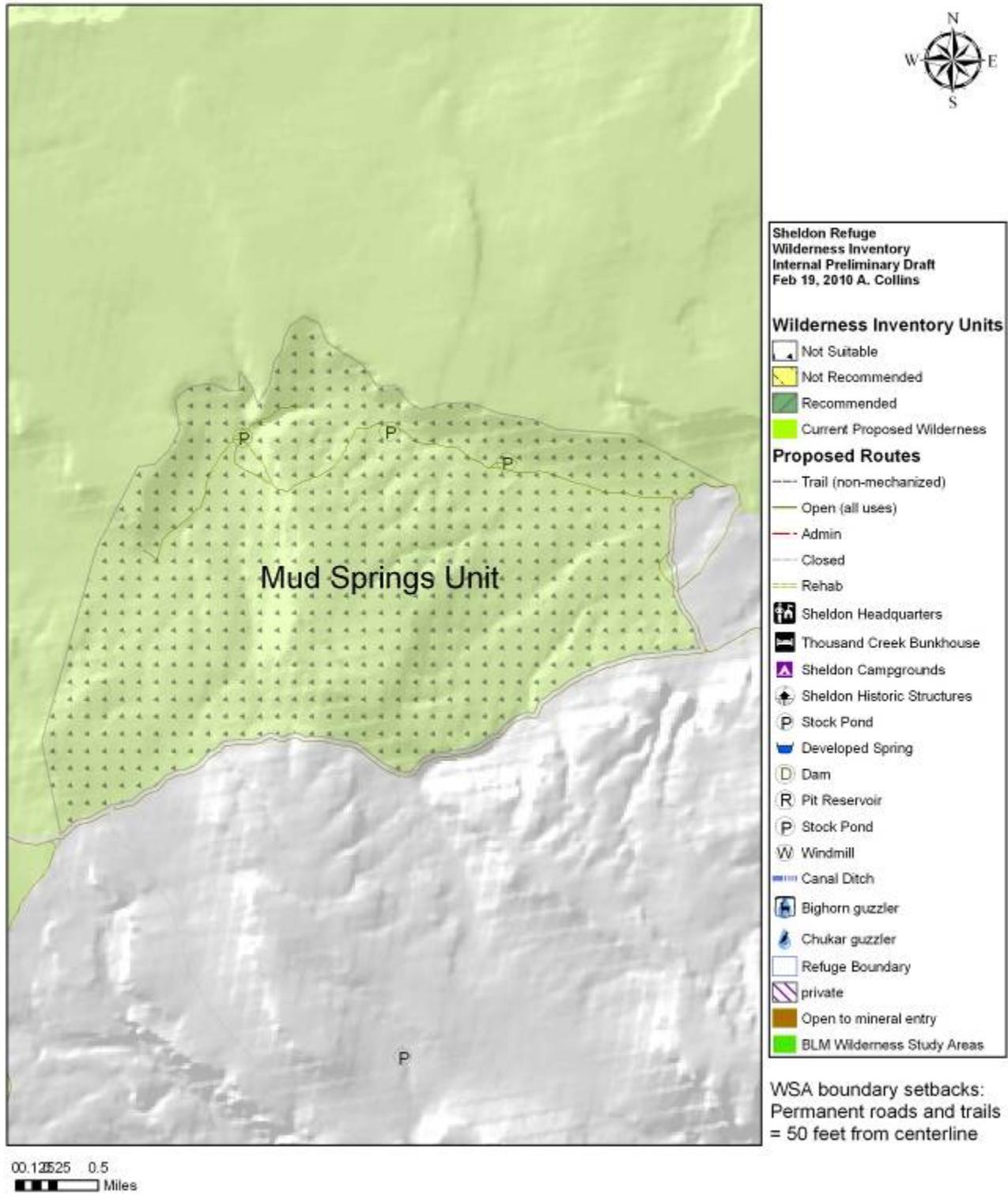
The unit is less than 5,000 acres in size, but is contiguous with the 40,038 acre Gooch Table Proposed Wilderness Area. When considered together with the Gooch Table Unit this unit does meet the size criteria.

Supplemental Values

No supplemental values have been identified for this unit.

Wilderness Quality

Based on the above discussion, the Mud Springs Unit no longer satisfies the definition of wilderness and does not meet the criteria for a WSA.



Onion Lake Unit

The 4,252 acre Onion Lake Unit is located between the Rock Springs Basin and Alkali Peak units. The defining feature of the unit is a large dry lakebed or playa surrounded by steep sloped leading up to the basalt rim of the Alkali Peak Unit.

Roadless Area

Except for the roads bordering the unit, there are no improved or maintained roads within the unit. All routes and roads within this unit were closed to vehicle use as a result of the 1974 Wilderness Proposal.

Naturalness Criteria

Two abandoned access routes in the eastern and western portion of the unit remain clearly visible. A third route in the middle of the unit between the southern boundary and Onion Lake has recovered substantially, and several segments are not noticeable. Disturbances associated with two abandoned stock ponds and two abandoned pit reservoirs within this unit remain clearly visible and when combined with two remaining access routes detract from the natural appearance of this unit as a whole.



Figure 15 vehicle routes historically used to access livestock developments remain clearly visible in the Onion Lake Wilderness Inventory Unit

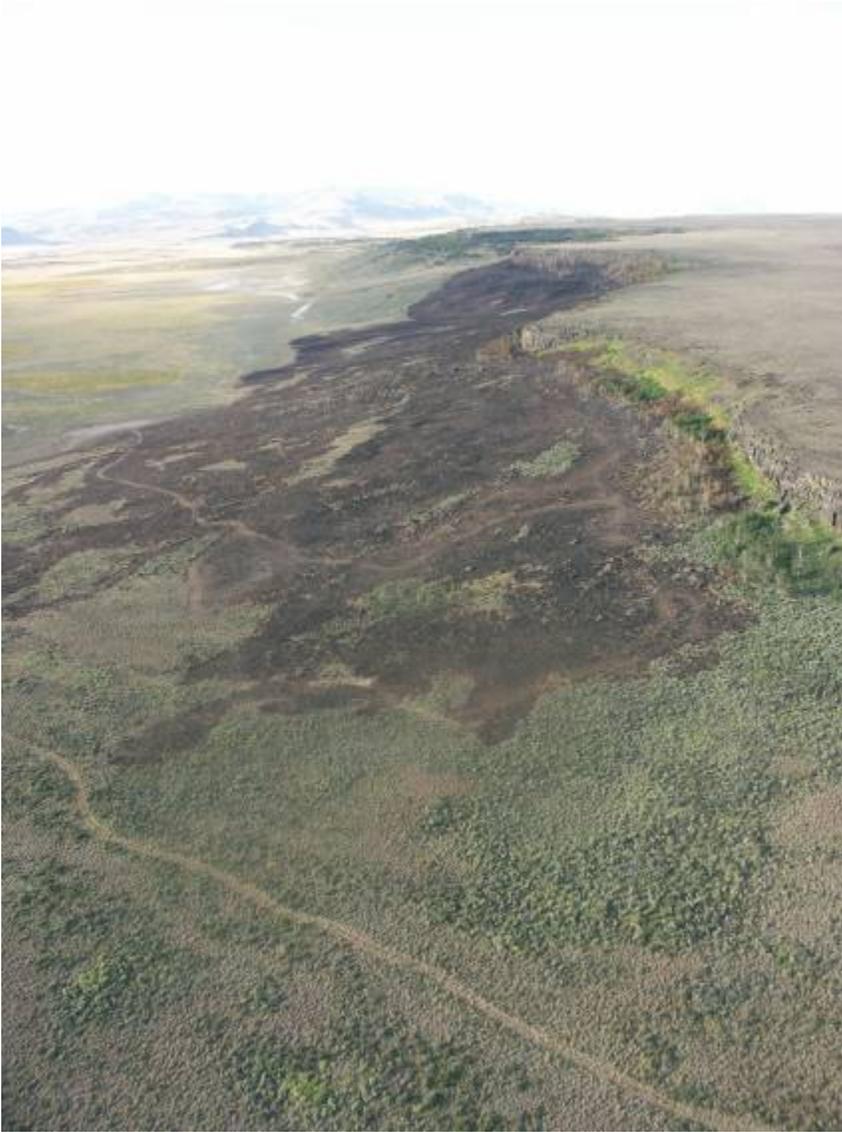


Figure 16 Vehicle routes are more visible following fire as shown here in the Onion Lake Wilderness Inventory Unit (photo USFWS)



Figure 17 This pit reservoir is a noticeable development within the Onion Lake Inventory Unit

Solitude or Primitive and Unconfined Recreation Criteria

This unit provides opportunities for primitive recreation, such as hunting, backcountry hiking, camping, and wildlife observation and photography and some opportunities for solitude. When considered in conjunction with the contiguous 51,414 acre Alkali Peak Unit, these opportunities are excellent.

Size Criteria

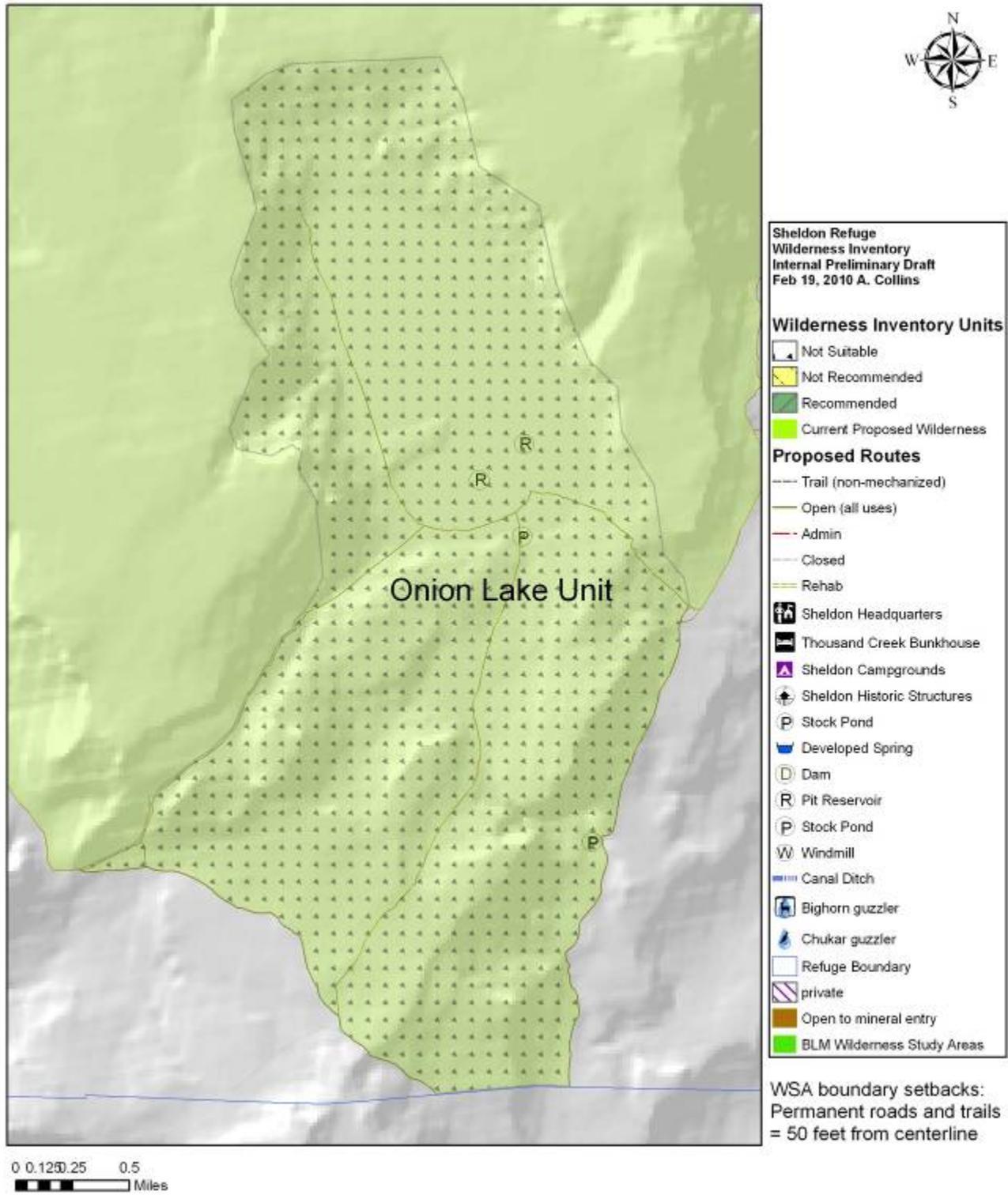
This unit is less than 5,000 acres, but is a portion of the 97,598 Alkali Peak Proposed Wilderness Area and is contiguous with the 51,414 acre Alkali Peak Unit both of which do meet the size criteria.

Supplemental Values

No supplemental values have been identified for this unit.

Wilderness Quality

Based on the above discussion, the Onion Lake Unit no longer satisfies the definition of wilderness and does not meet the criteria for a WSA.



Rock Springs Basin Unit

This long narrow unit consists of 7,220 acres primarily in the Sagebrush Creek drainage bottom between the Sagebrush Basin, Virgin Valley, Big Mountain, Onion Lake, and Alkali Peak units and the southeast corner of Sheldon Refuge. A single 385 acre private parcel which extends from the Big Mountain Unit to Sheldon Refuge boundary separates public lands at the southernmost portion of the unit.

Roadless Area

The Sagebrush Creek Road extends the entire length of this unit. A short access road to the East Rock Springs Campground and a second access road adjacent to the Onion Lake Unit are also located within this unit.

Naturalness Criteria

A number of disturbances and developments are found throughout this unit. The most noticeable disturbances are the access roads and the East Rock Spring Campground. Other developments include three developed springs and three stock ponds. Despite the fact these water developments have been abandoned and are no longer maintained by Sheldon Refuge, some continue to function.

Solitude or Primitive and Unconfined Recreation Criteria

This unit does provide some opportunities for primitive recreation, including hunting and camping. Access roads are undeveloped and campground facilities are rustic and blend with the surroundings. Opportunities for solitude are generally not available during the summer and fall hunting seasons due to intermittent, but consistent visitation and motorized vehicle use.

Size Criteria

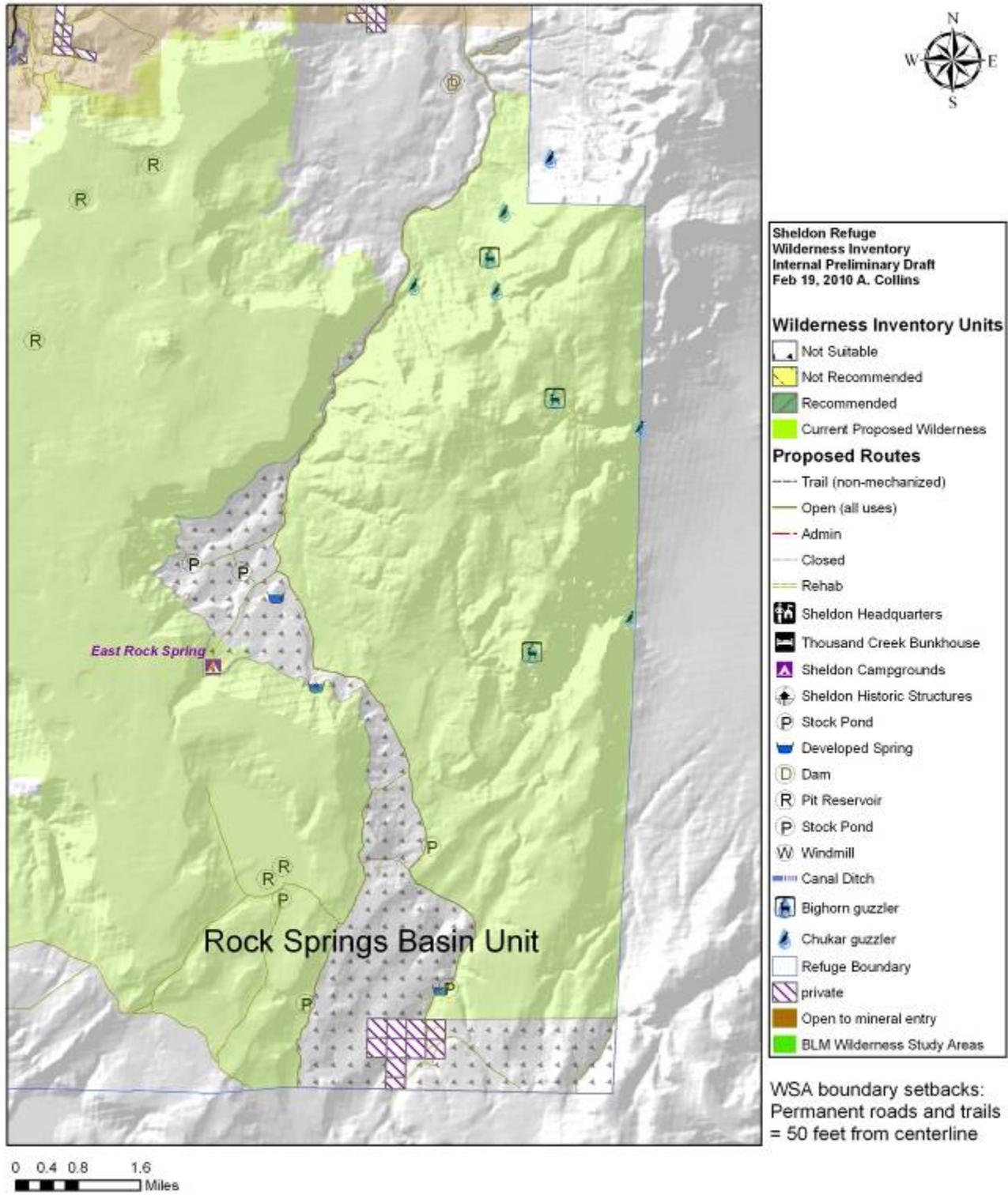
This unit is more than 5,000 acres in size and meets the size criteria.

Supplemental Values

The canyon portions of this unit contain a number of prehistoric cultural sites and artifacts.

Wilderness Quality

Based on the above discussion, the Rock Spring Basin Unit does not satisfy the definition of wilderness and does not meet the criteria for a WSA.



Rodero Unit

The Rodero Unit includes 28,321 acres near the center of Sheldon Refuge surrounded by the Summit Lake Road and the Fish Creek Mountain, Hell Creek, and Alkali Peak wilderness inventory units. The area consists of higher elevation bluffs, buttes, rocky outcrops, ravines and small canyons at the head of the Hell Creek basin between Blowout and Devaney mountains. The area is covered with sagebrush and scattered patches of aspen and mountain mahogany. Many of the drainage bottoms include springs and wet meadows which include a variety of grasses and scattered forbs.

Roadless Area

Except for the roads bordering the unit, there are no improved or maintained roads within the unit. All routes and roads within this unit were closed to vehicle use as a result of the 1974 Wilderness Proposal.

Naturalness Criteria

The natural character of this unit has been affected primarily by past agriculture activities and seven abandoned livestock developments which include five spring developments, one abandoned windmill (with an associated water trough and stock pond), and one stock pond. All developments were originally constructed to support commercial livestock grazing and are connected by a network of abandoned routes which provided access and maintenance to those developments. During the 1974 wilderness inventory, the southern portion of this unit was determined not to meet the minimum criteria for wilderness study and the eastern portion was determined unsuitable due to future planned habitat restoration activities. Through the 1974 wilderness inventory it was anticipated most existing developments and disturbances would return to a more natural appearance within a few years. This has not been the case, and in most instances these developments and connecting routes remain clearly visible and continue to detract from the overall natural appearance and character of the unit. In addition, some routes continue to be used on an intermittent basis to for Refuge administrative purposes and a substantial amount of disturbance has been created during wildfire suppression over the past 30-plus years which further detracts from the natural appearance and character of the unit.

Devaney Campground is a designated primitive campground, but campsite use and development is not noticeable and does not detract from the overall appearance of the surrounding area.



Figure 12 Roadside Spring is one of the several springs originally developed to provide water for livestock, but which are now abandoned within the Rodero Wilderness Inventory Unit (photo Aaron P Collins)

Solitude or Primitive and Unconfined Recreation Criteria

This unit provides excellent opportunities for primitive recreation, such as hunting, backcountry hiking, camping, and wildlife observation and photography. The majority of the unit also offers outstanding opportunities for solitude, with the exception of areas near Devaney Campground and the Summit Lake Road which are more frequently visited.

Size Criteria

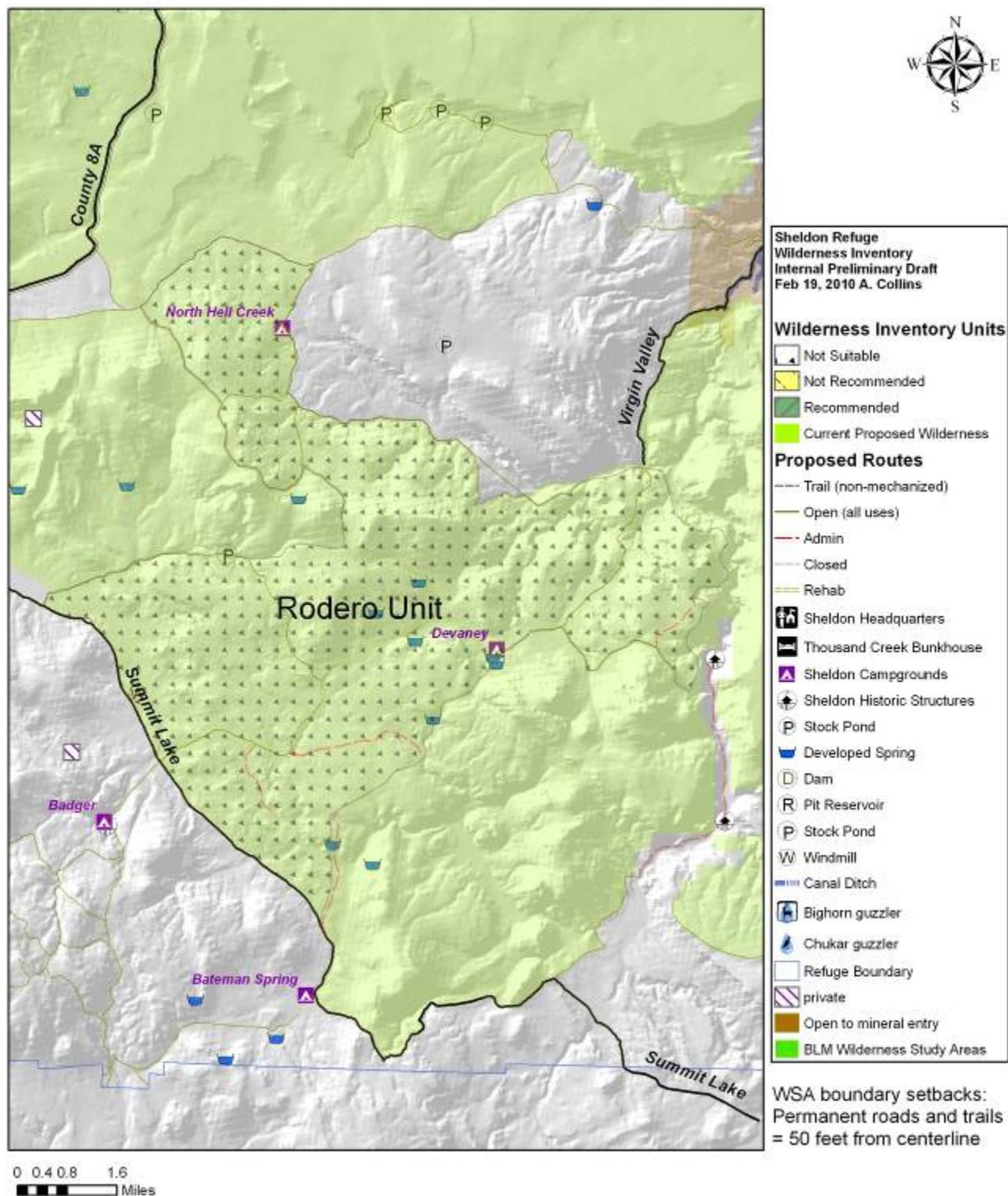
This unit is more than 5,000 acres in size and meets the size criteria.

Supplemental Values

No supplemental values have been identified for this unit.

Wilderness Quality

Based on the above discussion, the Rodero Unit does not satisfy the definition of wilderness and does not meet the criteria for a WSA.



Round Mountain Unit

This unit consists of 36,148 acres located in the northwestern corner of Sheldon Refuge and topography varies from rugged canyons and rim escarpments to the gentle slopes of Round Mountain. It is bounded on the north by Sheldon Refuge boundary, on the west by the former IXL Ranch and the Catnip Reservoir-IXL road, on the south by County Road 34A and on the east by Highway 140.

Roadless Area

Except for the roads bordering the unit, there are no improved or maintained roads within the unit. All routes and roads within this unit were closed to vehicle use as a result of the 1974 Wilderness Proposal.



Figure 19 Northern portion of the Round Mountain Proposed Wilderness Area as seen from the adjacent BLM Breezy Wilderness Inventory Unit showing the main north-south existing route which bisects the Unit (photo Aaron P. Collins)

Naturalness Criteria

Scattered groves of mountain mahogany can be found in the eastern portion of this unit, but generally the sagebrush covered hills provide important Greater sage grouse and antelope habitat. Bighorn sheep are consistently observed in this study unit and habitat requirements to insure bighorn sheep

reproduction and survival are also found here. Springs are used frequently by bighorn sheep during hot summer months when water is critical.

There are 11 water developments within the unit, including four developed springs, three stock ponds, and four small reservoirs (all but one of which have been abandoned, the remaining spring was developed and continues to be used for Lahontan cutthroat trout management efforts in Catnip Creek). One bighorn sheep guzzler maintained by NDOW is located in the western portion of the unit near the former IXL Ranch.

Several abandoned unmaintained two-track routes, most of which historically were used to access and maintain livestock developments, are located within the unit. One route bisects the unit from north to south. These routes continue to be used on an intermittent basis for Sheldon Refuge administrative purposes and illegally by OHVs and other vehicles for recreation purposes. As a result of continued use, routes remain clearly visible and detract somewhat from the natural appearance within portions of the unit.

The majority of this unit has been untouched by man and meets the criteria for naturalness.

Solitude or Primitive and Unconfined Recreation Criteria

This unit provides excellent opportunities for primitive recreation, such as hunting, backcountry hiking, camping, and wildlife observation and photography. The majority of the unit also offers outstanding opportunities for solitude, with the exception of areas near the adjacent access roads and Catnip Reservoir and Campground, which are more frequently visited.

Opportunities for solitude and primitive recreation are somewhat enhanced by the adjacent Breezy and Breezy East Wilderness Inventory Units managed by BLM (BLM 2009a).

Size Criteria

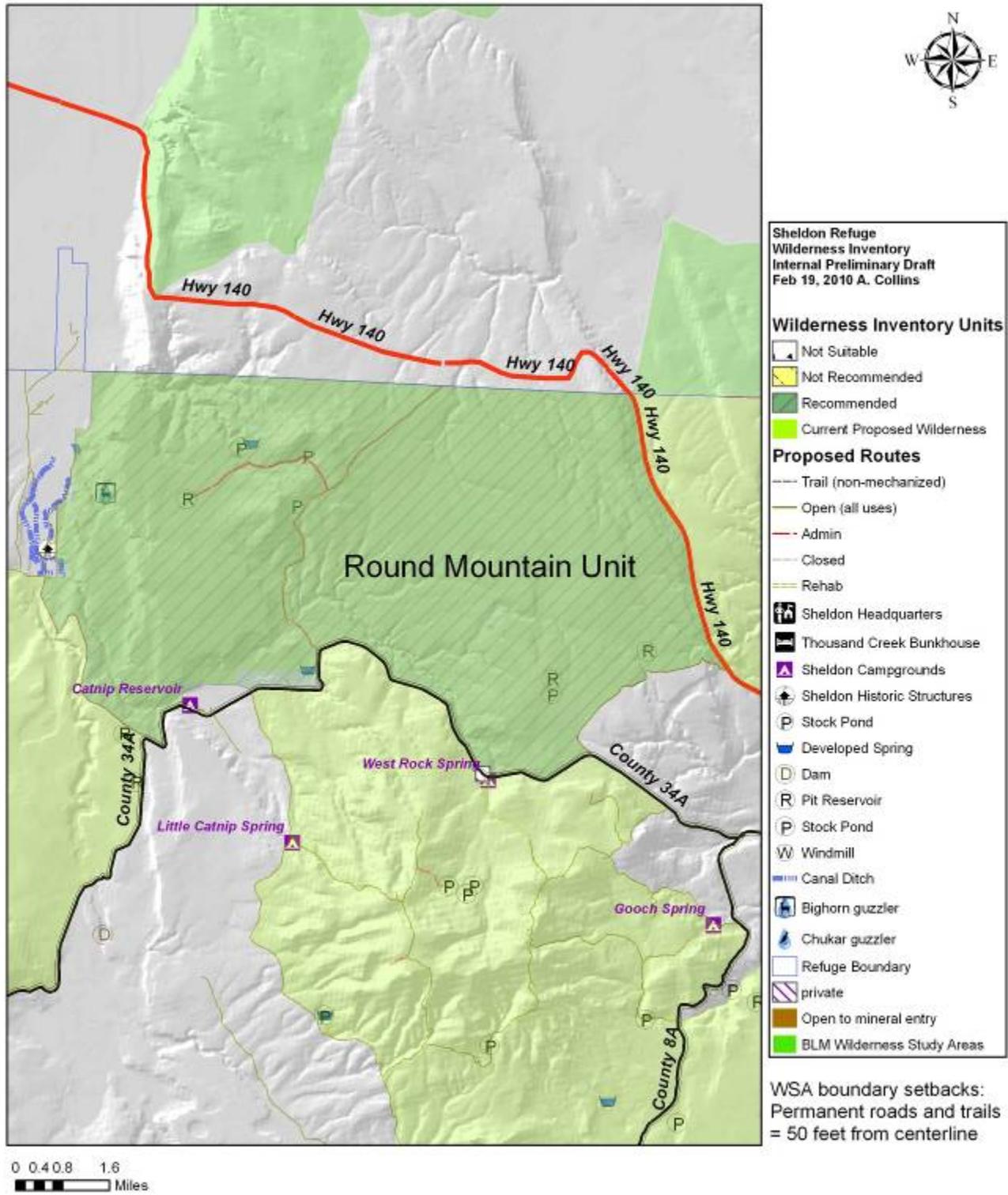
This unit is more than 5,000 acres in size and meets the size criteria.

Supplemental Values

No supplemental values have been identified for this unit.

Wilderness Quality

Based on the above discussion, the Round Mountain Unit continues to satisfy the definition of wilderness and meets the criteria for a WSA.



Rye Creek Unit

This unit is located in the westernmost portion of Sheldon Refuge and consists of 28,151 acres. Elevations vary about 1,200 feet within the unit, rising steeply from 5,500 feet in Long Valley to 6,700 feet, and dropping in a series of broken, ill-defined bench lands to about 5,500 feet in a northeasterly direction toward the former IXL Ranch in Guano Valley. The unit is bounded by Sheldon Refuge boundary on the west and northern sides; County Road 34A on the south; and the Catnip-IXL Road on east.

Roadless Areas

Except for the roads bordering the unit, there are no improved or maintained roads within the unit. All routes and roads within this unit were closed to vehicle use as a result of the 1974 Wilderness Proposal.

Naturalness Criteria

Juniper patches, some rather extensive in size, cover a large percentage of the western portion of this unit and good mixture of bunchgrasses, bitterbrush, and sagebrush provides the vegetative understory. Terrain in the eastern portion of the unit is rolling with broad flat valleys providing wide scenic vistas.

This unit provides excellent mule deer habitat and the portion closed to hunting supports a population of animals that enhances hunting opportunities in adjacent areas.

Development within this unit has been limited to improvement of springs, seeps, and earthen water catchments. There are ten water developments within the unit, including seven stock ponds, three small reservoirs, and one developed spring. All were originally constructed to support past livestock grazing and are considered to be no longer functional or in poor condition due to abandonment.

Within the western half of the unit, disturbances include three abandoned unimproved two-track routes which historically were used to access and maintain livestock developments. These routes continue to be used on an intermittent basis for Sheldon Refuge administrative purposes and illegally by OHVs and other vehicles for recreation purposes.

The majority of this unit has been untouched by man and meets the criteria for naturalness.

Solitude or Primitive and Unconfined Recreation Criteria

This unit provides excellent opportunities for primitive recreation, such as backcountry hiking, camping, and wildlife observation and photography. Although County Road 34A provides easy access to the unit, visitation is generally low compared to other portions of Sheldon Refuge due to the fact much of the unit is closed to hunting, and therefore provides outstanding opportunities for solitude.

Opportunities for solitude and primitive recreation are somewhat enhanced by the 23,700 acre Sheldon Contiguous WSA managed by BLM.

Size Criteria

This unit is more than 5,000 acres in size and meets the size criteria.

Supplemental Values

This unit contains well preserved prehistoric petroglyphs unaltered by modern human activities and which have outstanding scientific, historic, and educational value. Outstanding panoramic scenic views of the Rye Creek Unit and adjacent areas are easily accessible from route 34A along the southern boundary of this unit. This unit is also within a portion of Sheldon Refuge closed to hunting and

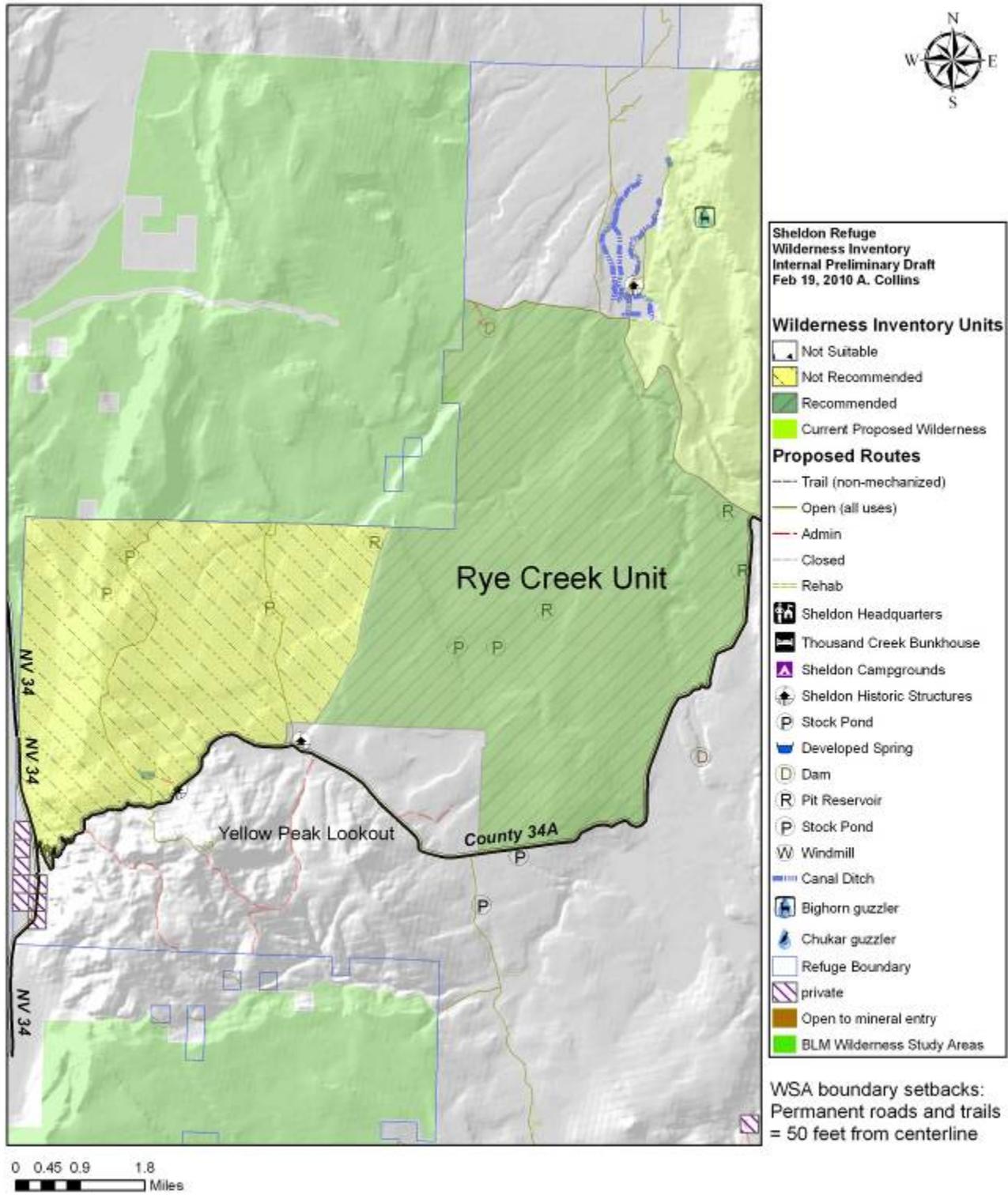
provides some of the best opportunities in the region to view a diversity of wildlife in a primitive undeveloped natural setting with little or no disturbance or influence from human activities.

Wilderness Quality

Based on the above discussion, the Rye Creek Unit continues to satisfy the definition of wilderness and meets the criteria for a WSA.



Figure 20 Looking east over the Rye Creek Proposed Wilderness Area and Inventory Unit (*photo Sue Goheen*)



Sage Hen Hills Unit

This 21,068 acre unit is located in the north central portion of Sheldon Refuge. The west and south boundaries are defined by State Highway 140, the north boundary corresponds with Sheldon Refuge boundary, and the east boundary is defined by the Big Spring Reservoir Road and campground.

Roadless Area

Except for the roads bordering the unit, there are no improved or maintained roads within the unit. All routes and roads within this unit were closed to vehicle use as a result of the 1974 Wilderness Proposal.

Naturalness Criteria

Despite the number of abandoned vehicle routes, there are only two stock ponds located within the unit—neither of which are maintained. Otherwise, this unit remains in a primitive natural condition and provides important habitat for sage grouse, antelope, and other priority species.

Within the eastern half of the unit, disturbances include several abandoned unimproved two-track routes which historically were used to access and maintain livestock developments. Two routes continue to be used on an intermittent basis for Refuge administrative purposes and illegally by OHVs and other vehicles for recreation purposes. As a result of continued use, routes remain somewhat visible but do not detract from the natural appearance of the unit.

Solitude or Primitive and Unconfined Recreation Criteria

This unit provides excellent opportunities for primitive recreation, such as hunting, backcountry hiking, camping, and wildlife observation and photography. The central and northern portions of the unit which is adjacent to the Sage Hen Hills WSA managed by the BLM also offers outstanding opportunities for solitude. Near Highway 140 and in areas adjacent to Big Springs Reservoir and Campground, opportunities for solitude are somewhat limited due to frequent vehicle traffic and visitation.

Opportunities for solitude and primitive recreation are somewhat enhanced by the adjacent 7,988 acre Sage Hen Hills WSA managed by BLM.

Size Criteria

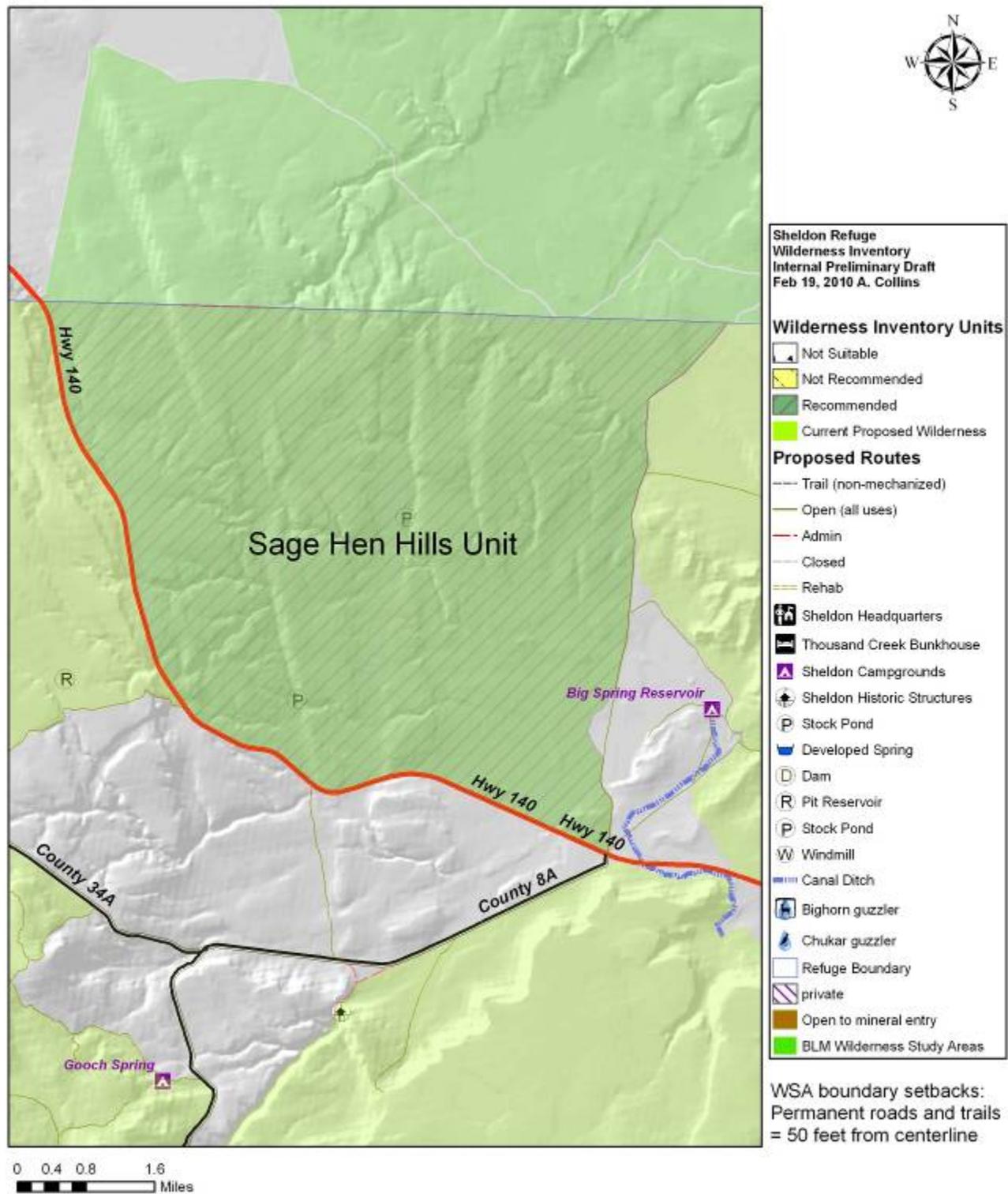
This unit is more than 5,000 acres in size and meets the size criteria.

Supplemental Values

No supplemental values have been identified for this unit.

Wilderness Quality

Based on the above discussion, the Sage Hen Hills Unit continues to satisfy the definition of wilderness and meets the criteria for a WSA.



Sagebrush Basin Unit

This 4,241 acre unit is located between the Alkali Peak Unit and the Rock Springs Basin Unit and south of the Virgin Valley Unit.

Roadless Area

Except for the roads bordering the unit, there are no improved or maintained roads within the unit.

Naturalness Criteria

The only livestock development within this unit is one small earthen dam, which is now overgrown and eroded and appears natural. There are no other water developments within this unit. However, a variety of mining paraphernalia and evidence of mineral prospecting can be found scattered throughout the unit.

Unlike most other wilderness inventory units within Sheldon Refuge, there is little evidence of abandoned unmaintained two-track routes, trails, routes, or other evidence of past vehicle use.

Solitude or Primitive and Unconfined Recreation Criteria

This unit provides excellent opportunities for primitive recreation, such as hunting, backcountry hiking, camping, and wildlife observation and photography. This unit, along with the contiguous Alkali Peak Unit provides excellent opportunities for solitude. Near the Sagebrush Creek Road opportunities for solitude are somewhat limited due to occasional vehicle traffic and visitation.

Size Criteria

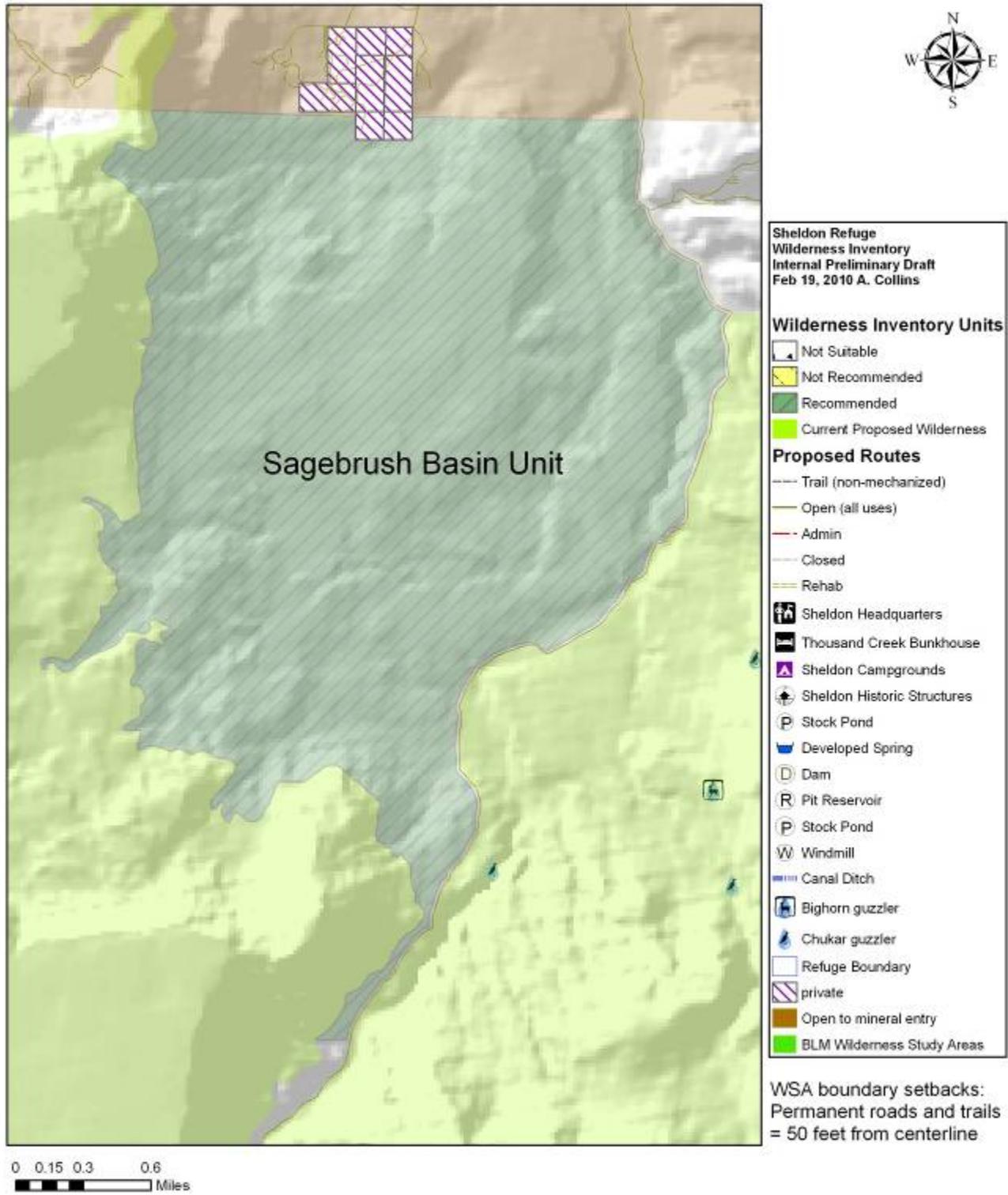
This unit is less than 5,000 acres, but is contiguous with the 97,598 Alkali Peak Proposed Wilderness Area and the 48,429 acre Alkali Peak Unit. When considered in conjunction with these contiguous areas, the Sagebrush Basin Unit does satisfy the size criteria.

Supplemental Values

No supplemental values have been identified for this unit.

Wilderness Quality

Based on the above discussion, the Sagebrush Basin Unit satisfies the definition of wilderness and meets the criteria for a WSA.



Sheldon Contiguous WSA Inholding Unit

This unit consists of two adjoining parcels of land acquired by Sheldon Refuge following the original 1974 wilderness inventory. These parcels are located entirely within the eastern portion of the Sheldon Contiguous WSA managed by the BLM. The two parcels total 119 acres and are similar in character and appearance to the surrounding WSA.

The Sheldon Contiguous WSA is bounded by the Oregon/Nevada line on the north, the main portion of the Sheldon Refuge on the east and south and by Nevada Highway 34 and the Macy Flat Road on the west. The WSA includes the eastern portion of Macy Flat, an intermittent lakebed, the upland benches to the east of the Flat and part of a series of low ridges on the north side of Yellow Peak. The topography and vegetation are typical of old Great Basin volcanic flows intermixed with intermittent lake basins. The dominant vegetation is sagebrush and scattered juniper trees. Elevations range from 5300 to 6600 feet (BLM 2000b)

Roadless Area

There are no improved or maintained roads within the unit.

Naturalness Criteria

The Sheldon Contiguous WSA is predominately natural with limited human imprint. The imprint of man's work is related to facilities to support livestock grazing and about 23 miles of access roads and ways used for construction and maintenance of the facilities as well as for hunting. Livestock grazing facilities include small stock ponds, one 60 acre herbicide treatment area and six short pieces of fencing totaling about 2.5 miles. With the possible exception of the treated field, projects have low impact to naturalness.

The ways within the WSA receive use only by light vehicles and are two wheel tracks through the sagebrush with low impact on the naturalness. There are two "cherry stem roads", one which penetrates the WSA from the western boundary two-thirds of the width of the Unit. The human related imprints are not evenly distributed within the WSA. The eastern portion of the WSA (where the Sheldon Contiguous WSA Inholding Unit is located) has almost no man related intrusions, while the remainder of the WSA contains all the facilities discussed and an estimated 90% of the access ways. Thus within the WSA, the eastern portion is substantially more natural than the western portion (BLM 2000b).

Solitude or Primitive and Unconfined Recreation Criteria

At low levels of use, visitors to the Sheldon Contiguous WSA would be able to find solitude. The gentle terrain, generally low vegetation, scattered juniper stands and excellent visibility all combine to limit the outstanding opportunities for solitude (BLM 2000b).

Size Criteria

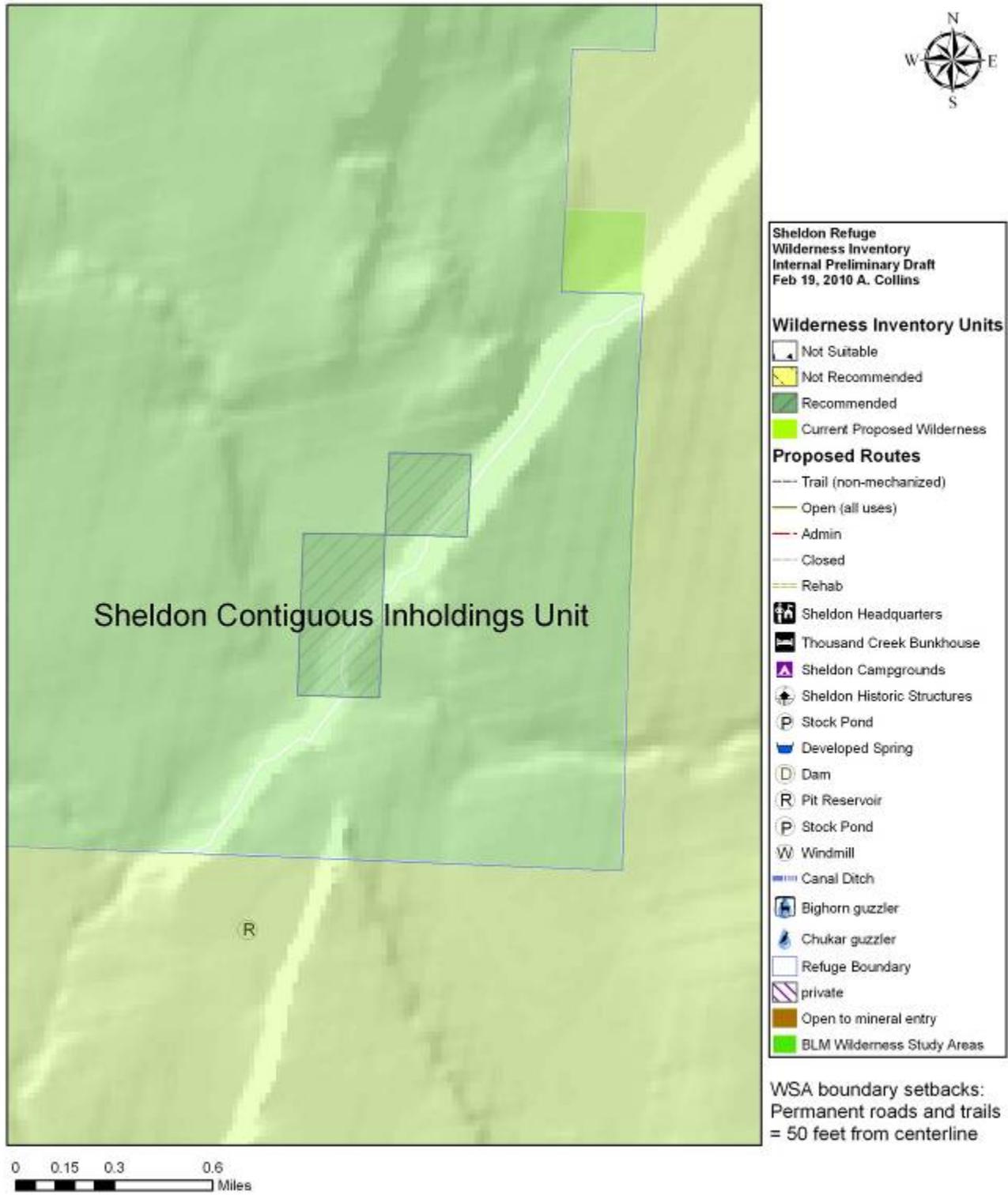
Neither of the two parcels of this unit are 5,000 acres or larger, but all are contiguous with the 23,700 acre Sheldon Contiguous WSA managed by the BLM. When considered together with the Sheldon Contiguous WSA, this unit does meet the size criteria.

Supplemental Values

No supplemental values have been identified for this unit.

Wilderness Quality

Based on the above discussion, the Sheldon Contiguous WSA Inholding Unit satisfies the definition of wilderness and meets the criteria for a WSA.



Tenmile Unit

The Tenmile Unit is comprised of a relatively narrow strip of land 3,702 acres in size located between the southern boundary of Sheldon Refuge, the Summit Lake Road, and the Bateman Spring Campground Road.

Roadless Area

Except for the roads bordering the unit, there are no improved or maintained roads within the unit. Several short routes which cut across the unit are closed to vehicle use.

Naturalness Criteria

The natural character has been affected by past wildfire suppression activities and development of two springs to support commercial livestock grazing. The two spring developments have been abandoned and are no longer maintained. Disturbances from wildfire suppression are gradually returning to a more natural condition and do not affect the appearance or condition of the unit as a whole.

Stands of mountain mahogany at higher elevations within the unit remain largely undisturbed and in their natural state and provide important habitat for mule deer and other wildlife. As stands of mountain mahogany in surrounding areas have gradually decreased in size, the stands within this unit have become increasingly important for meeting the purposes of Sheldon Refuge.

Several abandoned unmaintained two-track routes, most of which historically were used to access and maintain livestock developments or to access lands managed by BLM south of Sheldon Refuge are located within the unit. These routes continue to be used on an intermittent basis for Sheldon Refuge administrative purposes. Illegal use by OHVs and other vehicles for recreation purposes continues to be a common occurrence within this popular hunting area. Despite continued use, the rocky terrain makes these routes only somewhat visible and as a result they do not detract natural appearance of the unit as a whole.

Solitude or Primitive and Unconfined Recreation Criteria

This unit provides excellent opportunities for primitive recreation, such as hunting, backcountry hiking, camping, rockhounding, and wildlife observation and photography. Opportunities for solitude are limited during periods of peak use (primarily summer and the fall hunting seasons) due to the proximity of all areas within the unit to the sights and sounds of vehicle traffic and other activities associated with the Summit Lake Road.

Size Criteria

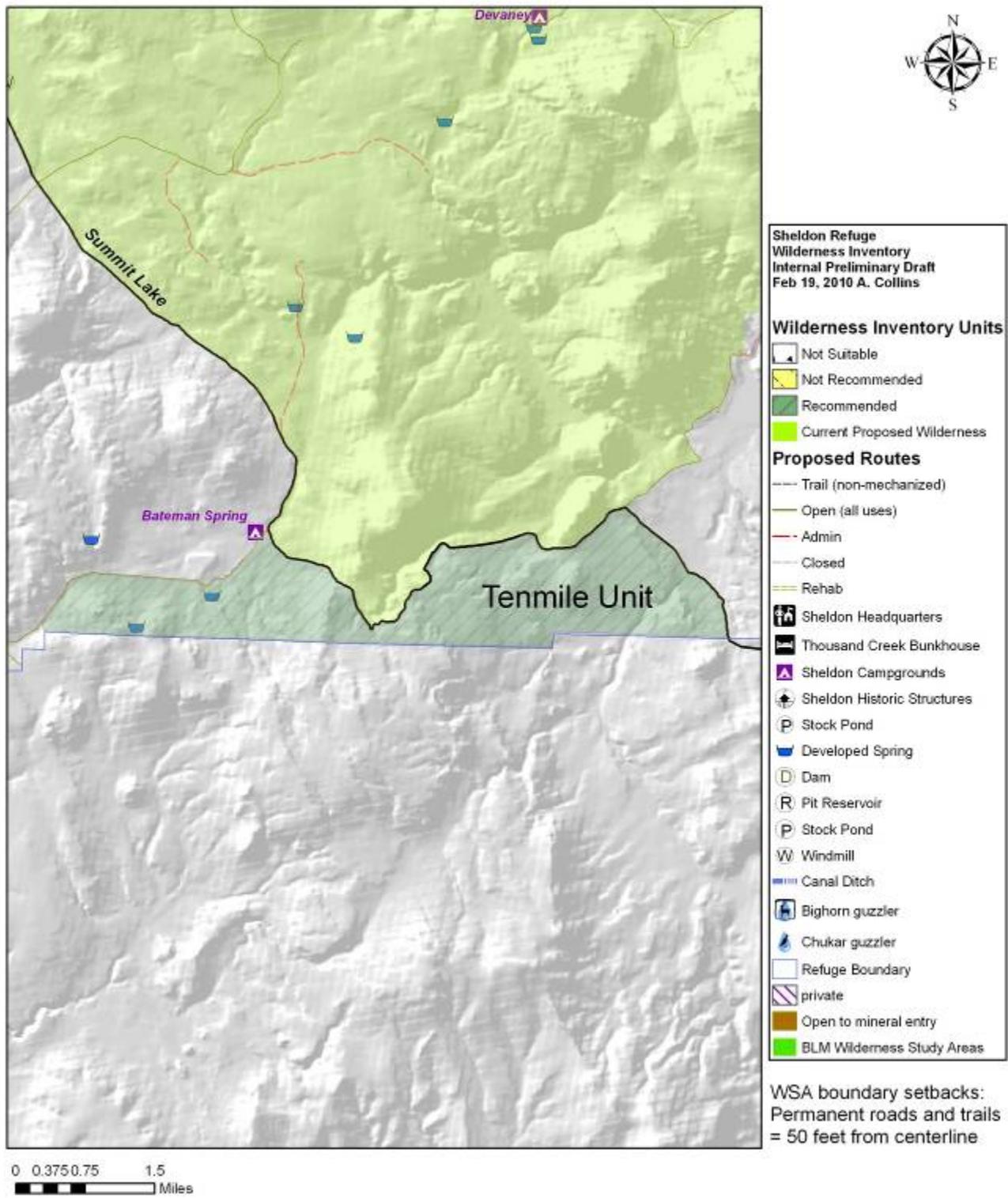
This unit is less than 5,000 acres, but is contiguous with the 11,468 acre Ten Mile Spring Wilderness Inventory Unit managed by BLM and which has been determined to meet the minimum criteria for wilderness study (BLM 2009). When considered together with the Ten Mile Spring Wilderness Inventory Unit, this unit does meet the size criteria. In addition, the supplemental values of this unit and the limited need for vehicle access or management activities would allow this unit to be effectively managed as wilderness.

Supplemental Values

The stands of mountain mahogany habitat within this unit are key for maintaining healthy populations of mule deer and other species of wildlife within and adjacent to Sheldon Refuge.

Wilderness Quality

Based on the above discussion, and particularly because of its supplemental values and close proximity to other larger areas of Sheldon Refuge deemed suitable for wilderness study, the Tenmile Unit satisfies the definition of wilderness and meets the criteria for a WSA.



Thousand Creek Unit

The 10,766 acre Thousand Creek Unit is situated in the eastern portion of Sheldon Refuge between Highway 140 and the Refuge boundary. The western boundary of the unit is defined by the Thousand Creek Gorge and a basalt table rim. Most of the unit has not been withdrawn from mineral entry. Vegetation in the unit consists of greasewood, hopsage, budsage, and other species commonly found in sandy alkaline soils at lower elevation of the northern Great Basin.

Roadless Area

This unit contains a portion of Highway 140 and the Thousand Creek Work Station access road. Three other primitive motorized routes provide vehicle access from Highway 140 to gravel pits, borrow pits, and lands south of Sheldon Refuge managed by BLM.

Naturalness Criteria

While not extensive, this unit does contain a variety of constructed features which affect its natural appearance. A powerline parallels Highway 140 and extends from east to west across the entire unit. Several large and clearly visible gravel pits have been created near Highway 140 for road materials. The Thousand Creek Work Station located south of Highway 140 consists of two main buildings and several outbuildings associated with the former ranch.

Solitude or Primitive and Unconfined Recreation Criteria

In addition to vehicle use along Highway 140, Road construction and maintenance equipment are commonly operated in the various gravel and borrow pits. The Thousand Creek Work Station Unit is used on a year-round basis by Refuge staff. As a result this unit does not provide many opportunities for solitude or primitive and unconfined types of recreation except in relatively small portions along its southern boundary which are less accessible by vehicle and furthest from Highway 140 and associated visitor use.

Size Criteria

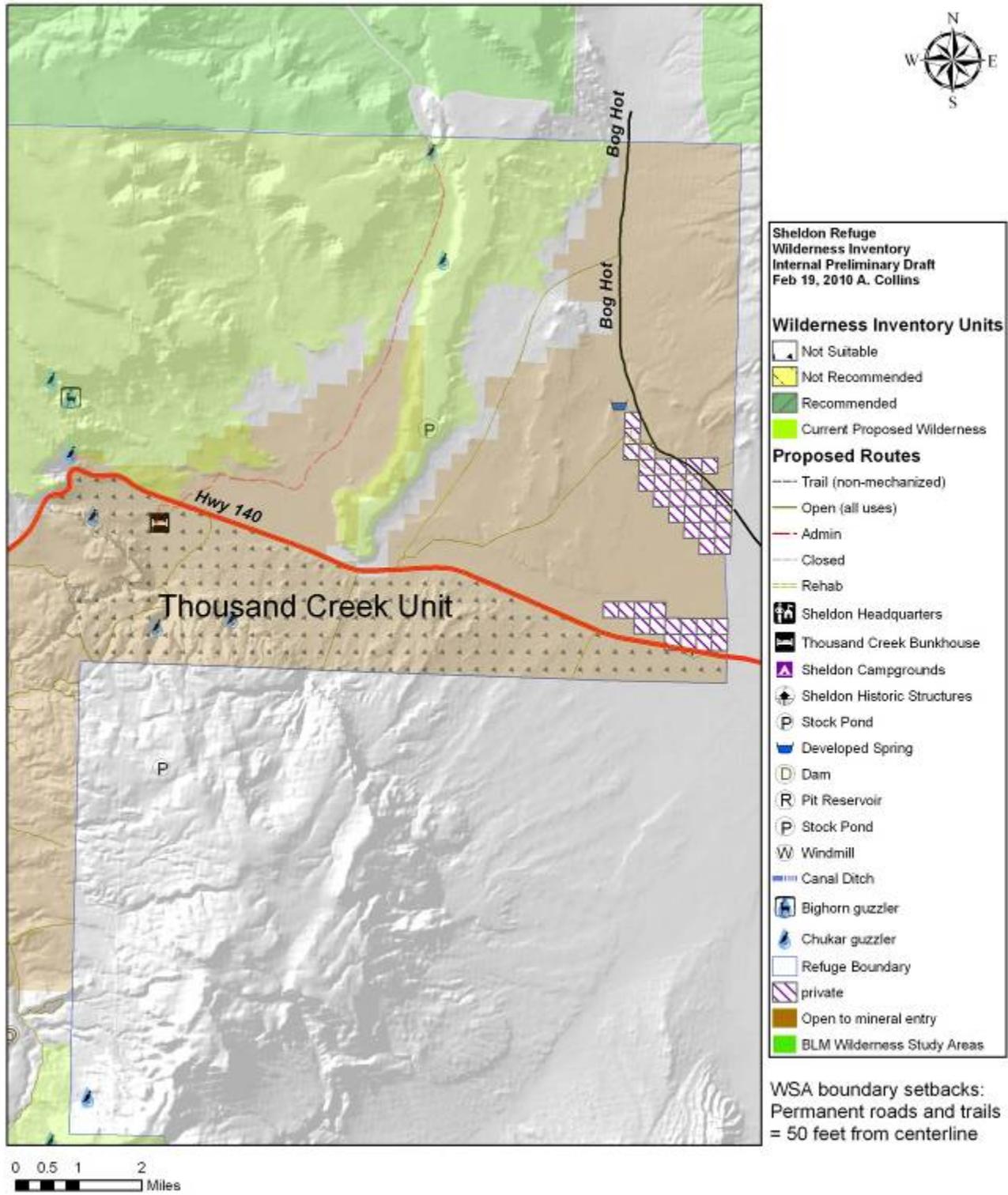
This unit is more than 5,000 acres in size and meets the size criteria.

Supplemental Values

The narrow chasm of Thousand Creek Gorge is located in the western portion of the unit. The scenery and geology of this gorge are considered special values for this unit and Sheldon Refuge.

Wilderness Quality

Based on the above discussion, the Thousand Creek Unit does not satisfy the definition of wilderness and does not meet the criteria for a WSA.



Upper Virgin Creek/ Alkali Reservoir Unit

The majority of this 5,715 acre unit was acquired after the 1974 wilderness proposal was submitted. The acquisition of these lands now makes the entire unit contiguous with the Alkali Peak Proposed Wilderness Area and the Alkali Peak Unit.

The unit is a long, narrow portion of Sheldon Refuge located along the upper portion of Virgin Creek. The boundary along this portion follows legal survey lines of the acquired parcels. The southeast boundary follows the top of the Rock Springs Table basalt rim until meeting with the southern Refuge boundary, which the unit boundary follows westerly toward the Summit Lake Road. The Summit Lake Road and the road to Alkali Peak Reservoir define the remaining boundary segments of this unit.

Roadless Area

Except for the roads bordering the unit, there are no improved or maintained roads within the unit. A single unmaintained primitive vehicle route which follows the Virgin Creek drainage nearly bisects the unit and extends from the lower end of Alkali Reservoir almost to the northern tip of the unit. This route is open for Refuge administrative purposes only, with some illegal OHV and other vehicle use occurring for recreation purposes.

Naturalness Criteria

Virgin Creek includes two historic homesteads, various fence lines, and some earth impoundments which were located on inholdings acquired after the original wilderness inventory. The meadowlands within these inholdings were historically irrigated by water passed through the Alkali Reservoir dam, which is no longer functional and is located just outside the unit. These developments, while evident, have not substantially altered the natural appearance of the landscape.

Two other water developments (a stock pond and a developed spring with a water trough) are located upstream from and south of Alkali Reservoir.

Solitude or Primitive and Unconfined Recreation Criteria

This unit provides excellent opportunities for primitive recreation, such as backcountry hiking, camping, and wildlife observation and photography. The canyon portion of this unit along Virgin Creek also offers outstanding opportunities for solitude away from the sights and sounds of people and human activities. Exceptions include areas around the Alkali Reservoir access roads and the Summit Lake Road which are more frequently visited.

Size Criteria

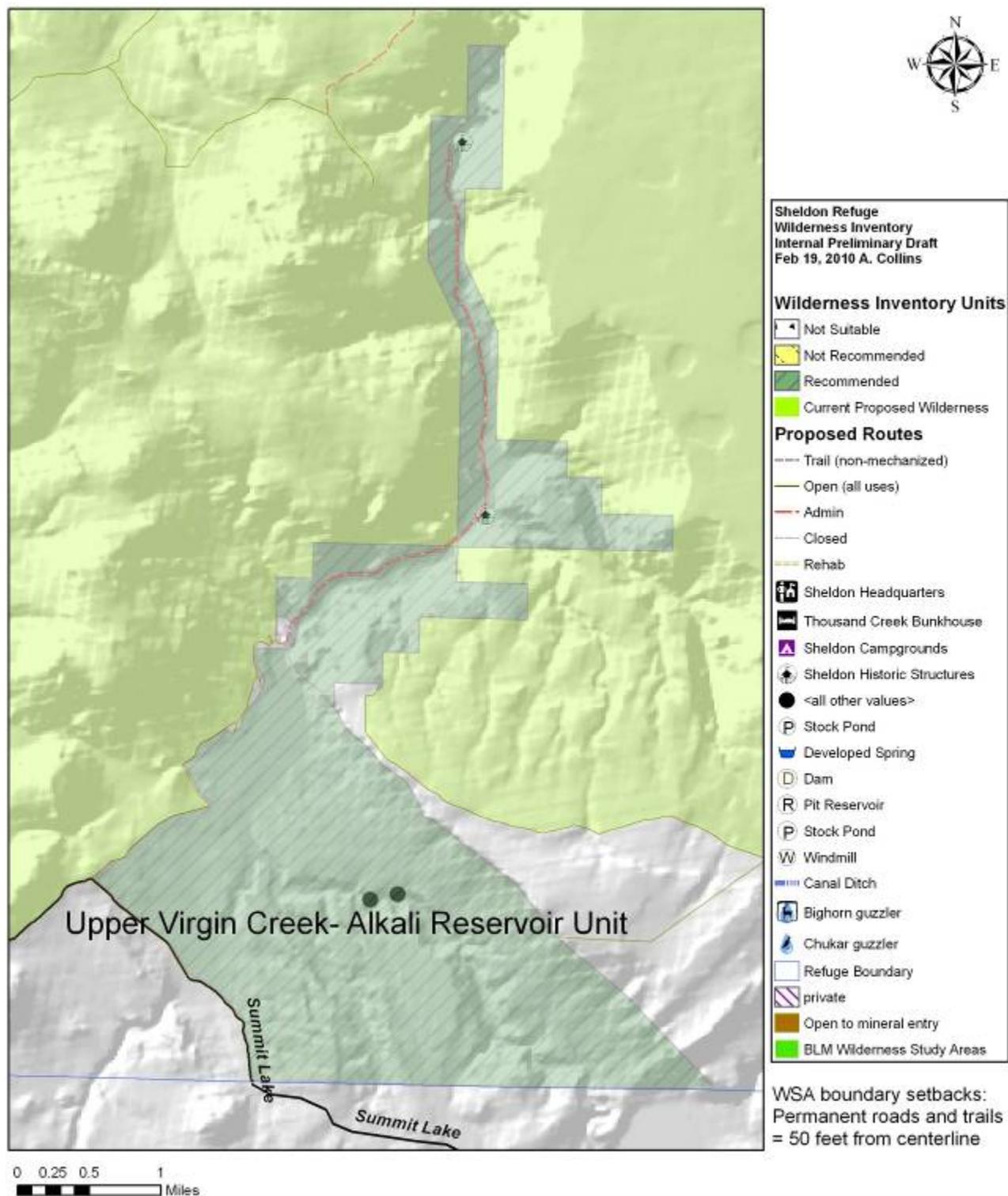
This unit is more than 5,000 acres in size and meets the size criteria.

Supplemental Values

This unit contains numerous prehistoric cultural sites and artifacts, including petroglyphs, rock shelters, campsites, and stone hunting blinds. The scenic quality of the Virgin Creek Canyon is outstanding and provides opportunities found in few other portions of Sheldon Refuge.

Wilderness Quality

Based on the above discussion, the Upper Virgin Creek/ Alkali Reservoir Unit satisfies the definition of wilderness and meets the criteria for a WSA.



Virgin Valley Unit

The Virgin Valley Unit is 31,220 acres in size and includes most of the lower portion of the Virgin Valley Creek watershed and the majority of lands managed by Sheldon Refuge which have not been withdrawn from mineral entry.. The area consists of volcanic tuff, rhyolite, and ash deposits. Lower elevations along Virgin Creek and around various springs include riparian and aquatic vegetation, otherwise the dry alkaline soils support salt desert scrub plants and associated species. Higher elevations include areas of sagebrush steppe.

The boundaries of this unit are defined by Highway 140 along the northern portion and the rim of Thousand Creek Gorge and the Refuge boundary to the east. The remaining boundary segments are shared with the Big Mountain, Sagebrush Basin, Alkali Peak, Hell Creek, and Gooch Table units which generally correspond with the mineral withdrawal area boundary.

Roadless Area

This unit contains the highest density of improved maintained roads as well as unimproved vehicle routes found anywhere in Sheldon Refuge. Improved maintained roads within the unit include Highway 140, the Dufurrena- Virgin Valley Road, the Sagebrush Creek Road, and several short roads used to access gravel and material borrow pits along Highway 140.

Naturalness Criteria

This unit contains extensive water development, opal mining activity, and recreation use. Evidence of recent ranch operations and farming remain visible. The unit also includes the Virgin Valley Campground, Refuge Headquarters and Thousand Creek Work Station. These Refuge administered areas including several large buildings, administrative access roads, canals, ditches, corrals, and barns. Rock quarries, an airstrip, powerlines, developed inholdings which include private residences, and other physical disturbances dominate the landscape.

Solitude or Primitive and Unconfined Recreation Criteria

The Virgin Valley Unit is used on a year-round basis by private property owners, miners, Refuge staff, and the visiting public, making this the most heavily used portion of Sheldon Refuge—especially during the summer months when mining activity is greatest. As a result this unit does not provide opportunities for solitude or primitive and unconfined types of recreation except in relatively small portions along its perimeter adjacent to the Gooch Table and Alkali Peak Proposed Wilderness Areas and the Hell Creek Unit.



Figure 21 Disturbance from opal mining, and associated developments such as roads and powerlines are common within the Virgin Valley Wilderness Inventory Unit (photo Gail H Collins)

Size Criteria

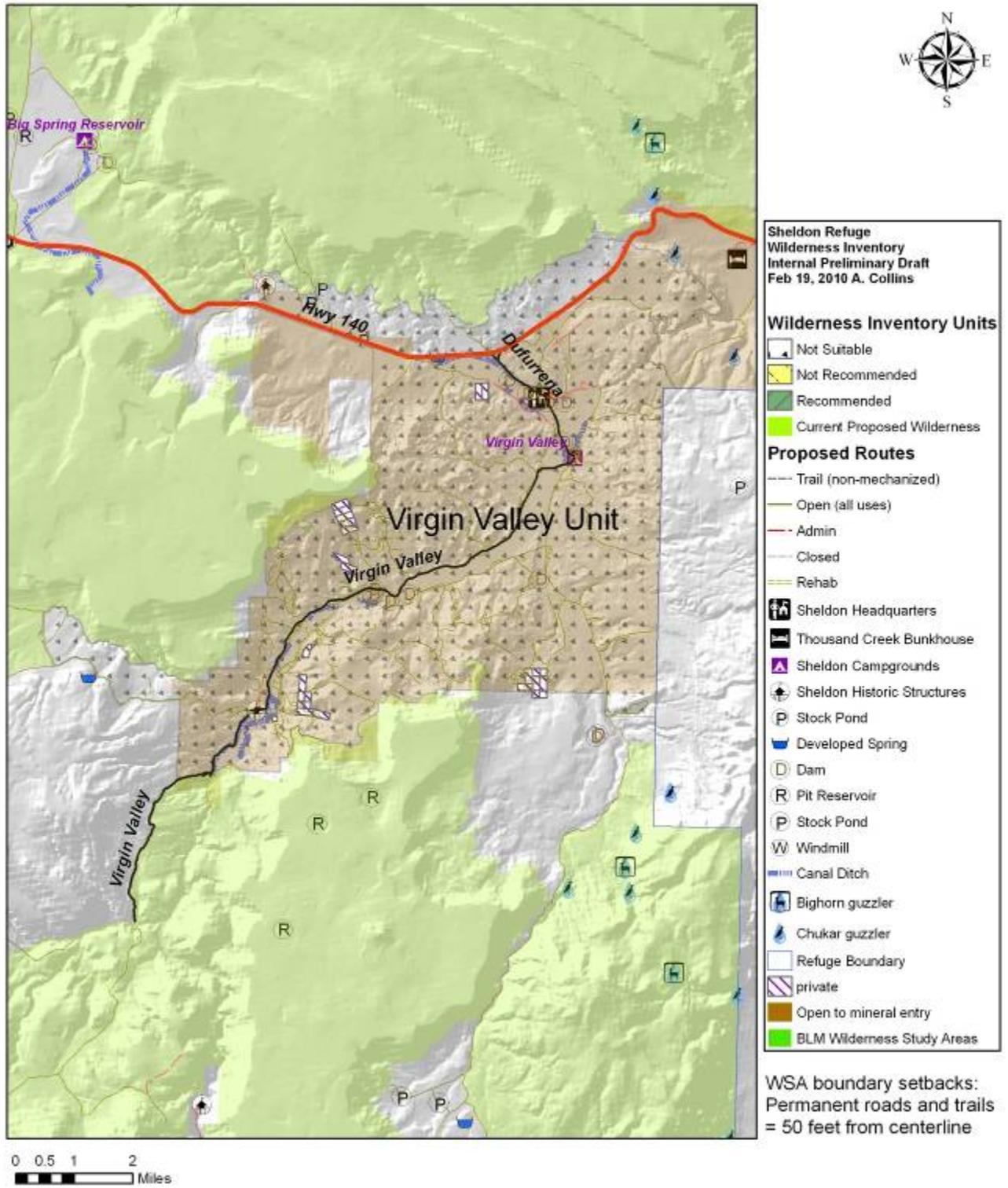
This unit is more than 5,000 acres in size and meets the size criteria.

Supplemental Values

This unit contains some of the most visible and spectacular and scenic examples of the volcanic geology of Sheldon Refuge which includes warm thermal springs and tuff topped hills of rhyolite ash. Specimens of fire opal and rare examples of opalized pine cones and tree branches add to the geologic and recreation value of this unit.

Wilderness Quality

Based on the above discussion, the Virgin Valley Unit does not satisfy the definition of wilderness and does not meet the criteria for a WSA.



Wilderness Study Areas

Based upon the wilderness review for Sheldon Refuge, 15 of the 34 wilderness inventory units totaling 189,389 acres were determined not suitable for wilderness study because they do not meet the minimum criteria for wilderness character. The remaining 19 of the 34 distinct and separate units totaling 388,802 acres were identified as meeting the definition of wilderness and meeting the criteria for wilderness study. This total area constitutes 67% of the entire 541,256 acres within Sheldon Refuge. These 19 units make up the following 17 wilderness study areas (WSAs):

Rye Creek WSA

Round Mountain WSA

Catnip Mountain WSA

Big Mountain WSA

Sage Hen Hills WSA

Gooch Table WSA

Big Spring Table WSA (includes portions of the Big Spring Table and Jackass Flats units)

Railroad Point WSA (includes portions of the Big Spring Table and Jackass Flats units)

Alkali Peak WSA (includes Alkali Peak and Upper Virgin Creek/ Alkali Reservoir units)

Hell Creek WSA

Guano Creek WSA

Massacre Rim Contiguous WSA

Sheldon Contiguous inholdings WSA

Fish Creek Mountain WSA

Fish Creek Table- Little Catnip WSA

Bateman WSA

Tenmile WSA

This portion of the wilderness review further evaluates the values, resources and uses within the WSAs identified above to determine if each WSA can effectively be managed to fulfill the

mission of the Fish & Wildlife Service, the purposes for Sheldon Refuge, and the purposes of the Wilderness Act.

In total, Sheldon Refuge recommends 341,598 acres or 88% of the 388,802 acres found suitable for wilderness study be designated by Congress as wilderness as defined by the Wilderness Act of 1964.

WSAs Recommended for Wilderness Designation

Nearly all of Sheldon National Wildlife Refuge possesses wilderness character, but also has been influenced by human activities. Several WSAs determined to meet the definition of wilderness for the purposes of this review, include lands previously proposed for wilderness designation. These WSAs continue to contain valuable wilderness resources and, with the exception of vehicle trespass, have been effectively managed to meet the Mission of the Service, the purposes for Sheldon Refuge, and the purposes of the Wilderness Act for the past thirty-five years. Upon further review, Sheldon Refuge has determined the existing situation is not substantially different so as to preclude the effective and continued management of these lands as wilderness. Sheldon Refuge has also determined that lands within certain WSAs acquired subsequent to the initial 1974 wilderness recommendation are substantially similar to surrounding proposed wilderness areas both in terms of resource values and management requirements. Therefore, Sheldon Refuge will recommend the following WSAs be designated as wilderness.

Big Mountain WSA

The entire 23,361 acre Big Mountain WSA is recommended for wilderness designation. This recommendation is consistent with the original 1974 recommendation and proposal. Today there are six additional permanent structures (e.g. guzzlers) within the WSA. No routes provide access to any of the six guzzlers and use of a helicopter would likely be necessary to conduct major maintenance or replacement, similar to initial construction. However, these guzzlers and the use of aircraft for their maintenance would not preclude the designation or management of this area as wilderness. Other developments and disturbances noted during the 1974 wilderness inventory are less visible today and no other management manipulation or intrusion has been identified as necessary for the management of the Big Mountain WSA which would be inconsistent with wilderness purposes.

Sage Hen Hills WSA

The entire 21,068 acre Sage Hen Hills WSA is recommended for designation as wilderness. This is not consistent with the original 1974 recommendation. No specific reason was given as to why this unit was not recommended for wilderness designation in 1974, but Map 6 of the Wilderness Study Report (USFWS 1974) indicated “range rehabilitation” was planned for nearly the entire unit. Presumably, activities would have included additional fencing and intensive artificial water development listed as recommended management activities in Step 1 of the Management Framework Plan for the Catnip Mountain grazing allotment (BLM 1972). These planned activities did not occur, and today the Sage Hen Hills WSA remains some of the most

undeveloped, pristine, and productive habitat for pronghorn and Greater sage grouse within Sheldon Refuge. Other than maintenance of fences along the Sheldon Refuge boundary, no specific actions have been determined necessary for the continued management of lands within this WSA which would be inconsistent with wilderness purposes.

Gooch Table WSA

The entire 40,038 acre Gooch Table WSA is recommended for wilderness designation. This is consistent with the original 1974 wilderness recommendation and proposal. The Gooch Table WSA retains the same wilderness character as in 1974.

The majority of the WSA was previously proposed for wilderness designation, but also includes 3,000 acres near Highway 140 which has not been proposed. Most of the 3,000 acre area near Highway 140 is open to the location of mining claims, but little prospecting has occurred, no claims have been established, and there is little or no need for management activities within the unit which conflict with wilderness designation. Therefore, the recommendation would protect and preserve wilderness character of the WSA but would not interfere or hinder any ongoing or planned mining activities.

With the exception of a few historic vehicle routes and disturbances which are gradually recovering to a more natural appearance, the WSA remains unchanged from its natural condition and there is no need for active management to remove developments or conduct habitat restoration work. The isolation of the table topography and abundance of low sagebrush habitat create conditions such that the likelihood and need for aggressive wildfire suppression is low, but the importance and value to pronghorn and other sagebrush dependent wildlife is high.

Fish Creek Mountain WSA

The entire 13,786 acre Fish Creek Mountain WSA is recommended for wilderness designation. This is consistent with the original 1974 recommendation and proposal. There are two parcels of private land within the WSA, but motorized access has not been documented and is not likely necessary for their use or development. Currently the Service is in negotiations to acquire one of these parcels from a willing seller. It is expected some management intrusion and use of motorized equipment would be necessary to remove abandoned water troughs and restore three developed springs within the unit. Otherwise, no specific management actions have been determined necessary for the continued management of the WSA which would be inconsistent with wilderness purposes.

Rye Creek WSA

An area 17,453 acres in size within the eastern portion of the Rye Creek WSA is recommended for wilderness designation. The remaining 10,698 acres are not recommended primarily to allow

the use of mechanical thinning of encroaching western juniper and prescribed burning to restore natural habitat and fire regime conditions to this portion of Sheldon Refuge. It is anticipated these activities would require repeated use of motorized and mechanized equipment and vehicles along previous established routes which would substantially affect opportunities for solitude and would reduce the natural appearance of the area. The cutting, thinning, and burning of native vegetation on these lands which are not recommended is also not consistent with the principles of wilderness management and would reduce the untrammeled natural character within this portion of the unit.

Round Mountain WSA

Sheldon Refuge recommends this WSA be divided into two separate proposed wilderness areas allowing a former primitive route corridor to be reopened to public vehicle access. The eastern portion of the Round Mountain WSA (15,548 acres) would be separated from the western portion of the Round Mountain WSA (20,600 acres) by a designated route corridor 100 feet wide consisting of approximately 172 acres extending from the northern Sheldon Refuge boundary to County Road 34A and including a three-mile dead-end route extending to the west. This would be consistent with the original 1973 wilderness review and study which recommended allowing this north-south route to remain in place. These routes are necessary for the removal, rehabilitation, and monitoring of several abandoned livestock developments located in the western portion of the Round Mountain WSA.

Despite the fact both routes have officially been closed since the 1974 wilderness proposal, recreation users continually use OHVs and other vehicles on these popular routes making rehabilitation ineffective. Sheldon Refuge anticipates regular vehicle use of these routes to support future management activities and continued use by the public. Once re-established, these routes would provide legal access to an existing BLM vehicle route connecting to Highway 140 in Oregon.

Catnip Mountain WSA

An area 11,737 acres in size which includes the southern portion of the Catnip Mountain WSA is recommended for wilderness designation. The remaining 21,490 acres which include the northern portion of the WSA are not recommended. Disturbances from past vehicle use in the northern portion of the WSA have altered the natural appearance and are not recovering naturally. Sheldon Refuge is seeking to increase the range of wildlife dependent recreation opportunities available and recommending the entire WSA would conflict with this management direction. Currently there are few remote areas within Sheldon Refuge which provide vehicle access and opportunities for high quality wildlife viewing and hunting. Recommending the southern portion of the WSA would preserve wilderness character in the most undisturbed and naturally appearing portion of the WSA and enhance other remote recreation opportunities by allowing vehicle use along existing routes in the remaining portion of the WSA.

Big Spring Table WSA

Sheldon Refuge recommends those portions of the Big Spring Table Unit and the Jackass Flats Unit which are west of the identified primitive route (refer to unit maps) be combined to form the approximately 48,915 acre Big Spring Table WSA and that this WSA be designated as wilderness. Despite the fact most lands within the Jackass Flats Unit have been open to location of mining claims—little prospecting has occurred, no claims have been established, and there is little or no need for management activities within the unit which conflict with wilderness designation. The only portion of the Big Spring Table and Jackass Flats units not recommended for designation is a 100' wide corridor extending 8.3 miles from Highway 140 to the northern boundary of Sheldon Refuge consisting of approximately 100 acres. This corridor would continue to provide administrative vehicle access through the Jackass Flats portion of the WSA and would re-establish administrative vehicle access through the current Proposed Wilderness Area to Oregon for maintenance of fence lines and wildlife water guzzlers within Sheldon Refuge. This recommendation would effectively split the Proposed Wilderness Area leaving the portion containing Railroad Point as a separate area approximately 11,000 acres in size.

Recommending the Big Spring Table WSA for wilderness designation would protect and preserve one of the most pristine and ecologically intact portions of Sheldon Refuge. When considered in combination with the adjacent Hawk Mountain and Sage Hen Hills WSAs managed by BLM, this recommendation would protect and preserve wilderness character of a continuous area approximately 102,600 acres in size.

Railroad Point WSA

Sheldon Refuge recommends those portions of the Big Spring Table Unit and Jackass Flats Unit east of the identified route (refer to unit maps) be combined to form the approximately 11,100 acre Railroad Point WSA and designated as wilderness.

Despite the fact most lands within the Jackass Flats Unit have been open to location of mining claims—little prospecting has occurred, no claims have been established, and there is little or no need for management activities within the unit which conflict with wilderness designation. The only portion of the Big Spring Table and Jackass Flats units not recommended for designation is a 100' wide corridor extending 8.3 miles from Highway 140 to the northern boundary of Sheldon Refuge consisting of approximately 100 acres. This corridor would continue to provide administrative vehicle access through the Jackass Flats portion of the WSA and would re-establish administrative vehicle access through the current Proposed Wilderness Area to Oregon for maintenance of fence lines and wildlife water guzzlers within Sheldon Refuge. This recommendation would effectively split the Proposed Wilderness Area leaving the portion containing Railroad Point as a separate area approximately 11,000 acres in size.

Alkali Peak WSA

Sheldon Refuge recommends nearly the entire 61,370 acres Alkali Peak WSA for designation as wilderness. The WSA includes the Alkali Peak Unit (51,414 acres) which was previously proposed for wilderness designation, the Upper Virgin Creek/ Alkali Reservoir Unit (5,715 acres) which was acquired by the Service through purchase, and the Sagebrush Basin Unit (4,241 acres). The only portion of the WSA not recommended for designation is a corridor 100' wide and 4.25 miles in length consisting of approximately 51.5 acres. This corridor extends downstream along Virgin Creek from Alkali Reservoir and contains an administrative vehicle access route and several historic ranching structures. Management efforts for preservation of these permanent structures and regular vehicle use for administrative purposes are not be consistent with wilderness values.

The Sagebrush Basin Unit was not recommended for wilderness designation in 1974 primarily due to anticipated mining and planned restoration activities which were inconsistent with wilderness management and necessary to meet the purposes for Sheldon Refuge. The area was subsequently withdrawn from mineral entry which precluded additional mining activities and the remaining management restoration activities (primarily the construction of erosion control structures and removal of sagebrush) have either been completed or are no longer considered necessary.

The reaches of Virgin Creek within the WSA are relatively undisturbed and intact. Preservation and protection of wilderness characteristics would benefit the various nesting raptors and other wildlife sensitive to human activities and disturbances. Protecting and preserving the undeveloped low sagebrush habitats of Rock Spring Table in their natural conditions are important for the conservation of pronghorn, Greater sage grouse, and other sagebrush dependent wildlife.

Overall the Alkali Peak WSA contains truly remarkable scenery characterized by the broad high expanses of Rock Spring Table and the high vertical cliffs which form the canyon along Virgin Creek. The canyon affords isolation and remoteness to create outstanding opportunities for wilderness solitude.

Hell Creek WSA

Sheldon Refuge recommends the entire 13,969 acre Hell Creek WSA for designation as wilderness. The WSA includes a small portion of land previously proposed for wilderness designation, but primarily consists of that portion of Sheldon Refuge used to support the reintroduction of California bighorn sheep. This area was previously not recommended for wilderness designation due to the need for a large fence enclosure, water developments, and associated vehicle use and access routes. The reintroduction was successful and the developments and access routes are no longer necessary for management purposes.

The Hell Creek WSA possesses a diversity of habitats, remarkable scenery, and nationally important prehistoric resources in a remote and undeveloped setting. These characteristics provide outstanding opportunities for wilderness solitude and primitive and unconfined types of recreation.

Guano Creek WSA

Sheldon Refuge recommends the entire 4,133 acre Guano Creek WSA for designation as wilderness. This area was not found suitable during the 1973 wilderness review due to historic cultivation for agriculture. Subsequent management by Sheldon Refuge has substantially restored the natural appearance and ecological function of these lands which has made them suitable for wilderness designation. When combined with the recommended Rye Creek WSA and Sheldon Contiguous WSA managed by BLM, this recommendation would protect and preserve wilderness character on a continuous area approximately 45,183 acres in size.

Massacre Rim Contiguous WSA

Sheldon Refuge does not recommend the 334 acre Massacre Rim Contiguous WSA for designation as wilderness. This recommendation is consistent with the current BLM recommendation for adjacent lands in the Massacre Rim WSA.

Sheldon Contiguous inholdings WSA

Sheldon Refuge recommends the entire 119 acre Sheldon Contiguous inholdings WSA for designation as wilderness. This recommendation is consistent with the current BLM recommendation for adjacent lands in the Sheldon Contiguous WSA.

Fish Creek Table- Little Catnip WSA

Sheldon Refuge recommends two separate portions of WSA be designated as wilderness. The recommendation would include an area approximately 8,755 acres in size west of Little Catnip Spring Road and another area approximately 20,371 acres in size north of County Road 8A. These lands represent some of the most intact natural habitats. The vast expanses of intact undeveloped sagebrush habitat which are only occasionally visited by others provide a sense of complete isolation and outstanding opportunity for wilderness solitude. Natural conditions are untrammled and ecological function is largely intact requiring few management activities.

The remaining 14,483 acres of the Fish Creek Table- Little Catnip WSA is not recommended for wilderness designation to allow continued and planned activities to restore and manage wildlife habitats. These management activities include prescribed burning along Andy's Place Road, maintenance of Swan Lake Reservoir and the earthen dam, and mechanical thinning of shrubs and trees on and around Bitner Butte. All of these activities are anticipated to require repeated long-term use of large vehicles and associated access routes, motorized and mechanized equipment, and other tools to manipulate the structure and function of habitats within portions of

Sheldon Refuge. These tools and activities are considered necessary to fulfill the purposes for Sheldon Refuge, but are generally not consistent with the principles of wilderness management.

Bateman WSA

Sheldon Refuge recommends the entire 5,772 acre Bateman WSA for designation as wilderness. This recommendation would protect and preserve relatively pristine and intact mountain mahogany habitats in their natural condition which are considered essential for fulfilling the purposes of Sheldon Refuge and for maintaining biological health, integrity, and natural diversity.

Tenmile WSA

Sheldon Refuge recommends the entire 3,702 acre Tenmile WSA for designation as wilderness. This recommendation would be consistent with the 2009 BLM Findings and Conclusion for the Ten Mile Spring WSA and would protect and preserve relatively pristine and intact mountain mahogany habitats in their natural condition which are considered essential for fulfilling the purposes of Sheldon Refuge and for maintaining biological health, integrity, and natural diversity.

Literature Cited

- BLM 1972. Management Framework Plan for the Catnip Mountain grazing allotment. Surprise and Gerlach Resource Areas. Susanville-Winnemucca District, Nevada.
- BLM 2009. Documentation of current wilderness inventory conditions. Ten Mile Wilderness Inventory Unit. U.S. Department of the Interior Bureau of Land Management, Black Rock Field Office. Winnemucca Nevada.
- BLM 2009a. Documentation of BLM Wilderness Inventory Findings on Record. Breezy, Breezy East, Breezy North, and Breezy Northwest Wilderness Inventory Unit. U.S. Department of the Interior Bureau of Land Management, Lakeview Resource Area. Lakeview, Oregon.
- USFWS. 1974. Wilderness Study Report. Charles Sheldon Antelope Range and Sheldon National Antelope Refuge. U.S Department of the Interior Fish and Wildlife Service Bureau of Sport Fisheries and Wildlife and Bureau of Land Management (in part).
- USFWS 2010. Sheldon Refuge Wilderness Review. Sheldon-Hart Mountain Refuge Complex, Lakeview, Oregon.