



PUBLIC NOTICE OF AVAILABILITY

DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED CONSTRUCTION AND OPERATION OF AN ADMINISTRATIVE OFFICE/VISITOR CONTACT STATION AT PAHRANAGAT NATIONAL WILDLIFE REFUGE

AGENCY: U.S. Fish and Wildlife Service, Department of the Interior

ACTION: Public Notice of Availability of a Draft Environmental Assessment for the proposed construction and operation of a new administrative office/visitor contact station at Pahrnagat National Wildlife Refuge in Lincoln County, Nevada.

SUMMARY: The U.S. Fish and Wildlife Service (FWS) has prepared a National Environmental Policy Act (NEPA) Draft Environmental Assessment (EA) for the proposed construction and operation of a new administrative office/visitor contact station at Pahrnagat National Wildlife Refuge. The purpose of this notice is to advise other agencies, tribes, and the public of the availability of the Draft EA, and to obtain comments, suggestions and information on the Draft EA, which will be available at these locations:

- Lincoln County Library – Alamo, NV (100 N. 1st Street, Alamo, NV 89001)
- Lincoln County Library – Caliente, NV (100 Depot Avenue # 7, Caliente, NV 89008)
- Fish and Wildlife Service web site – <http://www.fws.gov/desertcomplex/pahrnagat>

The Draft EA was prepared to assist the FWS in evaluating the alternatives and environmental effects of constructing and operating the proposed facility. The FWS proposes to construct an energy-efficient, LEED-certified administrative office/visitor contact station near the existing Refuge Headquarters location. The new facility would replace the existing mobile building serving as the current administrative facilities. This assessment is being used to solicit public involvement in the proposed project and to determine whether implementing the project will have a significant effect on the quality of the human environment. It is part of the agency's decision-making process in accordance with the NEPA.

DATES: The Draft EA will be available for review at the locations listed above from September 17, 2012 through October 16, 2012. To ensure consideration, please send your written comments by October 23, 2012.

ADDRESSES: You may submit comments by U.S. mail, hand-delivery, E-mail, or Fax to:

Amy LaVoie, Refuge Manager

Pahrnagat NWR

PO Box 510

Alamo, NV 89001

Email: amy_lavoie@fws.gov

Fax: (775) 725-3389

FOR MORE INFORMATION CONTACT: Amy LaVoie, Refuge Manager at (775) 725-3417.

Individuals who are hearing-impaired or speech-impaired may call the Federal Relay Service at (800) 877-8337 for TTY assistance.

PUBLIC AVAILABILITY OF COMMENTS: All comments received become part of the public record. Requests for copies of comments will be handled in accordance with the Freedom of Information Act, NEPA, and FWS and Department of the Interior policies and procedures. Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time.

Dated: September 14, 2012

US Department of the Interior Fish & Wildlife Service

Pahrnagat National Wildlife Refuge

***Draft Environmental Assessment:
Proposed Construction and Operation of
Administrative Office/Visitor Contact Station
At Pahrnagat National Wildlife Refuge***



September 2012

**Draft Environmental Assessment:
Proposed Construction and Operation of an
Administrative Office/Visitor Contact Station at
Pahranagat National Wildlife Refuge**



Prepared for:

U. S. Fish and Wildlife Service

Pahranagat National Wildlife Refuge

Alamo, Nevada

Prepared by:

Harris Environmental Group

September 2012

TABLE OF CONTENTS

I.	PURPOSE AND NEED	1
	Introduction	1
	Proposed Action	1
	Purpose and Need for Action	1
II.	ALTERNATIVES	2
	Alternative A – No Action Alternative	2
	Alternative B – Preferred Alternative	2
	Alternatives Considered But Rejected	4
III.	AFFECTED ENVIRONMENT.....	5
	General Site Information	5
	Project Site 1 – Existing Refuge Headquarters.....	9
	Geology & Soils.....	13
	Air Quality	13
	Biological Resources	15
	Threatened and Endangered Species	17
	Cultural Resources.....	18
	Public Use.....	19
	Socioeconomics.....	20
IV.	ENVIRONMENTAL CONSEQUENCES.....	21
	Alternative A – No Action Alternative	21
	Alternative B – Preferred Alternative	22
V.	COORDINATION WITH OTHERS AND ENVIRONMENTAL COMPLIANCE	25
	Coordination with Others	25

Environmental Compliance.....	25
ACRONYMS & ABBREVIATIONS.....	27
REFERENCES.....	29

LIST OF FIGURES

Figure 1. Conceptual Drawing of General Site Plan & Facilities.....	3
Figure 2. Pahrnagat National Wildlife Refuge, Lincoln County, Nevada.....	7
Figure 3. Proposed AO/VCS Site Study Area on Topographic Map.....	10
Figure 4. Proposed AO/VCS Site Study Area on Aerial Map.....	11
Figure 5. Existing Structures at Proposed AO/VCS Site Study Area.....	12
Figure 6. Soils of Pahrnagat NWR.....	14
Figure 7. Vegetation Map – Pahrnagat NWR Headquarters Site and Proposed AO/VCS Site Study Area	16

I. PURPOSE AND NEED

Introduction

This Draft Environmental Assessment (EA) has been prepared to assist the U.S. Fish and Wildlife Service (USFWS) in evaluating the alternatives and environmental impacts of constructing an Administrative Office/Visitor Contact Station (AO/VCS) on the Pahranagat National Wildlife Refuge (NWR or Refuge) in Lincoln County, Nevada. This assessment is being used to solicit public involvement in the proposed construction project and operation of the facility to determine whether implementing the project will have a significant impact on the quality of the human environment. It is part of the agency's decision-making process in accordance with the National Environment Policy Act (NEPA) of 1969, as amended.

Proposed Action

The USFWS proposes to construct energy-efficient, LEED-certified AO/VCS on Pahranagat NWR at the existing Refuge Headquarters Site. The new AO/VCS would replace the existing mobile building serving as the current administration facilities (RPR 2011) and visitor contact station. Funding for the proposed project is from the Southern Nevada Public Land Management Act, Capital Improvements category.

Purpose and Need for Action

The current Refuge Headquarters facilities are substandard, and reflect negatively on the USFWS and the Department of Interior (DOI). The poor quality of these buildings prevents the Refuge from efficient and safe operations and fails to provide adequate on-site capacity for visiting patrons, researchers, work crews and volunteers. The project seeks to:

- Construct a cost effective energy efficient facility
- Acquire LEED Certification for the facility
- Target development of a Net Zero Energy project
- Develop a project complying with the current "Suite of Facilities" Guidelines
- Develop a project that establishes a common design character with Desert NWR and Ash Meadows NWR visitor and administrative facilities
- Develop a project that provides office space and a quality work environment for Refuge staff, volunteers, partners, and contractors
- Develop a project that minimizes maintenance efforts
- Develop a project that provides a quality visitor experience for the public

II. ALTERNATIVES

Alternative A – No Action Alternative

The *no action* alternative would maintain the status quo. No new AO/VCS would be constructed. The facilities would remain in their current locations with limited future improvements. The existing mobile, administrative and visitor contact building would continue to be used. It currently consists of 4 offices, common space for files and storage, a small conference room, 1 restroom, and a visitor greeting area with basic refuge information (no exhibits or interpretive displays).

Alternative B – Preferred Alternative

Construction and Operation of a Refuge Administrative Office/Visitor Contact Station at the existing Refuge Headquarters Site

Under this alternative, the new AO/VCS would be constructed at the existing Refuge Headquarters site (Site 1), near the current location of administrative and maintenance shop facilities. A 20-acre study area has been designated as the boundary for the site which sits at a low point in the land, surrounded by various Refuge support facilities. Advantages of locating the new facilities at this site include the benefits of shared use of infrastructure between new and existing buildings, such as one water system, sanitary sewer system, communications system, and electrical power system. Additionally, the close proximity of management to other Refuge personnel would be advantageous to the efficacy of daily tasks and operations. Under this alternative, the new AO/VCS would be a 20 foot-high single story building, between approximately 4,500-5,500 square feet for the entire facility and associated structures (approximate project disturbance footprint). The VCS would potentially include an entry vestibule and lobby, exhibit hall, multi-purpose room, conference room, resource/specimen room, men's and women's restrooms, and a mechanical room. The AO would potentially include open office area, a break room, Refuge Manager's office, Assistant Manager's office, copy room, IT room, trash/recycling area, file/administrative room, electrical/mechanical room, men's and women's restrooms, and a janitor's room. Exterior support spaces would include a parking lot for visitor buses, RVs, and passenger cars, and a small parking lot for staff vehicles, as well as a trash/recycling enclosure and emergency generators (RPR 2011). See Figure 1 for a conceptual drawing showing the general site plan and facilities. Schematic and construction drawings for the AO/VCS would be initiated and completed in the next eight months. Once schematic and construction drawings for the AO/VCS are complete the total timeframe for construction of the project would be approximately one year. Grading and site work is anticipated to last approximately two months once initiated, with some follow-up grading and landscaping after construction of the facility. In addition, the development of a small network of trails to emanate from the new facility within previously disturbed areas and/or on former levees for visitors to experience wildlife, habitat or features near the proposed facility is anticipated in the same year as construction of the AO/VCS facility or the following year, depending on funding availability. If any issues or problems are encountered, at the latest AO/VCS activities should be complete by December 2014.

MAP KEY - HEADQUARTERS

- PROPOSED NEW PATH-S
- EXISTING PATH-S
- EXISTING REFUGE ROADS
- EXISTING DIKES TO REMAIN PER OTIS BAY PLAN
- EXISTING DIKES TO BE REMOVED PER OTIS BAY PLAN
- EXISTING TREES TO BE PROTECTED PER OTIS BAY PLAN
- HIGHWAY 93
- PROPOSED NEW STREAM CHANNEL PER OTIS BAY PLAN
- EXISTING STREAM CHANNEL
- EXISTING & PROPOSED STRUCTURES
- EXISTING STRUCTURES TO BE REMOVED
- PROPOSED ROADS TO BE REMOVED
- PROPOSED NEW ROADS, PARKING OR YARD AREAS

Notes - Headquarters Map

- 1 Remove existing porta-potty once A.O.V.C.S. is complete.
- 2 Existing vehicle pull-out along Headquarters Access Road to remain.
- 3 Create new vehicle pull-outs along Headquarters Access Road for equipment or large vehicle/truck passing.
- 4 Refuge Headquarters Entrance Improvements
 - Re-grade entrance road
 - Pave first 100'-0" of entrance road
 - Provide new culvert under entrance road near Highway 93 intersection
 - Improve intersection of entrance road and admin. access road
 - Coordinate with N.D.O.T. on Headquarters Entrance Improvements:
 1. Larger and more visible refuge sign placed on opposite side of Highway 93
 2. Create a no-passing zone on Highway 93
 3. Create a left turn lane and acceleration lanes on Highway 93
 4. Add intersection warning signs on Highway 93
 5. New cross walk across Highway 93 with safety features such as solar powered, user-activated yellow flashing lights and "Pedestrian Crossing" warning signs along north and southbound lanes on Highway 93
 - Refer to previous traffic studies for more information and recommendations
- 5 Create multi-use bicycle and walking trail adjacent to existing access road. Straighten and widen existing access road for safe multi-use passage.
- 6 Not used
- 7 New cross walk across U.S. Route 93 with solar powered flicker-activated yellow flashing lights and "Pedestrian Crossing" warning signs along north and southbound lanes of Route 93.
- 8 AG Well #1 feeding into Supply Ditch #1.
- 9 Extend Davenport Trail south to existing heath; catkins.
- 10 Existing Davenport Trail
- 11 Add new trail to Black Canyon if safe crossing can be established on Highway 93 and if use in Black Canyon is determined to be appropriate during the separate, interpretive planning process for Black Canyon.
- 12 New trail system linking Headquarters campus to other Refuge attractions and features.
- 13 New fire-water retention pond.
- 14 New A.O.V.C.S. Exact location and size T.B.D. under a separate contract.
- 15 Reconfigured Headquarters Entrance Road with new visitor parking area at A.O.V.C.S. Parking to include spaces for buses and R.V.'s.
- 16 New path from A.O.V.C.S. to Davenport trail and interpretive elements.
- 17 New administrative access road to A.O.V.C.S.
- 18 Relocate existing R.V. parking spot and canopy for long-term volunteers. Restore old road bed and parking area to natural condition.
- 19 Location of new vehicle access control gate.
- 20 Restore old road bed to natural condition.
- 21 Restore old trail to natural condition.
- 22 Proposed location of future ground-mounted photovoltaic array.
- 23 Existing and proposed Maintenance Shop buildings and service yard to be completed under a separate contract.
- 24 Existing refuge offices to remain. Possibly converted to housing in the future.
- 25 Existing fire equipment storage garage to be removed.
- 26 Group education area at A.O.V.C.S. space for shade structures, benches and a table for teaching props. Standing room for 100 people. Provide picnic tables and covered areas around water retention pond. Incorporate rocks, logs and other interactive structures around the A.O.V.C.S.
- 27 Investigate options and install equipment to improve Refuge communications - cell, internet, radio, etc.
- 28 Existing bunkhouses.
- 29 New long-term volunteer R.V. parking areas with canopies. Provide WiFi hotspots.
- 30 Existing historic structures restored / to be restored and protected. Wayside(s) to be added.
- 31 Replace 3/4 mile of Supply Ditch #2 to Dove Dike.
- 32 Create Desert N.W.R. view overlook trail.
- 33 Create pull-out with information about Alamo Road, Desert N.W.R. & Black country info.
- 34 Create short ADA accessible trail from A.O.V.C.S.
- 35 Stream channel will be moved so that it is not below the A.O.V.C.S.
- 36 Proposed leach field.

FEBRUARY 24, 2012
 JUNE 12, 2012 - REVISED
 JUNE 26, 2012 - FINAL

Figure 1. Conceptual Drawing of General Site Plan & Facilities



Alternatives Considered But Rejected

Construction and Operation of a Refuge Administrative Office/Visitor Contact Station at the North Marsh Site

Under this alternative, the new AO/VCS would have been constructed at the North Marsh site (Site 2). This site, located 5 miles north of existing Refuge Headquarters, is in a “non-disturbed” state with no existing infrastructure (RPR 2011). A 38-acre study area was designated as the boundary for the site which occupies a high point in the landscape that descends southwest toward the North Marsh. This site overlooks the North Marsh and features striking 360-degree views of the surrounding landscape. Aside from the aesthetic benefits of locating the new facilities at this site, advantages included greater visibility of facilities from the highway, increasing the likelihood of visitors and tourists stopping at the new VCS. Additionally, the North Marsh site is in much closer proximity to attractions generally considered interesting to the public and offers interpretive opportunities that are unsurpassed elsewhere on the Refuge. However, despite these advantages, this alternative was rejected because of anticipated detrimental environmental impacts to sensitive resources in the project area, including threatened/endangered species and cultural resources, as well as a lack of existing infrastructure and utilities such as water wells.

One Federal listed endangered species (southwestern willow flycatcher; *Empidonax traillii extimus*) and one Federal candidate species (yellow-billed cuckoo; *Coccyzus americanus*) are known to utilize habitats adjacent to the proposed construction site. Southwestern willow flycatchers are known to utilize the Refuge for breeding from May through the end of August, with most birds departing the Refuge by mid-August (McLeod et al. 2010). Surveys have consistently found populations of breeding flycatchers in a stand of Goodding willow at the inflow of North Marsh in Upper Pahrnagat Lake, adjacent to the southern edge of Site 2. Surveys have also determined that yellow-billed cuckoo utilize the same riparian habitat (Lowden 2010), determined to be the only suitable habitat for this species on Pahrnagat NWR (Johnson et al. 2006).

Furthermore, because portions of Site 2 are considered eligible for listing in the National Register of Historic Places (NRHP), this site would require further archaeological work before construction could begin, with agency concurrence. The quantity of cultural materials at Site 2 and the greater probability for buried deposits further implies that Phase 1 data recovery, including excavation, would be required. This work would be necessary to determine if subsurface deposits are present and if so, their extent and condition. Systematic subsurface testing (mechanical trenching and hand excavation) would be required. Systematic surface collection would be necessary before subsurface testing. If extensive subsurface remains were found to be present and in good condition, Phase 2 data recovery might be necessary. In addition, artifact analysis and reporting would be required for any further archaeological work.

Because of these anticipated environmental impacts, construction and operation of a new AO/VCS at the North Marsh site was rejected as an alternative.



III. AFFECTED ENVIRONMENT

The affected environment includes the physical areas and species potentially affected by changes that would occur due to implementing the proposed action. This includes wildlife and vegetation resources in the area as well as species listed as threatened or endangered under the Endangered Species Act (ESA). The action area of this Draft EA covers approximately 20 acres for the preferred alternative.

General Site Information

Pahrnagat NWR is managed by the USFWS under the DOI and is a unit of the National Wildlife Refuge System (NWRS). Pahrnagat NWR is part of the Desert National Wildlife Refuge Complex, which consists of four refuges located in southern Nevada: Desert NWR, Pahrnagat NWR, Ash Meadows NWR, and Moapa Valley NWR. Pahrnagat NWR was established on August 16, 1963 to provide habitat for migratory birds, especially waterfowl. Surrounded by Mojave Desert, the Pahrnagat NWR in Lincoln County, Nevada is a 5,380 acre ecological oasis of lakes, marshes, wet meadows and desert uplands (USFWS 2010b). Located on the Pacific Flyway, the variety of lakes and wetlands of the Refuge provide precious fish and wildlife habitat in the arid southern Nevada climate. Designated by The Nature Conservancy as one of the nation's prime biological "hotspots", the Refuge is an essential stopover for hundreds of different species of waterfowl, raptors, songbirds, fish and mammals, including several endangered and threatened species. The Refuge's abundant water originates from large springs to the north and is managed to create the greatest value for wildlife. Various types of wetland habitats support many plants favored as food by over 230 species of migratory birds and other resident wildlife (USFWS 2011). The Pahrnagat NWR area is also a very important cultural landscape to many tribal people, and the Refuge contains a diversity of prehistoric and historic resources, including the Black Canyon National Register District. Pahrnagat NWR is an important tourist attraction, receiving more than 30,000 visits per year. Activities include wildlife observation, photography, fishing, hunting, hiking, environmental education, interpretation, camping, non-motorized boating, and picnicking.

Management of the Refuge focuses on migration and wintering habitat for waterfowl and other migratory birds as a priority, providing habitat for endangered and sensitive animal and plant species, maintaining biodiversity, and providing wildlife-dependent recreation to the public. The purpose of Pahrnagat NWR derives from the Migratory Bird Conservation Act (MBCA) of 1929, as amended:

"...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds..." (16 USC 715d).

The Refuge objectives (USFW 2010b) are as follows:

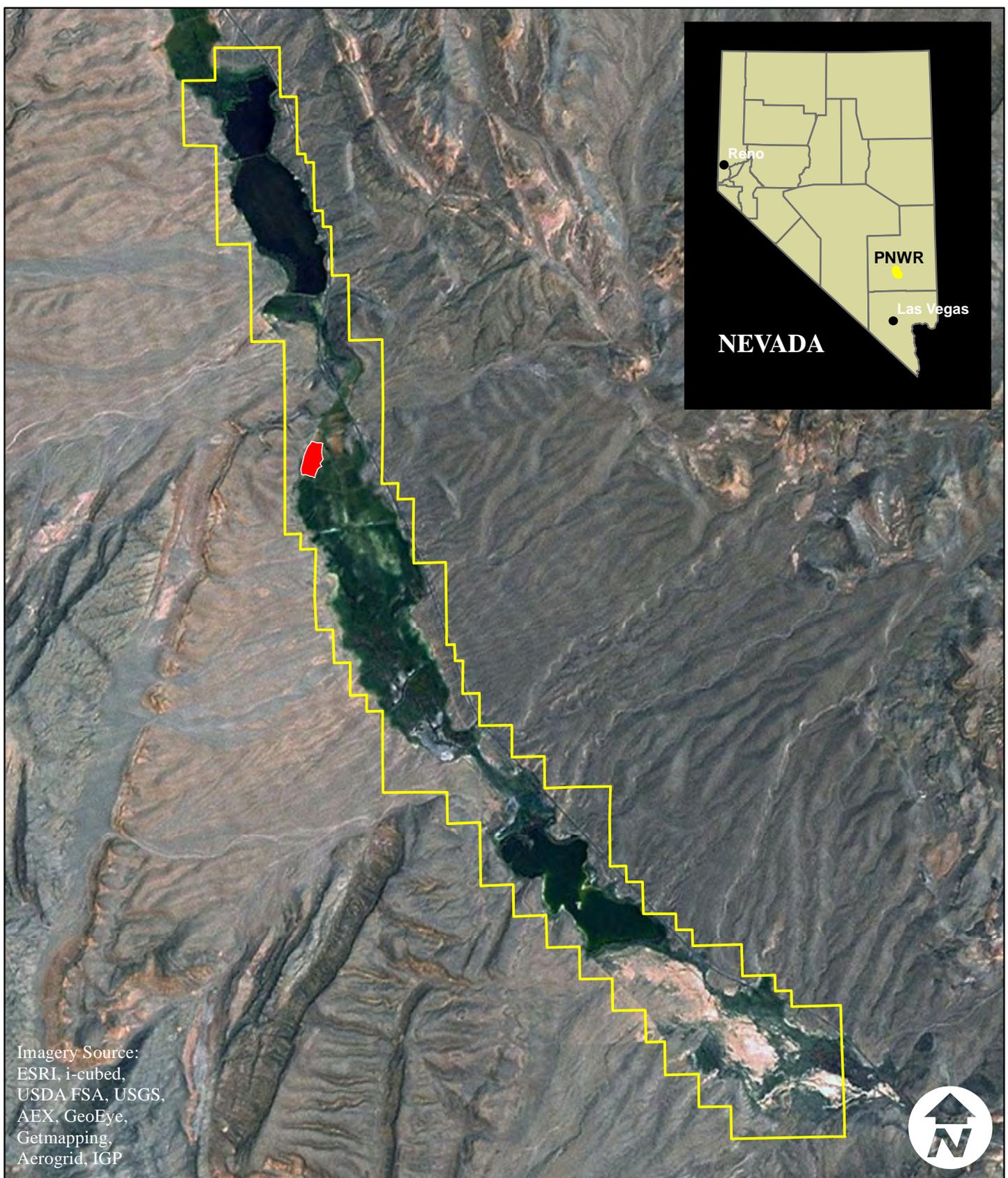
- Provide high quality migration and wintering habitat for migrating birds, with emphasis on waterfowl.
- Restore wetland and desert upland habitats to what was found on the Refuge over 100 years ago.
- Provide opportunities for quality, wildlife dependent recreation, education, and research to enhance public appreciation, understanding, and enjoyment of Refuge fish, wildlife, and habitats.



Pahranagat NWR, Lincoln County, Nevada

Pahranagat NWR is located approximately ten miles south of the town of Alamo, or ninety miles north of Las Vegas (Figure 2) in Lincoln County, Nevada. Nuwuvi inhabited the region and named the valley's lakes and marshes "Pahranagat" which have varied interpretations of the word's meaning: "feet sticking in water" or "a valley of shining waters" (USFWS 2010a; Mountain Institute 2011). The White River, an ancient perennial river which was formerly a tributary of the Colorado River, flowed through the Pahranagat Valley from the north, forming a distinct but relatively narrow flood plain (USFWS 2010a). The river bed is dry for many miles north and south of Pahranagat Valley, but large, thermal springs along the flood plain causes there to be perennial water in the valley. Sitting at slightly less than 4,000 feet above sea level, the Refuge is comprised of a ten mile stretch of Pahranagat Valley and associated desert uplands. Perennial water is stored in the Refuge's Upper Lake and North Marsh, and is released to create conditions that enhance the presence of plants used as food by wildlife and to supplement lakes, marshes, and grasslands south of Refuge Headquarters (USFWS 2010a). The diversity of habitats found at Pahranagat NWR, ranging from Mojave/Great Basin desertscrub to marsh and open water, provides excellent habitat for a stunning variety of wildlife species.

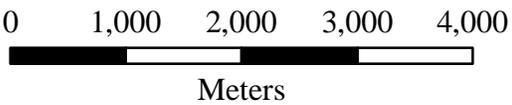




Imagery Source:
 ESRI, i-cubed,
 USDA FSA, USGS,
 AEX, GeoEye,
 Getmapping,
 Aerogrid, IGP



Proposed VCS Site 1
PNWR Boundary



Coordinate System:
 NAD 1983 UTM Zone 11N
 Projection:
 Transverse Mercator
 GCS North American 1983
 Scale:
 1:65,000
 Produced By:
 Harris Environmental Group

Figure 2. Pahrangat National Wildlife Refuge, Lincoln County, Nevada

Abundance and diversity of bird species peaks during spring and fall migrations when waterfowl, shorebirds, songbirds, and raptors are all present in great numbers. Great blue herons (*Ardea herodias*) can be found near lakes and black-necked stilts (*Himantopus mexicanus*) and American avocets (*Recurvirostra americana*) are often found feeding in shallow water (USFWS 2010c). Common ducks that utilize the Refuge are pintail (*Anas acuta*), teal (*Anas crecca*), mallards (*Anas platyrhynchos*), and redhead (*Aythya americana*). Greater sandhill cranes (*Grus canadensis tabida*) can be seen in spring and fall as they migrate between nesting and wintering areas. Warblers (Parulidae), orioles (*Icterus* spp.), flycatchers (*Empidonax* spp.), and finches (*Carpodacus* spp.) use the Refuge's cottonwood-willow habitat for nesting, while open fields draw shrikes (*Lanius* spp.), meadowlarks (*Sturnella* spp.), blackbirds (*Turdus* spp.), and mourning doves (*Zenaida macroura*) (USFWS 2010c). Red-tailed hawks (*Buteo jamaicensis*), northern harriers (*Circus cyaneus*), Cooper's hawks (*Accipiter cooperii*), American kestrels (*Falco sparverius*), bald eagles (*Haliaeetus leucocephalus*), and golden eagles (*Aquila chrysaetos*) are mostly present during winter months. The uplands provide habitat for Gambel's quail (*Callipepla gambelii*), roadrunners (*Geococcyx californianus*), and numerous sparrow (Passeridae) species. Coyotes (*Canis latrans*) and kit foxes (*Vulpes macrotis*) prey year-round on the many rodent species which are prevalent throughout all habitats, while mountain lions (*Puma concolor*) prey on mule deer (*Odocoileus hemionus*), most abundant during winter months (USFWS 2010c). Pahrnagat NWR lies within the Mojave Desert bioregion and is characterized by a semi-arid climate. Rainfall is seasonal, occurring mainly between the months of January and March with a spike of summer rains in July, averaging 6.6 inches per year. Temperatures typically range from 24° F to 58° F from December through February and from 57° F to 99° F in June through August (TWC 2011).



Great blue herons (*Ardea herodias*) at Pahrnagat NWR



Project Site 1 – Existing Refuge Headquarters

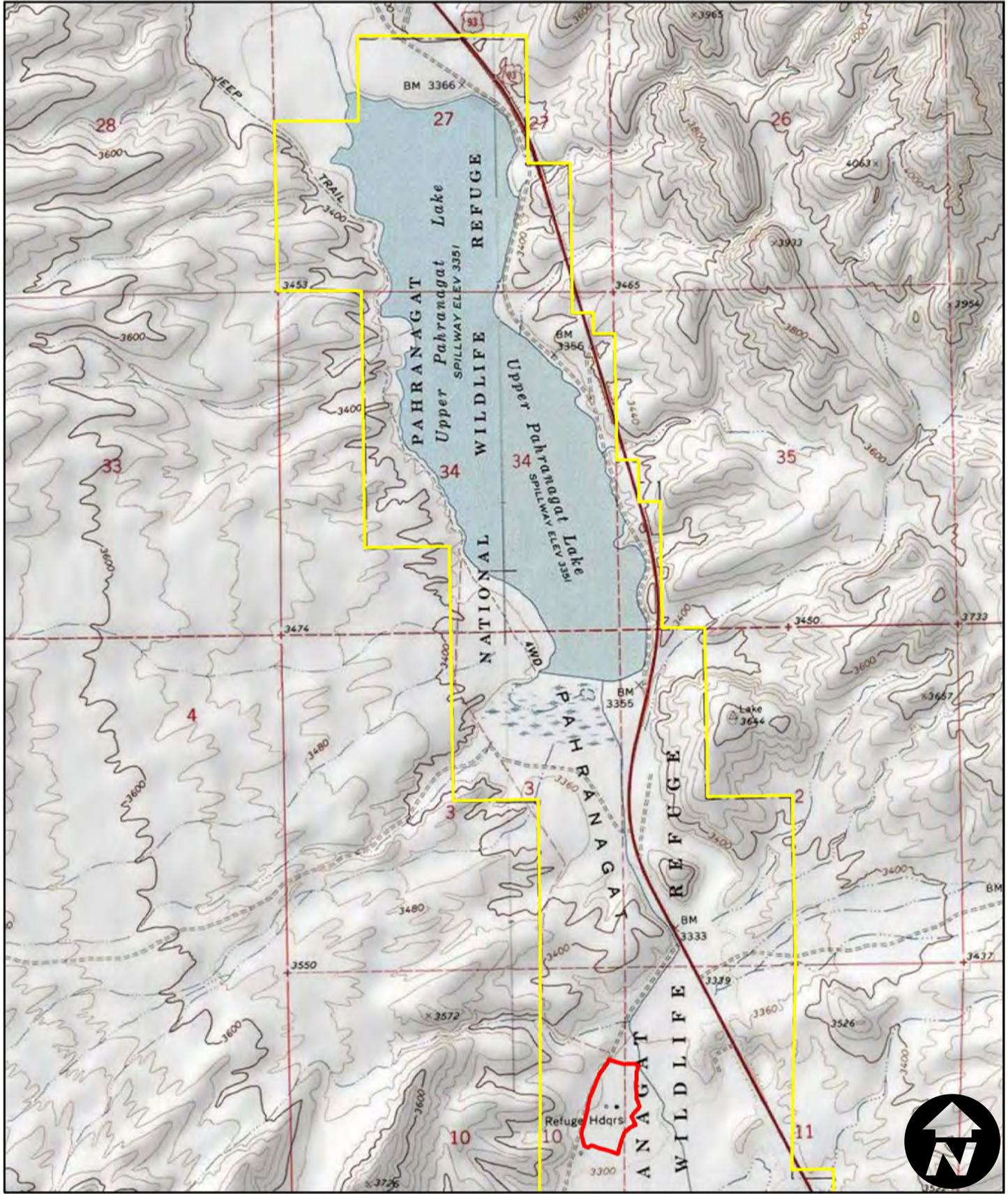
The 20-acre site is located approximately 2 miles north of the center of Pahrnagat NWR at the location of the existing Refuge Headquarters (Figures 3 & 4). The proposed site is bordered on the west by Alamo Road and on the north, east, and south by a small unimproved access road. The elevation of the site ranges from approximately 3,295 to 3,320 feet above mean sea level, with the topographic gradient sloping toward the east-southeast. The site consists of a Refuge headquarters buildings: maintenance shop, maintenance office, equipment storage building, office modular building, former office modular building, two residential modular buildings, residential parking garage structure, fire cache structure, well pump house, storage sheds, metal canopy parking structures, aboveground storage tank pad, chain-link fencing, gravel access roads and parking areas, undeveloped land, and created wetland/pond areas (Figure 5). A barbed-wire fence runs along the west border of the site. The total square feet of existing structures is approximately 12,000 feet (ATC 2011). Domestic water is provided by a well with a water treatment system located within a well pump house. Electrical power is provided by Alamo Power District. Sanitary sewer services are accommodated by septic tanks and underground leach systems. Heating and cooling systems are wall-mounted and split system HVAC systems. The site is currently zoned as Open Space (ATC 2011).



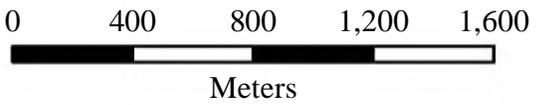
Proposed AO/VCS Site (Facing South)



PNWR PROPOSED VISITOR CONTACT STATION LOCATION



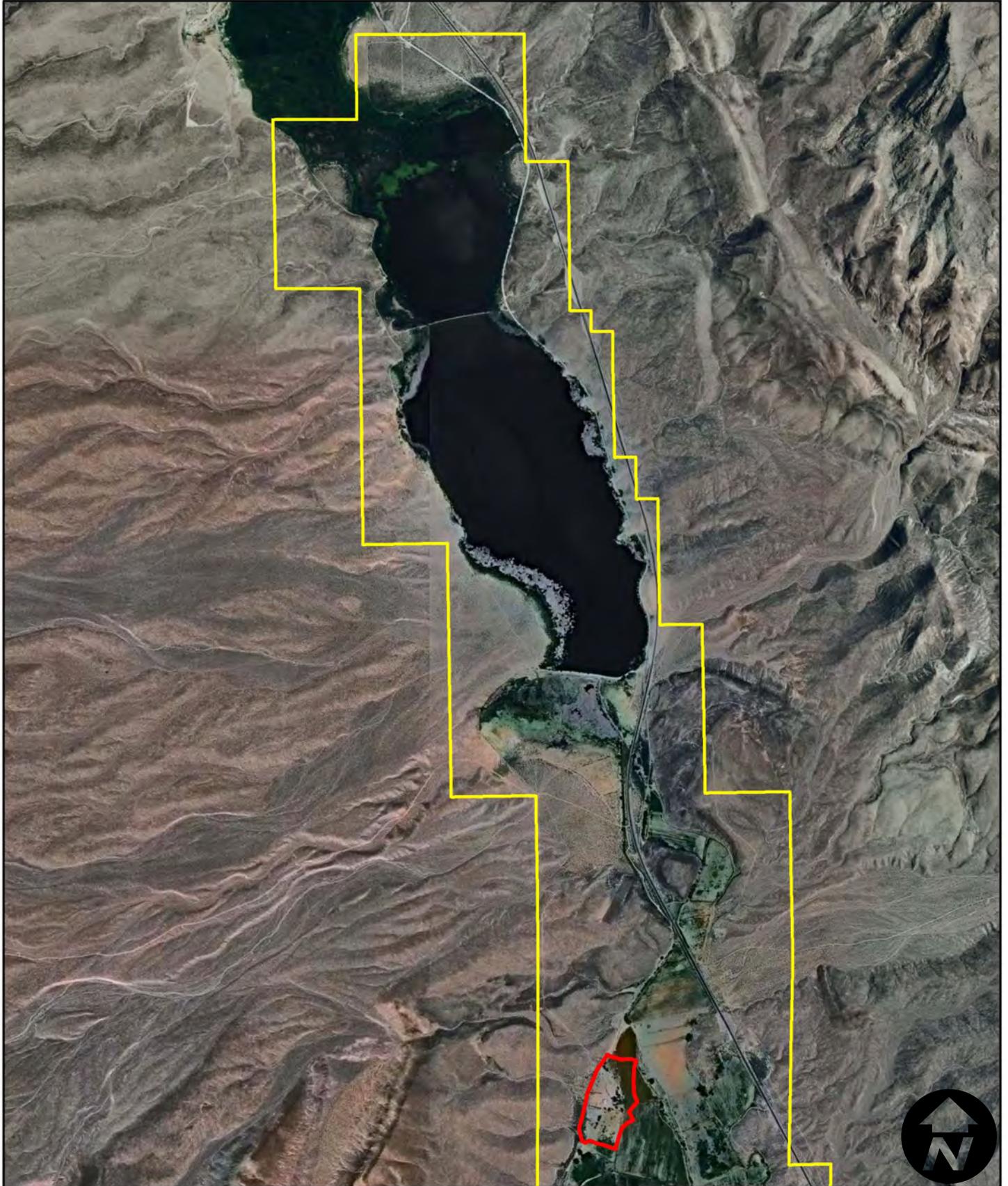
-  **Proposed VCS Site 1**
-  **PNWR Boundary**



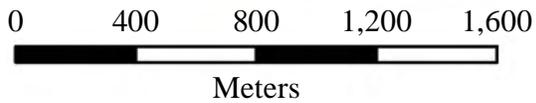
Coordinate System:
NAD 1983 UTM Zone 11N
Projection:
Transverse Mercator
GCS North American 1983
Produced By:
Harris Environmental Group

Figure 3. Proposed AO/VCS Site Study Area on Topographic Map

PNWR PROPOSED VISITOR CONTACT STATION LOCATION



Proposed VCS Site 1
PNWR Boundary



Coordinate System:
NAD 1983 UTM Zone 11N
Projection:
Transverse Mercator
GCS North American 1983
Produced By:
Harris Environmental Group

Figure 4. Proposed AO/VCS Site Study Area on Aerial Map



Imagery Source:
2010 NAIP Natural Color Imagery

Coordinate System:
NAD 1983 UTM Zone 11N

Projection:
Transverse Mercator
GCS North American 1983

Produced By:
Harris Environmental Group



Proposed VCS Location 1

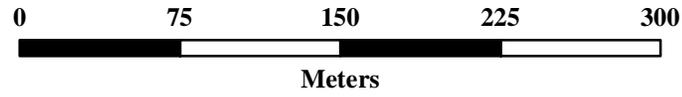


Figure 5. Existing Structures at Proposed AO/VCS Site Study Area

Geology & Soils

The Pahranagat Range lies within the Mesozoic and early Tertiary Sevier Fold-and-Thrust Belt and the Cenozoic Basin and Range Province (Jayko 2007a). The majority of the soils in the region are older alluvial gravels (Quaternary), generally unconsolidated, boulder-to sand-sized deposits in alluvial fans. These alluvial silts and gravels, washed down from the surrounding mountains, reach a thickness of 1000 feet in many locations within the valley (Stewart & Carlson 1978). Deposits are usually dissected by washes, forming an irregular surface commonly cemented by caliche. Additionally, the area contains regions of surficial deposits (Quaternary), sedimentary deposits (Quaternary and/or Tertiary), and volcanic ash-flow tuffs (Jayko 2007b). The East Pahranagat and Hiko mountain ranges that surround Pahranagat NWR consist of silicic ash-flow tuffs (Miocene).

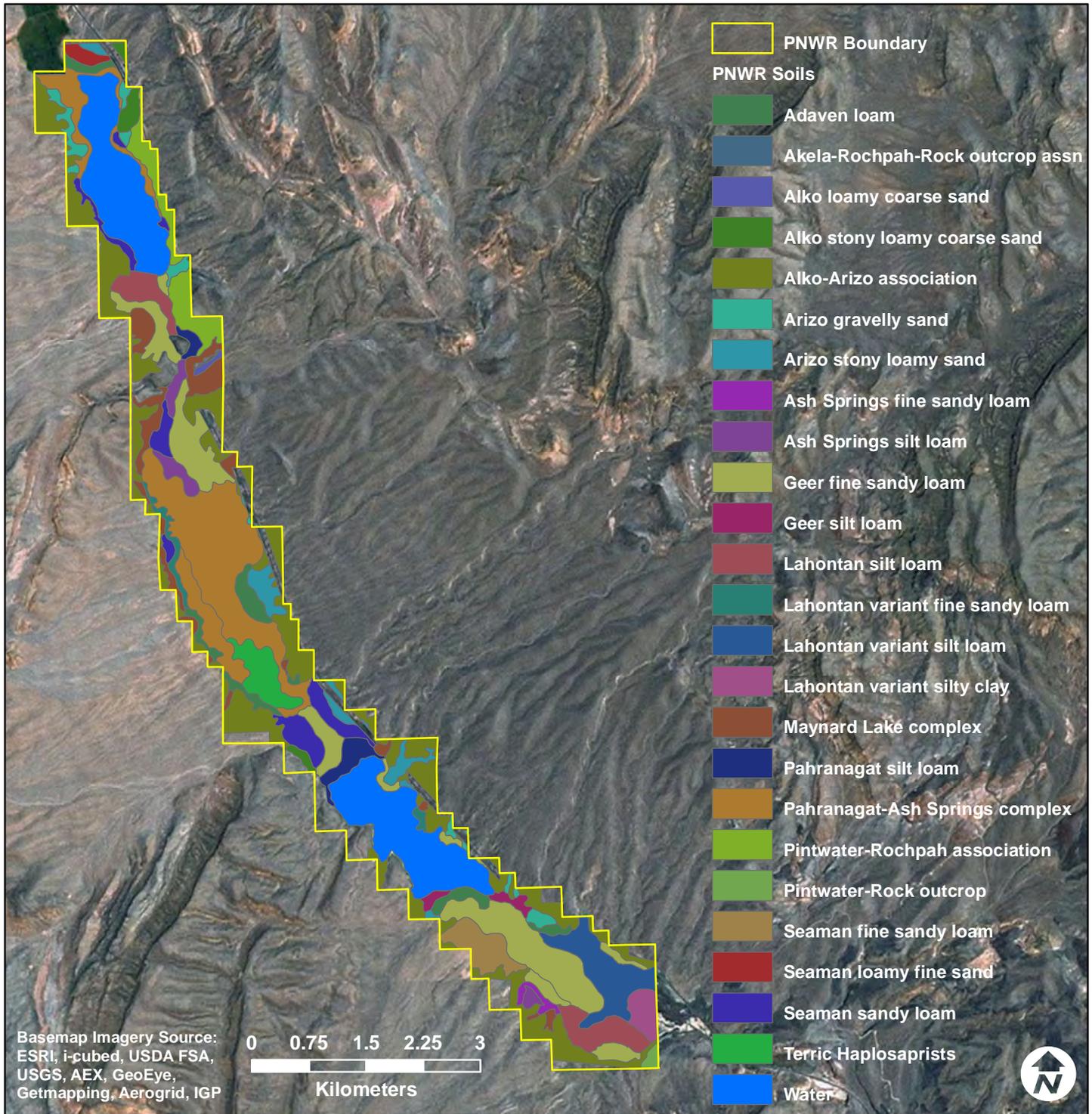
Soils at the proposed project site are classified as Seaman sandy loam and Maynard Lake complex (USDA 2011) (Figure 6). Seaman sandy loam is a well-drained soil, capable of forming slopes of 0 to 2 percent, with moderate available water capacity. Maynard Lake complex soil is excessively drained, capable of forming slopes of 4 to 12 percent, with a low available water capacity (ATC 2011).

Air Quality

In accordance with Federal Clean Air Act (CAA) requirements, the air quality in a given region or area is measured by the concentration of various pollutants in the atmosphere. The measurements of these “criteria pollutants” in ambient air are expressed in units of ppm, micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), or milligrams per cubic meter (mg/m^3). The CAA directed the U.S. Environmental Protection Agency (USEPA) to develop National Ambient Air Quality Standards (NAAQS) for pollutants that have been determined to affect human health and the environment. NAAQS are currently established for six criteria air pollutants: ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable particulate matter (including particulates equal to or less than 10 microns in diameter [PM10] and particulates equal to or less than 2.5 microns in diameter [PM2.5]), and lead (Pb). The CAA requires states to designate any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for a criteria pollutant as a “nonattainment area.”

The proposed project site is located within Lincoln County in the Nevada Intrastate Air Quality Control Region. Lincoln County is classified as an “attainment area” (USEPA 2011) because it meets ambient air quality standards for pollutants according to the National Ambient Air Quality Standards (NAAQS). In other words, air quality within the project area is better than the NAAQS.





**Pahrnagat National
Wildlife Refuge**

Soil Types

**Lincoln County
Nevada**



Coordinate System: NAD 1983 UTM Zone 11N
Projection: Transverse Mercator
Soil Data: USFWS 2011
Scale: 1:75,000
Project Number: 11-017
Produced By: Harris Environmental Group
Date: August 2011

Figure 6. Soils of Pahrnagat NWR

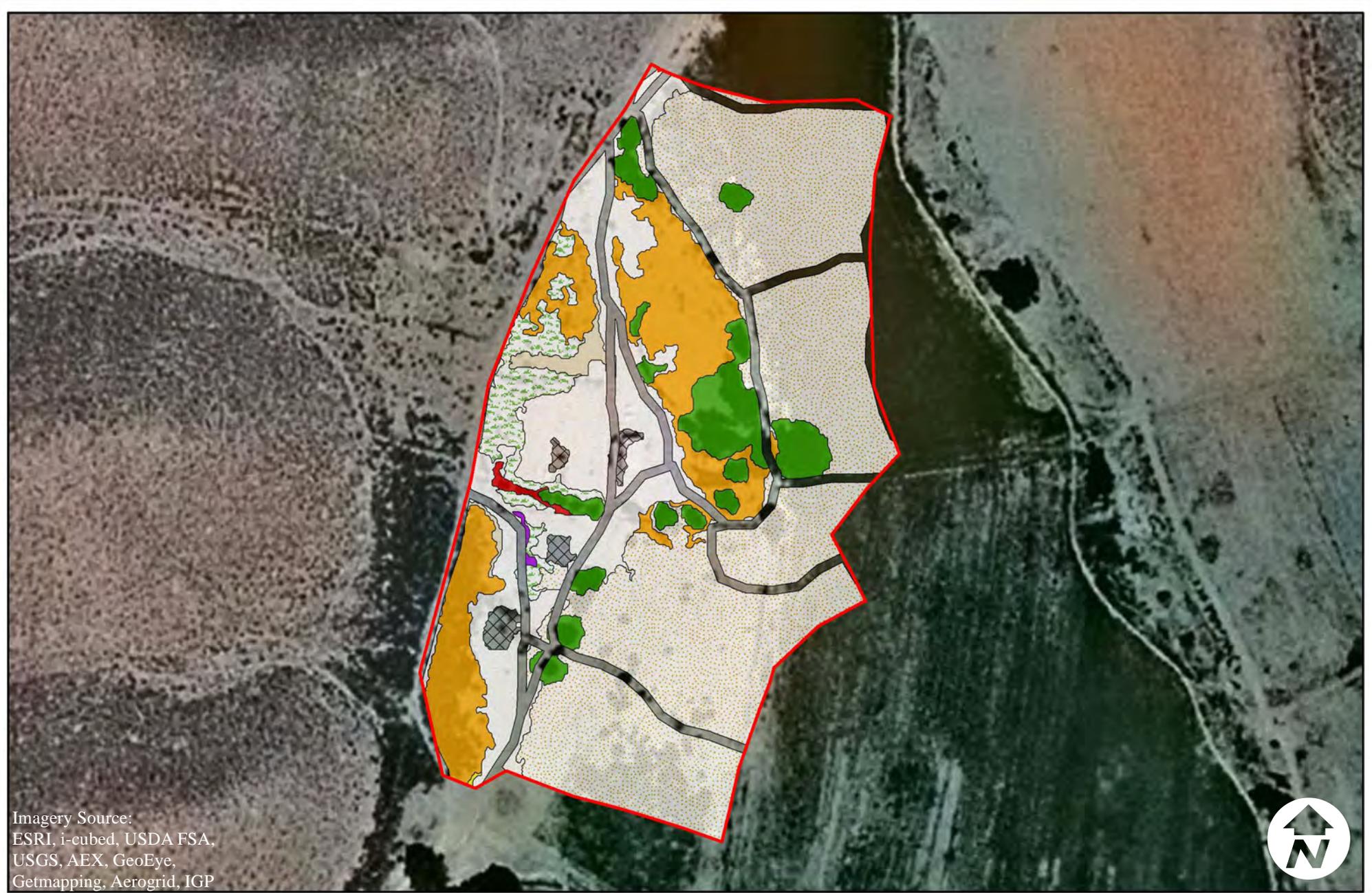
Biological Resources

The proposed project site (existing Refuge Headquarters) is mostly comprised of former agricultural fields and levees/ponds, followed by saltbush (*Atriplex spp.*) upland, cottonwood (*Populus fremontii*) woodland, creosote (*Larrea tridentata*) upland and bare/playa areas (Figure 7), and contains a meandering irrigation channel that traverses the proposed site. The former agricultural fields contain a mixture of plants from the adjacent vegetation areas but also contain a high concentration of noxious and invasive weed species (SWCA 2011). The saltbush upland consists of mainly fourwing saltbush (*Atriplex canescens*). The cottonwood woodlands are present in pockets within the proposed project site and have a cottonwood overstory with a varying understory of shrubs and grasses. Some of the pockets of cottonwood woodlands have mature vegetation, while other pockets have vegetation in early development. Also present are pockets of barren playa areas. A relatively small area of creosote uplands is also present along the eastern extent of the proposed project site. The remaining vegetation types within the site consist of invasive herbs, Mormon tea (*Ephedra viridis*)/foxtail brome (*Bromus rubens*), alkaline meadow, and greasewood upland. Numerous migratory bird, reptile, and amphibian species utilize the varied habitats at the proposed site (SWCA 2011). Various large mammal species have the potential to utilize the habitats at the site, including mule deer, coyote, gray fox (*Urocyon cinereoargenteus*), badger (*Taxidea taxus*), bobcat (*Lynx rufus*), and mountain lion (Krausman & Bucci 2011). Because of its location at the existing Refuge Headquarters site, the proposed project site already experiences heavy human use. Proximate to the site are a number of support facilities and a number of roads, including Highway 93.



Vegetation at Proposed AO/VCS Site (Facing South)

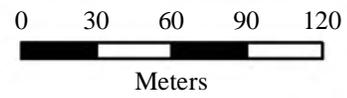




Imagery Source:
 ESRI, i-cubed, USDA FSA,
 USGS, AEX, GeoEye,
 Getmapping, Aerogrid, IGP



Vegetation Type	Developed	Rabbitbrush Upland
Alkaline Meadow	Former Agricultural Fields	Roads
Bare/Playa	Greasewood Upland	Saltbush Upland
Cottonwood Woodland	Invasive Herbs	Wet Meadow
Creosote Bush Upland	Mormon Tea/Foxtail Brome	



Coordinate System:
 NAD 1983 UTM Zone 11N
 Projection:
 Transverse Mercator
 GCS North American 1983
 Produced By:
 Harris Environmental Group

Figure 7. Vegetation Map - Pahrangat NWR Headquarters Site and Proposed AO/VCS Site Study Area

Threatened and Endangered Species

(FT=Federal Threatened, FE=Federal Endangered, FC=Federal Candidate)

Southwestern willow flycatcher (*Empidonax traillii extimus*) FE: These birds require dense riparian habitats with microclimatic conditions dictated by the local surroundings. They are known to utilize the Refuge for breeding from May through the end of August, with most adults and young usually departing from the Refuge by mid-August (McLeod et al. 2010). Surveys of breeding flycatchers conducted annually from 1997-2008 and presence/absence surveys conducted in 2009 have consistently found populations of breeding flycatchers in an area known as North Marsh, a stand of Gooding willow (*Salix goodingii*) at the inflow of Upper Pahranagat Lake (McLeod et al. 2010). Additionally, breeding flycatchers have been detected inconsistently at Pahranagat South, a relatively small stringer of Gooding willow, coyote willow (*Salix exigua*), and cottonwood lining a human-made channel that carries outflow from Upper Pahranagat Lake. Critical habitat is currently proposed for the southwestern willow flycatcher in the North Marsh area and around the perimeter of the Upper Pahranagat Lake on Pahranagat NWR. The areas documented with breeding pairs and proposed for designated critical habitat are well north of the proposed AO/VCS site. Southwestern willow flycatchers have not been documented in the 20 acre project study area.

Desert tortoise (*Gopherus agassizii*) (Mojave population) FT: While no official records of desert tortoise occurring on Pahranagat NWR exist, there is anecdotal information of sightings by staff and tortoises being hit on Highway 93 within the Refuge (Lowden 2010). Desert tortoise habitat on Pahranagat NWR has been modeled (Nussear et al. 2009) taking in to account several environmental factors. The prediction model found that a majority of the desert upland habitat on the Refuge ranks as high-quality. Two habitat types, creosote scrub, and rocky slopes with white bursage (*Ambrosia dumosa*) and cacti (*Opuntia spp.*) were identified as high-quality habitat; marginal-quality habitats were identified as saltbush scrub and greasewood upland. Given that these habitats occur throughout the length of Pahranagat NWR, primarily in the areas immediately surrounding the central riparian/wetland/wet meadow zones, there is potential for the desert tortoise to occur throughout the Refuge. No desert tortoises have been documented in the proposed AO/VCS site. Any potential habitat for the threatened species in the project study area is very limited to none as the upland habitat is insufficient in size and non-contiguous with adjacent upland areas to support the desert tortoise. No critical habitat for the desert tortoise has been designated on Pahranagat NWR.

Yellow-billed cuckoo (*Coccyzus americanus*) FC: These birds utilize large, multi-story cottonwood woodland habitats for breeding habitat. Pahranagat North is the only riparian area on Pahranagat NWR where yellow-billed cuckoos have been detected (Lowden 2010) and is described by Johnson et al. (2006) as the only existing site on the Refuge with appropriate yellow-billed cuckoo habitat. No yellow-billed cuckoos have been documented in the proposed AO/VCS site, and the cottonwood woodland habitat in the project study area is currently of insufficient size and structure to support breeding yellow-billed cuckoos.

Cultural Resources



Petroglyphs within Pahrnanagat NWR

The proposed project site covers approximately 20 acres and contains a number of structures, buildings, excavated fields, and roads and is heavily disturbed in many areas. Abandoned, unused agricultural fields marked by berms suggest considerable surface disturbance has already taken place.

A review of previous archaeological work indicated a high density of prehistoric and historical-period archaeological sites at the Refuge, particularly in the Black Canyon area immediately to the north of the proposed project site. Only a small portion of the proposed project site had been previously surveyed prior to the current project, and no sites or isolated artifacts had been recorded. Two new sites (LNX1 and LNX2) were recorded at the proposed project site. The artifacts representing these small sites likely were moved from their original locations by cultural and natural processes. This is suggested by the mixture of materials from different periods (such as an Archaic projectile point and sun-colored amethyst glass) and the history of activities at the Refuge Headquarters. Previous impacts include construction of roads and buildings, infrastructure, and bermed fields that impounded water into ponds. Considerable earth-moving was required to build these ponds, and any intact subsurface deposits that may have been in these areas likely are gone. Although one or more prehistoric occupations likely originally were present at the proposed project site, the recorded sites are in poor condition, as they are in areas of significant disturbance and are not in their original locations. The likelihood of human remains or funerary objects being present is very low. Neither site maintains sufficient integrity required to answer any of the research questions discussed in Chapter 2 of Whittlesey et al. (2011). Subsequent

consultation with the Nevada State Historic Preservation Office resulted in the agency's concurrence with the determination that the proposed action will not affect any historic properties.

Tribal Consultation with interested tribal governments has commenced for the project. In late 2011, the USFWS collaborated with the Nuwuvi Working Group representing various Native American Tribes to provide input on the two considered locations for the proposed AO/VCS. Based on comments by the Nuwuvi Working Group and other factors mentioned previously, the existing Refuge headquarters was selected as the preferred location. The USFWS will continue to consult with the Nuwuvi Working Group on the proposed project, specifically regarding the character and content for cultural interpretation and education materials to be included in the VCS and for the surrounding area.

Public Use

The Pahrnagat NWR is a rare and extremely important ecosystem of wetlands in the otherwise arid landscape of the region, providing important habitat for migratory birds and waterfowl and serving as an important, local tourist attraction. The Refuge is open to the public for wildlife dependent uses. The average number of visits over the three-year period from 2006 to 2008 was more than 96,000. Visitors take advantage of excellent wildlife viewing and photography of vast numbers of waterfowl, resident and migrant songbirds, and other resident species. The Refuge is also used by waterfowl hunters. Local educators are also increasingly taking advantage of the educational opportunities provided by the Refuge setting and its staff. In 2007, the USFWS declared that "connecting people with nature" is among the agency's highest national priorities (USFWS 2008). A connection with nature, whether it is hiking, fishing, camping, hunting, or simply playing outside, helps children develop positive attitudes and behaviors towards the environment. Positive interactions with the environment can lead to a life-long interest in enjoying and preserving nature. People's interest in nature is crucial to the USFWS's mission of conserving, protecting, and enhancing fish, wildlife, plants, and their habitats.

Recreation trends in the U.S. are found in "Outdoor Recreation in American Life: A National Assessment of Demand and Supply Trends" (Cordell et al. 1999). Projections were made nationally for four U.S. regions, with Nevada included in the Rocky Mountain region. Trends for the Rocky Mountain region indicate wildlife viewing and nature study are expected to experience an increase of 89 percent by the year 2040, and the number of days per year per person taking part in these activities is expected to increase by 84 percent in the same time period. Additionally, fishing participation in the Rocky Mountain region is expected to increase by 48 percent and hunting participation is expected to increase by 16 percent by 2040.

The 2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation – Nevada (Survey) (USDOI et al. 2006) is a comprehensive publication that provides information about the numbers of U.S. anglers, hunters, and wildlife-watchers for the state of Nevada. The Survey found that 788 thousand Nevada residents and nonresidents 16 years and older fished, hunted, or watched wildlife in Nevada. Of the total participants, 142 thousand fished, 63 thousand hunted, and 686 thousand participated in wildlife-watching activities, spending a total of \$917 million on wildlife recreation Nevada. When compared to the 1996 Survey (USDOI et al. 1996), the number of anglers, hunters, and wildlife-watchers



(away-from-home) did not differ from zero (at the 10 percent level of significance); wildlife-watching (around-the-home) increased by 59 percent (USDOI et al. 2006).

Socioeconomics

Local Economy: The report “Banking on Nature 2006: The Economic Benefits to Local Communities of National Wildlife Refuge Visitation” (Carver et al. 2007) detailed the findings of economic impacts from 80 national wildlife refuges. The study considered money spent for food, lodging, transportation, and other expenses when it calculated the economic activity related to refuge recreational use. While the report did not include Pahranagat NWR as one of the sample wildlife refuges in the study, the study was designed as a model for all wildlife refuges in the United States and is therefore relevant to Pahranagat NWR and associated local economies. From the USFWS website describing the study:

“Recreational use on national wildlife refuges generated almost \$1.7 billion in total economic activity during fiscal year 2006...According to the study, nearly 35 million people visited national wildlife refuges in 2006, supporting almost 27,000 private sector jobs and producing about \$543 million in employment income. In addition, recreational spending on refuges generated nearly \$185.3 million in tax revenue at the local, county, state and federal level. The economic benefit is almost four times the amount appropriated to the Refuge System in Fiscal Year 2006. About 87 percent of refuge visitors travel from outside the local area” (USFWS 2009).

Using these statistics, each Refuge visitor generates an average of \$49 in economic activity and \$5 in tax revenue annually. While formal modeling predictions for Pahranagat NWR have not been conducted, it is predicted that the construction and operation of a new VCS would increase the number of visitors by providing a more aesthetic and functional facility, thus increasing annual revenues for the Refuge and surrounding local communities as a result.

Environmental Justice: The total 2009 population of Lincoln County was 5,345, accounting for only 0.2 percent of the total state population of 2,700,551. The majority population in Lincoln county is of Caucasian or white descent. The racial mix of the county is as follows: 87.9 percent Caucasian or white (not of Hispanic origin), 6.2 percent Hispanic, 2.3 percent African American or black, and the remaining 4.1 percent divided among American Indian, Native Hawaiian/Other Pacific Islander, and persons reporting two or more races (US Census Bureau 2009a). The 2010 annual unemployment rate in Lincoln County was 13.4 percent (US Bureau of Labor Statistics 2010a); lower than the 2010 state annual unemployment rate of 14.9 percent (US Census Bureau 2009b). The total number of people living in poverty in 2009 in Lincoln County was 604, which represented 13.6 percent of the total county’s population, compared to 12.4 percent for the state (US Census Bureau 2009b). Lincoln County’s 2009 median household income was \$44,387, compared to the 2009 state median household income of \$53,310 (US Census Bureau 2009a).



IV. ENVIRONMENTAL CONSEQUENCES

This section describes the direct, indirect, and cumulative impacts of each alternative. Cumulative impacts on the environment result from incremental impacts of an action when added to other past, present and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor, but collectively substantial, actions taking place over a period of time. In this proposal, cumulative impacts to be addressed would include: 1) disturbance/loss of habitat due to presence of an AO/VCS in context with past and future facility development on the Refuge, and 2) incremental benefits to the environment through increased environmental education.

Alternative A – No Action Alternative

The *no action* alternative would maintain the status quo. The existing mobile building would remain in their current locations with limited future improvements and maintenance and have no significant impact to the environmental as detailed in the following.

Soils: No soil disturbance would occur under the *no action* alternative. Periodic disturbance for habitat management purposes, such as mowing and invasive weed control, would continue as part of normal refuge operations.

Air Quality: No impacts to air quality associated with construction would occur under the *no action* alternative. Normal operation and maintenance of the existing mobile building would continue as part of refuge management.

Biological Resources: No soil or vegetation disturbance associated with construction would occur in the project site. Periodic disturbance, such as habitat mowing and invasive weed control would continue to occur as part of normal refuge operations done independently of this project. No impacts to wildlife, fish, or natural plant communities would occur under this alternative. Ongoing refuge operations and public use would continue independently of this alternative.

Threatened and Endangered Species: No impacts to State or Federal listed threatened and endangered species would occur under this alternative. Ongoing refuge operations and public use would continue independently of this alternative.

Cultural Resources: No impacts to cultural resources would occur because no earth moving activities would take place.

Public Use: Refuge visitation would remain near current levels. The current constraints on public use would remain.

Socioeconomics: The *no action* alternative would forgo an opportunity to increase annual refuge visitation resulting from improved facilities. The *no action* alternative would thus forgo the economic benefits to the local community associated with spending for food, lodging, transportation, and other expenses related to increased refuge recreational use.

Environmental Justice: No one group or Tribe represented in the community would be disproportionately impacted by not building a new AO/VCS on the proposed site.

Cumulative Impacts: Under the *no action* alternative the Service would not construct the new AO/VCS and as such there would be no cumulative impacts to the environment.

Alternative B – Preferred Alternative

Construction and Operation of an Administrative Office/Visitor Contact Station at the Existing Refuge Headquarters Site

Soils: Construction activities under the preferred alternative would require grading and site preparation which could result in short-term soil erosion from the project site. Because the project site is relatively flat, it is not anticipated that construction activities would result in substantial soil erosion. Appropriate best management practices to temporarily stabilize soils would be implemented during the construction period to limit soil erosion. The grading and site preparation work is anticipated to last approximately 2 months; following construction, disturbed areas would be compacted as appropriate, or planted with native species to deter any long-term soil erosion at the site. No impacts to soils are anticipated from the operation of the new facility.

Air Quality: Construction activities under the preferred alternative would temporarily increase dust and other emissions. The appropriate best management practices would be implemented during construction as developed in coordination with the Nevada Intrastate Air Quality Control Region. These may include activities such as covering trucks hauling soil, sand, and other loose materials, limiting traffic speeds on unpaved roads to 15 mph, utilizing a water truck, and replanting vegetation in disturbed areas as quickly as possible. Operation of the new facility may have minimal, localized impacts to air quality from dust because of increased visitation and soil disturbance. However, this impact would be negligible because of the short duration of travel over the entrance road and the benefit of the reduction of dust from the use of a gravel entrance instead of a bare ground entrance road.

Biological Resources: Under the preferred alternative the Service would construct and operate an energy-efficient, LEED-certified AO/VCS. During construction, equipment and material staging areas would be identified to minimize soil disturbance and compaction on the parcel. The collective footprint of the facility (buildings, parking lot, trash/recycling area, etc.) would occupy approximately 3 acres. Disturbed areas would be re-vegetated with native plants.

Wildlife species utilizing the site would be disturbed and temporarily displaced, possibly relocating to other nearby areas of the Refuge during construction, but should return to adjacent habitat when



construction is completed. The disturbed state of the proposed project site, in conjunction with the vast amount of surrounding suitable habitat for wildlife that may utilize the site's habitats, makes any impacts from the proposed action negligible, and as such no impacts to biological resources are anticipated from the operation of the new facility.

Threatened and Endangered Species: This alternative would have no adverse impacts to the Southwestern willow flycatcher or yellow-billed cuckoo as there is no suitable habitat for either species within the proposed project site. While there are small pockets of potential desert tortoise habitat on the proposed project site, the habitat is insufficient in size and non-contiguous with adjacent upland areas to support the desert tortoise. There have been no documented occurrences of desert tortoise in the proposed AO/VCS site. There are no expected adverse impacts to the desert tortoise.

Cultural Resources: The National Historic Preservation Act (NHPA) of 1966, as amended (16 USC 470f) provides for the protection, preservation and consideration of historic and archaeological resources on Federal lands, or lands potentially affected by Federal actions. As the lead Federal agency for this proposed action, the USFWS has the responsibility to protect these resources, pursuant to section 106 of the NHPA.

After consultation with the State Historic Preservation Office, cultural resource sites at the current Refuge Headquarters are not eligible for the NRHP; therefore construction can move forward as proposed with no need for additional archaeological work.

Public Use: This alternative would provide and expand environmental education, interpretation, and outreach opportunities for the public while providing a safer facility for these activities to take place in. Improved facilities would increase refuge visitation and therefore increase the aforementioned educational opportunities for the public.

Socioeconomics: This alternative would benefit the American people through the cost-effective efficient use of public resources and improved environmental education/outreach capabilities. This alternative could also provide a major construction project that could employ local contractors and construction workers and benefit local vendors and other businesses. This alternative would also result in economic benefits to the local community associated with spending for food, lodging, transportation, and other expenses related to increased refuge recreational use.

Environmental Justice: No one group or Tribe represented in the community would be disproportionately impacted by building and operating the AO/VCS at the existing Refuge Headquarters site. The temporary boost to the local economy from construction projects and the long-term boost to the economy from increased refuge recreational use would constitute a positive impact for local communities.

Cumulative Impacts: Cumulative impacts result when the effects of an action are added to or interact with other impacts in a particular place and within a particular time. Other impacts in the proposed study area include the design and construction to replace the existing maintenance building and utilities for the Refuge Headquarters area. This activity will occur where buildings or previous disturbance



already exists, and is likely to be completed by spring of 2013. Construction and subsequent operation of the new AO/VCS at the existing Refuge Headquarters site will contribute to ongoing disturbance and past habitat alteration associated with the existing facilities to be replaced. However, this is not a significant impact viewed in the context of Pahrnagat NWR consisting of over 5,000 acres of managed habitat and the disturbed condition of the Headquarters site. In addition, given the mission of the National Wildlife Refuge System and management goals of Pahrnagat NWR, the presence of a greatly improved AO/VCS would not promote additional facilities construction on the Refuge (i.e. not growth inducing).

There are no known developments or impacts planned or known to occur in the immediate future within the town of Alamo, the closest community to Pahrnagat NWR, that would add to or interact with the impacts proposed as part of the AO/VCS project. Clark County, directly south of Lincoln County and Pahrnagat NWR, and Las Vegas in particular, has experienced a period of explosive growth and development. Consequently, the threats and impacts to what remains of the surrounding area's wetlands, marshes, lakes, grasslands, and riparian habitats have increased. The need for increased public awareness, appreciation, and education regarding Nevada's precious natural resources has never been greater. Construction of a new, improved VCS facility will provide an opportunity to expand environmental education, interpretation, and outreach opportunities for the public. This expanded refuge program would also contribute to other environmental education and outreach currently being conducted by local state resource agencies and private organizations. The cumulative impact would be to increase environmental awareness and support for the resource values of Pahrnagat NWR and the surrounding environment by the public.



V. COORDINATION WITH OTHERS AND ENVIRONMENTAL COMPLIANCE

Coordination with Others

This Draft EA will be available for a 30-day public review and comment period from the date of release. Notification will be posted via press release, in the local newspaper, and on the Refuge website. The Draft EA will be made available to the local community of Alamo, by posting a notice at the local post office, and posting a notice and the Draft EA at the local libraries. A notification letter or card regarding the availability of the draft EA and comment period will be distributed to potentially interested Federal, State, and local agencies, Tribes, and special interest groups.

Environmental Compliance

The following Executive Orders and Legislative Acts have been reviewed as they apply to the proposed action.

National Environmental Policy Act (NEPA)

This Draft EA was prepared pursuant to regulations implementing the NEPA (42 USC 4321 et seq.). NEPA provides a commitment that Federal agencies would consider environmental impacts of their actions. This EA provides information regarding the No-Action Alternative and the proposed action, and environmental impacts associated with each alternative. Following public review the USFWS will use the EA as a basis for determining whether the proposed action would constitute a major Federal action significantly affecting the human environment or would result in a Finding of No Significant Impact (FONSI).

Endangered Species Act (ESA)

The ESA (16 USC 1531 et seq.), establishes a national program for the conservation of threatened and endangered species of fish, wildlife, and plants and the preservation of the ecosystems upon which they depend. Section 7(a) of the ESA requires Federal agencies to consult with the USFWS and NOAA Fisheries on activities that may affect any species listed as threatened or endangered, or designated or proposed critical habitat under each agency's jurisdiction. This Draft EA describes that there will be no effects by the proposed action on federally listed species, or designated or proposed critical habitat. A "no effect" determination in compliance with Section 7(a) of the ESA will be made by the USFWS for the proposed project.



Archaeological Resources Protection Act of 1979 (ARPA)

Compliance with the ARPA (16 USC 470aa *et seq.*) is necessary for the proposed action and the process of ARPA compliance is currently under way. A surface cultural resources survey has been completed by Harris Environmental Group, Inc. in coordination with the USFWS Regional Office Division of Cultural Resources. Consultation with the State Historic Preservation Office for the proposed project site is complete. No impacts to archaeological resources are anticipated.

Protection of Wetlands – Executive Order (EO) 11990

EO 11990 requires Federal agencies to follow avoidance, mitigation, and preservation procedures with public input before proposing new construction in wetlands. There are no jurisdictional wetlands in the proposed AO/VCS site.

Floodplain Management – Executive Order 11988

EO 11988 requires that all Federal agencies take action to reduce the risk of flood loss, to restore and preserve the natural and beneficial values served by floodplains, and to minimize the impact of floods on human safety, health, and welfare. The project is not within the 100-year floodplain. The proposed action supports the preservation and enhancement of the natural and beneficial values of floodplains, and is in compliance with Executive Order 11988.

ACRONYMS & ABBREVIATIONS

AO	Administrative Office
AO/VCS	Administrative Office/Visitor Contact Station
ARPA	Archaeological Resources Protection Act
CAA	Clean Air Act
CO	Carbon Monoxide
DOI	US Department of the Interior
EA	Environmental Assessment
EO	Executive Order
ESA	Endangered Species Act
FC	Federal Candidate Species
FE	Federal Endangered Species
FONSI	Finding of No Significant Impact
FT	Federal Threatened Species
LEED	Leadership in Energy and Environmental Design
MBCA	Migratory Bird Conservation Act
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NDOW	Nevada Department of Wildlife
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO ₂	Nitrogen Dioxide
NRHP	National Register of Historic Places
NWRS	National Wildlife Refuge System
O ₃	Ozone



Pb	Lead
PPM	Parts Per Million
NWR	National Wildlife Refuge
RV	Recreational Vehicle
SHPO	State Historic Preservation Officer
SO ₂	Sulfur Dioxide
US	United States
USC	United States Code
USEPA	US Environmental Protection Agency
USFWS	US Fish and Wildlife Service
VCS	Visitor Contact Station





REFERENCES

- ATC Associates, Inc. 2011. Phase I Environmental Site Assessment of Site 1 – Existing Refuge Headquarters, Pahrnagat National Wildlife Refuge, Lincoln County, Nevada. Prepared for: Erick Ammon Incorporated. 155 pp.
- Carver, Erin; Caudill, James. 2007. “Banking on Nature 2006: The Economic Benefits to Local Communities of National Wildlife Refuge Visitation.” Division of Economics, U.S. Fish and Wildlife Service. 372 pp.
- Cordell, H. Ken; Betz, Carter ; Bowker, J. Michael; English, Donald B.K.; Mou, Shela H.; Bergstrom, John C.; Teasley, R. Jeff; Tarrant, Michael A.; Loomis, John. 1999. “Outdoor recreation in American life: a national assessment of demand and supply trends.” Champaign, IL: Sagamore Publishing. Xii. 449 pp.
- Jayko, A.S. 2007a. “Pamphlet to accompany: Scientific Investigations Map 2904, Geologic Map of the Pahrnagat Range 30’x 60’ Quadrangle, Lincoln and Nye Counties, Nevada.” Prepared by U.S. Geological Survey in cooperation with the Nevada Bureau of Mines and Geology. 11pp.
- Jayko, A.S. 2007b. Scientific Investigations Map 2904, Geologic Map of the Pahrnagat Range 30’x 60’ Quadrangle, Lincoln and Nye Counties, Nevada. Prepared by U.S. Geological Survey in cooperation with the Nevada Bureau of Mines and Geology. 11pp.
- Johnson, M.J., J.A. Holmes, R. C. Calvo, I. Samuels, S. Krantz, and M. K. Sogge. 2006. Yellow- billed cuckoo distribution, abundance and habitat use along the lower Colorado and tributaries, 2006 annual report. Report submitted to Bureau of Reclamation Boulder City, NV. 82 pp.
- Krausman, Paul & Melanie Bucci. 2011. Large Mammals of Pahrnagat National Wildlife Refuge, Lincoln County, Nevada. Prepared by Harris Environmental Group, Inc. for US Fish & Wildlife Service. 41 pp.
- Lowden, Joanne. 2010. Intra-Service Section 7 Biological Evaluation Form: Desert National Wildlife Refuge Complex. Prepared by Pahrnagat National Wildlife Refuge. 21 pp.
- McLeod, M.A., and T.J. Koronkiewicz. 2010. Southwestern Willow Flycatcher surveys, demography, and ecology along the lower Colorado River and tributaries, 2009. Annual report submitted to Bureau of Reclamation, Boulder City, NV, by SWCA Environmental Consultants, Flagstaff, AZ. 165 pp.





Mountain Institute, The. 2011. Pahranaagat National Wildlife Refuge, Desert National Wildlife Refuge Complex, Nuwuvi Working Group, Planning Meeting I, Notes. 19p.

Nussear, K.E., Esque, T.C., Inman, R.D., Gass, Leila, Thomas, K.A., Wallace, C.S.A., Blainey, J.B., Miller, D.M., and Webb, R.H. 2009. Modeling habitat of the desert tortoise (*Gopherus agassizii*) in the Mojave and parts of the Sonoran Deserts of California, Nevada, Utah, and Arizona: U.S. Geological Survey Open-File Report 2009-1102. 18 p.

Raymond, Anan. 1997. Pahranaagat Fish Wier Power Line. Unpublished Archaeological and Historic Resources Identification Report. On file with USFWS.

RPR Architects. 2011. Program Document (Draft): Pahranaagat NWR – Maintenance Shop and Administrative Offices/Visitor Contact Station (A.O.V.C.S.). Prepared for USFWS and Erick Ammon, Inc. 26 pp.

Stewart, John H. & John E. Carlson. 1978. Geologic Map of Nevada. U.S. Geological Survey in cooperation with Nevada Bureau of Mines and Geology.

SWCA. 2011. Pahranaagat National Wildlife Refuge Baseline Inventories of Reptiles, Amphibians, and Vegetation. SWCA, Environmental Consultants, Las Vegas, Nevada.

The Weather Channel (TWC). 2011. Monthly Averages for Pahranaagat National Wildlife Refuge. Internet URL: <http://www.weather.com/weather/wxclimatology/monthly/graph/NVFWPAHR:13>. Last accessed: August 9, 2011.

US Bureau of Labor Statistics. 2010a. Local Area Unemployment Statistics Map. Lincoln County, Nevada. Internet URL: <http://data.bls.gov/map/MapToolServlet>. Last accessed: June 21, 2011.

US Census Bureau. 2010b. Local Area Unemployment Statistics Map. United States. Internet URL: <http://data.bls.gov/map/MapToolServlet>. Last accessed: June 21, 2011.

US Census Bureau. 2009a. Lincoln County Quickfacts. Lincoln County, Nevada. Internet URL: <http://quickfacts.census.gov/qfd/states/32/32017.html>. Last accessed: June 21, 2011.

US Census Bureau. 2009b. Small Area Income and Poverty Estimates. Lincoln County, Nevada. Internet URL: <http://www.census.gov/cgi-bin/saippe/saippe.cgi>. Last accessed: June 21, 2011.

USEPA. 2011. "Counties Designated 'Nonattainment' for Clean Air Act's National Ambient Air Quality Standards (NAAQS)." Internet URL: <http://www.epa.gov/air/oaqps/greenbk/mapnpoll.html>. Last accessed: June 20, 2011.





- US Department of Agriculture (USDA). 2011. Web Soil Survey. Internet URL: <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>. Last accessed: June 5, 2011.
- US Department of the Interior, US Fish and Wildlife Service, and US Department of Commerce, US Census Bureau. 1996. "1996 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation." 47 pp.
- US Department of the Interior, US Fish and Wildlife Service, and US Department of Commerce, US Census Bureau. 2006. "2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation." 81 pp.
- USFWS. 2011. Pahrnagat National Wildlife Refuge. Internet URL: <http://www.fws.gov/desertcomplex/pahrnagat>. Last accessed: June 15, 2011
- USFWS. 2010a. Pahrnagat National Wildlife Refuge – Refuge Habitat. Internet URL: <http://www.fws.gov/desertcomplex/pahrnagat/habitat.htm>. Last accessed: August 8, 2011.
- USFWS. 2010b. Pahrnagat National Wildlife Refuge – Refuge Quickfacts. Internet URL: <http://www.fws.gov/desertcomplex/pahrnagat/quickfacts.htm>. Last accessed: June 15, 2011.
- USFWS. 2010c. Pahrnagat National Wildlife Refuge – Refuge Wildlife. Internet URL: <http://www.fws.gov/desertcomplex/pahrnagat/wildlife.htm>. Last accessed: August 8, 2011.
- USFWS. 2009. "Report Shows National Wildlife Refuges Provide Economic Boost." Internet URL: <http://www.fws.gov/refuges/about/bankingonnature.html>. Last accessed: June 21, 2011.
- USFWS. 2007. Vegetation (ESRI Feature Class). Spatial Vegetation Data Property of USFWS and DOI.
- Whittlesey, Stephanie M., A. Harrison, and Michael Margolis. 2011. Cultural Resource Inventory at Two Locations at the Pahrnagat National Wildlife Refuge, Lincoln County, NV. HEG Technical Report 11-017.2.

