Southern Nevada Public Land Management Act
Conservation Initiatives
Round 19

Desert National Wildlife Refuge

Wildlife Water Development for Desert Bighorn Sheep Conservation

Amount Requested: $781,221

A. BACKGROUND INFORMATION

The U.S. Fish & Wildlife Service (Service) requests SNPLMA Round 19 funding to upgrade existing wildlife water catchment systems (guzzlers) to more reliable and efficient self-leveling gravity feed design and build new guzzlers on the Desert National Wildlife Refuge (DNWR, Refuge) in locations where water is currently not available to improve habitat for desert bighorn sheep and other wildlife. The proposed projects will either replace old systems near failure or add guzzlers in new key locations to provide water for wildlife, especially desert bighorn sheep. The new guzzler design will be more reliable and improve precipitation collection and storage capacity at existing projects. The water sources are positioned to provide habitat connectivity for wildlife during the extreme parts of the summer months and times of prolonged drought. The DNWR has a legacy of having outstanding bighorn sheep populations, dating to its establishment in 1936. Over 50 recorded mammal species and approximately 320 bird species utilize the refuge and the water sources. Creating and enhancing water sources will perpetuate the DNWR legacy of providing available water to Mojave Desert wildlife.

The Refuge encompasses over 1.6 million acres, the largest National Wildlife Refuge in the 48 contiguous states. The DNWR was established in 1936 for the protection, enhancement, and maintenance of the desert bighorn sheep (*Ovis canadensis nelsoni*) and its habitat. Six mountain ranges are included in this massive landscape, providing premier habitat for numerous desert species, including desert bighorn sheep. The Refuge was established as the Desert Game Range and it was originally 2.25 million acres. In October of 1940, approximately 846,000 acres of the Desert Game Range were reserved for the use of the War Department (Department of Defense) as an aerial bombing and gunnery range, now known as the Nevada Test and Training Range (NTTR). The Service retained secondary jurisdiction over these lands. The withdrawal for the NTTR was renewed in the 2021 NDAA (P.L. 116-283), which extended the existing withdrawal for 25 years, with no changes in jurisdiction or authorized military training activities.

The NTTR is closed to the public and access is restricted by the Air Force for security. However, a portion of DNWR withing the NTTR is open to bighorn sheep hunting for two weeks each winter in coordination with the Air Force and Nevada Department of Wildlife (NDOW). Access to habitat on DNWR within the NTTR is difficult and must be coordinated with Nellis Air Force Base. Typically, access for Service employees is restricted to weekends and holidays and requires an escort.

Water, always a critical element in a desert environment, is available to wildlife at over 60 sources scattered across the refuge, including both springs and ‘guzzlers,’ or man-made water catchments, designed to capture precipitation (Map 1). However, many springs are unreliable and most existing guzzlers have fallen into various stages of disrepair and are of an old design using float valves, a system prone to catastrophic failure.

Historically, DNWR was considered the last stronghold of desert bighorn sheep, supporting at least 1000 animals. Today, DNWR continues to sustain a critically important population of bighorn sheep. Population estimates from the late 1940’s were between 1000-1200 animals. Due to the limited number and distribution of water sources, a majority of the population lived on the Sheep Range. Elsewhere in the west, desert bighorn sheep populations declined due to human

influence. From 1988 to 1992, the bighorn sheep estimates on the Sheep Range precipitously declined from 1133 individuals to 217. A study was initiated in 2010, to assess the factors that might have caused the original population to decline in the Sheep Range and be causing the current depressed population number.

Through a vigorous translocation program and the building of man-made water catchment systems, throughout the six mountain ranges, the bighorn sheep population started to recover and stabilize. 2020 estimates show bighorn sheep populations on DNWR returned to approximately 900 individuals but with noteworthy differences in demographics and distribution. The guzzlers and translocated sheep were placed in mountain ranges that previously had no perennial water sources, so these bighorn sheep have become dependent on man-made systems. Climate change is a critical threat to the entire desert bighorn sheep population. Significant modeling efforts have been undertaken in the past few decades to determine shifts in regional climate patterns across the Southwest. For this region, studies suggest a decline in precipitation, causing negative changes in forage quality and a reduction of suitable habitat.

The DNWR's land use plan is included in the *Desert National Wildlife Refuge Complex Comprehensive Conservation Plan* (CCP), which was approved in August 2009. This proposal conforms with the CCP, which stresses the importance of improving habitat, wildlife management, and wildlife water resources.

This nomination is tied to DNWR's Desert Bighorn Sheep Management Plan (SMP) completed in 2020. Water availability and climate change have been identified as critical threats to the desert bighorn sheep population on the Refuge. This nomination proposes building, replacing, or improving six wildlife guzzlers within three mountain ranges on DNWR (Map 2). The new design of guzzler is a self-leveling gravity fed system that has no moving parts. The projects on DNWR all vary in age and condition. Older system design has a smaller storage and precipitation collection capacity and is prone to catastrophic failure. The modern gravity-fed design increases storage and precipitation capacity and lowers maintenance requirements. The greatest weakness of the old design is the float-valve drinker. Most of the projects are in remote locations and/or on the NTTR and visited infrequently, a failure in the float valve can lead to catastrophic failure and loss of available water for bighorn sheep. The new gravity-fed design eliminates the need for a float valve. These improvements will provide a more stable water source that will require less maintenance and fewer visits to the guzzlers. The new projects will be built in strategic locations to increase accessibility for staff and create redundancy in water availability within the larger area. Existing guzzlers are situated in critical areas and are in various stages of disrepair. Most of the Spotted Range and Desert Range are access restricted by the NTTR, making it critically important to improve guzzlers to provide more storage and a more stable design to ensure reliable water sources.

In the Spotted Range, two new guzzler projects (Spotted 7 and Spotted 8) and the reconstruction of Spotted 3 are being proposed. The new Spotted 7 would be constructed in the vicinity of Spotted 5. Bighorn sheep greatly rely on Spotted 5 which is an outlier project as it is approximately 6 miles from the closest water project. Building a new project closer to Spotted 5 will create redundancy in water availability in that area. The new Spotted 8 would be built on the opposite end of the mountain range in the vicinity of Spotted 2. Sheep in that area alternate

among three water sources, Spotted 1, 2 and 4. Spotted 2 is in poor condition and in an inferior location as it is not used by bighorn sheep as heavily as the other guzzlers. Spotted 8 will contribute resiliency into the water availability in that area. Spotted 3 is an old guzzler in bad condition that needs to be replaced. The current float valve system is prone to frequent failure and the storage tanks are deteriorating and may become a wildlife hazard. The location of Spotted 3 may need to be moved to accommodate the larger footprint of the modern guzzler design. Improvements at Spotted 3 would include building a metal apron and replacing the old drinker and 3 upright tanks with a new gravity fed drinker and larger capacity flat tanks.

In the East Desert Range, a new project, East Desert 1, and an improvement to the existing Saddle Mountain water project is proposed. East Desert 1 will be constructed in the East Desert Range in relative proximity to Alamo Road and is intended to be accessible by and administrative route. The exact location of the project will be determined at a later date. The existing Saddle Mountain guzzler project is strategically placed to connect bighorn sheep habitat located on the Sheep and Desert Ranges, providing wildlife with a critical watering source without the need to travel extraordinary distances. The East Desert Range connects the Sheep and Desert Ranges, having a reliable water source within this movement corridor supports interchange between the two mountain ranges. Improvements at this project will include a metal apron and replacing the old drinker and upright tanks with a new gravity fed drinker and larger capacity flat tanks.

In the Sheep Range, the Enclosure Ridge guzzler is heavily relied upon by bighorn sheep. It is one of the oldest projects on the Refuge and requires complete reconstruction and improvements to the dysfunctional administrative road that leads to the project. The new system will include a walk-in drinker, building a larger metal apron, and replacing the upright tanks with larger capacity flat tanks.

a. Describe Relationship to prior Approved Phases or Related SNPLMA Projects and Anticipated Future Phases

SNPLMA Round 17 approved funding for upgrades to the Woody wildlife guzzler and Spring Stewardship and Restoration Project, which are improvements to other wildlife waters on the DNWR currently in the implementation phase. There are no future phases for this project.

b. Acknowledgement of Stand-Alone Project and no Guarantee of Funding for Future Phases

This is a stand-alone project and will not be impacted by availability of future funding. The improvements are anticipated to fully function for a minimum of 40 years with minimal maintenance.

B. SNPLMA STRATEGIC PLAN VALUES

Conservation Initiative projects have two goals identified in the Strategic Plan:

- Goal 1: Sustain the quality of the outdoor environment by conserving, preserving, and

restoring natural and cultural resources.

- Goal 2: Improve the quality of life for all publics in urban and rural communities by enhancing recreational opportunities that connect people with the outdoor environment.

Nominated projects should meet these goals by focusing on the three SNPLMA core values, connectivity, sustainability, and community. Every nomination must explain how the three values are promoted by the project.

1. Sustainability:
   Two guzzler projects will result in more accessible locations, so maintenance and emergency water delivery be conducted without the aid of a helicopter. All guzzlers will be more efficient and less prone to failure. The new systems are gravity fed and have no moving parts which is an improvement over the existing float valve system. The upgraded system will be more effective at collection and storing rainwater, which has become more important now and for the future with climate change and drought. All components of the newly designed guzzler are low maintenance and easily repaired if necessary. This will lower the carbon footprint, decrease cost and time needed to check, maintain and when necessary complete emergency water delivery to the wildlife waters. This not only supports climate-smart management but will make some refuge resources available for other important wildlife management work.
   Desert bighorn sheep holds significance for Nuwu/Nuwuvi people, is an icon of the West and a popular large game species for Nevada. Updating and building guzzlers support the bighorn sheep population on the Refuge, which historically supported the largest meta-population in Nevada. Other native wildlife species important to local tribes will also benefit from these reliable water sources and the biological integrity of the habitat will be maintained for future generations of Nuwu/Nuwuvi people.

2. Connectivity:
   The proposed new guzzlers will increase connectivity to other water sources on the Refuge and the improvements to the existing guzzlers will maintain that water connectivity in the regional sense. Bighorn sheep regularly move between mountain ranges on, and off, the Refuge. These movements are needed to maintain genetic diversity and to build healthy populations. The improved guzzlers will help build and maintain migratory corridors for bighorn sheep and other species. Mule deer (*Odocoileus hemionus*) and other species are known to utilize guzzlers on the refuge and are facing the same challenges that bighorn sheep face during these times of drought and climate change. These water sources provide wildlife a critical drinking site without the need to travel extraordinary distances.
   Due to its vicinity to Las Vegas with a population of over 2 million people DWNR is both rugged and remote, as well as an Urban Refuge just outside of the population center. This project will be critical to conservation of desert bighorn sheep, other mammals, birds, and other wildlife. Increased and more stable populations of wildlife and on the publicly accessible part of the Refuge will allow the community, including tribal members, children, other city residents and tourists to connect to nature by having increased opportunities to watch wildlife and experience the outdoors.

3. Community:
   The Refuge provides educational and wildlife-associated recreational opportunities to the community. Individuals, private groups, tour buses and school field trips visit the Refuge and learn about the wildlife and the natural environment here. The public have utilized the guzzler sites as prime areas for wildlife viewing and photography. Having stable and robust wildlife populations are important to the community and the proposed guzzlers are an essential component. This project will promote stable bighorn sheep populations, thus ensuring the communities hunting opportunities for this highly sought-after game species into the future.
   The mountain ranges within the Refuge and desert bighorn sheep hold importance cultural significance for the Nuwu/Nuwuvi (Southern Paiute/Chemehuevi) Tribes. By stabilizing biological diversity and ecological integrity though this project and working with Tribes to identify opportunities for incorporating traditional ecological knowledge and management on the Refuges, which can benefit tribal interests regarding wildlife conservation and habitat management.
   Locals and tourist from all over the country, and foreign countries, visit the Refuge for hunting bighorn sheep, wildlife viewing, and wildlife photography. The Refuge and the wildlife attracts tour bus groups and field trips by schools within Clark County. The wildlife at the Refuge provides benefits to the community and upgrading the existing guzzlers will increase the sustainability of these projects far past the life expectancy of the previous design.

C. PURPOSE STATEMENT

The U.S. Fish and Wildlife Service requests SNPLMA Round 19 funding to construct new or upgrade existing wildlife water catchment systems (guzzlers) to more reliable and efficient self-leveling gravity feed design on Desert National Wildlife Refuge for the benefit of desert bighorn sheep and other native wildlife. The new guzzler design will improve precipitation collection, increase storage capacity, and reduce the need for costly maintenance and emergency water deliveries.

D. PROJECT DELIVERABLES

1. Primary Deliverables:
   1) Restore or construct six wildlife guzzlers to include self-leveling drinkers, high-capacityflat storage tanks and large rain collection aprons:
      a) Enclosure Ridge guzzler upgrade.
      b) Saddle Mountain guzzler upgrade.
      c) New East Desert 1 construction.
      d) New Spotted 7 construction.
      e) New Spotted 8 construction.
      f) Spotted 3 replacement.

2. Anticipated Deliverables:
   1) Three new guzzlers with metal collection aprons, flat storage tanks and self-leveling drinker.

2) Three upgraded guzzlers with metal collection aprons, flat storage tanks and self-leveling drinkers.
3) Improve or create ground access to new and existing guzzlers where possible.

3. Standard Deliverables:
   1) Siting and site-specific design for each of 6 guzzlers.
   2) Environmental compliance documentation (NEPA and Section 7 consultation) for guzzler projects.
   3) Section 106 compliance for guzzler projects.
   4) Contracting for helicopter services to transport and sling materials to and from guzzler locations and transport helpers to and from the project site during preparation and construction days.
   5) Access coordination with NTTR for guzzler work in restricted areas (all three projects in the Spotted Range) and airspace for helicopter operations for all guzzlers (restricted airspace encompasses the entire Refuge)
   6) Material purchasing, directly or through contracts as needed.
   7) SMART quarterly status updates.
   8) SMART annual and final accomplishment reports.
   9) Preparation of the close out package.

E. PROJECT LOCATION

Latitude and Longitude:
Approximate locations:
Spotted Range
- New Spotted 7: ~36.663931, -115.872392
- New Spotted 8: ~36.83616, -115.67639
- Spotted 3: ~ 36.774300°, -115.670958°

East Desert Range
- New East Desert 1: ~36.869749, -115.267104
- Saddle Mountain: 36.803405°, -115.255864°

Sheep Range
- Enclosure Ridge: 37.174195°, -115.154259°

Identify Congressional District(s): NV-4

F. PROJECT TIMEFRAME

5 Year- General Timeline:
Year 1 Complete work plan and funding authorization.
Complete planning for 2 guzzlers to include:
- Confirmation of sites and site-specific design
- Environmental and cultural compliance (largely complete, supplements if needed based on final design)

Year 2	Complete acquisition of all materials for first 2 projects. Complete construction of first 2 guzzlers. Complete planning for 2 additional guzzlers to include: ▪ Select locations and site-specific design ▪ Environmental and cultural compliance
Year 3	Complete acquisition of all materials for next 2 projects. Complete construction of next 2 guzzlers. Complete planning for last 2 guzzlers to include: ▪ Select locations and site-specific design ▪ Environmental and cultural compliance
Year 4	Complete acquisition of all materials for last 2 projects. Complete construction of last 2 guzzlers.
Year 5	Project completion, final documentation, and closeout.

G. LEVEL OF PROJECT READINESS FOR IMPLEMENTATION

Is this a shovel-ready project? ☒Yes ☐No

Environmental and cultural compliance for the two guzzler upgrade projects is completed, those two sub-projects are shovel ready. National Environmental Policy Act clearance, Section 7 consultation, and cultural compliance with tribal coordination for rebuilds that include relocation and for new builds, along with final sighting the projects can begin as soon as funding for the project is approved. Cultural resources and habitat for threatened and endangered species will be avoided, expediting the process. The general locations for new guzzlers have been evaluated by the Service and NDOW and largely require only fine-tuning. General planning and design are complete, as the new self-leveling guzzler structure is of standardized design. Unique features of the sites will be incorporated with the final design. Service staff and partner organizations are ready to begin project work as soon as funding becomes available. Guzzler construction will be completed in year 2-4 of the project, if funding is approved. Close out will be completed in year 5 of the project.

H. FUTURE OPERATING AND MAINTENANCE

The new and improved guzzlers will be designed and constructed for minimization of long-term maintenance. There are no moving or easily degraded parts and materials used for the guzzlers have an expected lifespan of 40+ years. Maintenance is conducted once per year via helicopter, as part of an all-encompassing maintenance covering about 25 other springs and guzzlers. During these flights, maintenance involves determining the amount of water in each storage tank and cleaning the debris from the drinker. Smaller repairs, maintenance and water status checks on

foot are completed for projects as possible and needed by Service and NDOW staff, as well as volunteers.

I. PROJECT BUDGET

Instructions: Put project cost estimates in Tabs 1-8. The values from those tabs will roll-up to this summary worksheet. The Non-Federal Contribution can be entered in Tabs 1-8 as a whole amount, it does not need to be broken out by unit cost. Non-Federal entities must use the standard form for an assistance agreement SF- 424A Budget Non-Construction (PDF) and Budget Detail (Word document).

PROJECT BUDGET			
Project Name:	Wildlife Water Development for DesertBighorn Sheep Conservation	**Date:**	11/5/2021
Project Manager:	Michael Daehler	**Agency:**	USFWS

Cost Categories	**SNPLMA**	**Non-Federal Contribution**
1. Personnel (labor plus benefits)	$ 94,516	$ 101,532
2. Travel	$ -	$ -
3. Training	$ 12,441	$ -
4. Equipment	$ -	$ -
5. Supplies/Materials	$ 253,124	$ -
6. Contracts and/or Agreements	$ 421,140	$ -
7. Vehicle Use	$ -	$ 21,168
8. Other Necessary Expenses	$ -	$ -
9. TOTAL PROJECT BUDGET	**$ 781,221**	**$ 122,700**

Notes:

Partnership and/or Contributed Funds

An estimated total of $122,700 for in-kind labor and vehicle mileage from NDOW and the Fraternity will be contributed to the project.

- The Fraternity estimates that 35-55 volunteers will help with each guzzler. The same people will not be at all six guzzler projects and there will be a total of about 85 different individual volunteers over the course of the project. A conservative estimate of 30 volunteers for 10 hours on one day for construction at each of 6 guzzler projects was used for a total of 1,800 hours for a total of $51,372 in-kind contribution.
- Personal vehicles are used for access to project staging areas. Average distance from volunteers' residences to these sites is 200 miles round-trip. At 2 people per vehicle mileage contributes are approximately 18,000 for a total of $10,080 in-kind contribution.
- NDOW will contribute on average 2 people working 1 day for siting and design and at least 5 staff per project implementation for each of the 6 guzzlers at 4 days of work per project. NDOW staff assist with project site preparation and material moving (to and from) the site. This equals 220 hours of time at an average rate of $38/hour, for a total of $8,360 in-kind contribution per guzzler for a total of $50,160, as a low estimate.
- NDOW will be using on average 5 to 6 vehicles to access each site and averaging a total of 600 miles per vehicle for planning, preparation, and implementation. This will total 3,300 per site and will total of 19,800 miles and $11,088 of in-kind contribution.

J. KEY CONTACTS

Authorized Officer: Kevin J. DesRoberts
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Budget Officer: Leanne Abel
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K. RANKING CRITERIA

The Ranking Criteria are used to evaluate the nomination against the goals for the Conservation Initiatives category. Nominating entities are not to include either the total point value or the point values by criteria in their responses. Nominations will be reviewed and scored by the Conservation Initiatives subgroup.

1. **The nomination supports habitat enhancement, cultural resources, and/or public health and safety through connectivity and sustainability.** Include as many project subtypes as applicable to your nomination. Points will be awarded by the subgroup based on the level of support the nomination shows toward a variety of subtypes, the more variety, the more points. The subtypes below are not all inclusive.

A. Habitat Enhancement. *The following are examples of project subtypes for habitat enhancement goals, objectives or actions this nomination will support/accomplish: enhances or connects habitats, migratory corridors, or protected areas; endangered species; proactive steps to prevent listing; invasive species treatment and/or control (plant or animal); restoration of habitat for sensitive species at the watershed or landscape level; climate change; water quality and quantity monitoring; cave management; restoration of springs, streams, and rivers; road decommissioning and rehabilitation; reintroduction of extirpated species to restore overall ecosystem.*

Answer:

1) Connectivity: The proposal enhances and connects habitats and wildlife migratory corridors in the regional sense. Providing stable water at these locations improves the habitat and allows for greater movement of wildlife within and in between mountain ranges. The building and improvement of guzzlers enhances water availability for wildlife and water resources connectivity on a regional scale. Water sources within the East Desert Range supports and enhances the connectivity between the Sheep and Desert Ranges. Specifically, desert bighorn sheep use the East Desert Range as a corridor between the two other ranges. Bighorn sheep regularly move between mountain ranges on, and off, the Refuge. These movements are needed to maintain genetic diversity and to build healthy populations. The improved guzzlers will help build and maintain migratory corridors for bighorn sheep and other species. Mule deer and other species are known to utilize guzzlers on the Refuge and are facing the same challenges that bighorn sheep face during these times of drought and climate change.

2) Climate Change: The construction of the new guzzler builds, using the modern design, increase water availability redundancy in those areas. The improvements proposed for existing guzzlers will increase storage and precipitation capture at critical projects. Restoration of access roads to guzzlers increases the efficiency and reduces costs of conducting emergency water deliveries to critical water projects because some can be accessed by a water tender and therefore, will not require the use of a helicopter. These three components are all geared towards preparing for the increased frequency of pro-longed, severe drought in the future. The improvements will also require fewer trips to the guzzlers, thereby reducing the carbon footprint of maintaining the guzzlers and ensuring water availability for bighorn sheep and other wildlife.

B. Cultural Resources. *The following are examples of project subtypes for cultural resources goals, objectives or actions this nomination will support/accomplish: surveys; National Register (eligible or currently approved); protection/site stewards; restoration/stabilization; and tribal involvement and/or consultation.*

Answer:

1) Surveys: prominent cultural features will be recorded during site surveys.

2) Tribal Involvement and/or Consultation: Tribal consultation and involvement will occur as part of the planning and implementation of these projects. Desert bighorn sheep are an important part of the Nuwu's/Nuwuvi's (Southern Paiute's/Chemehuevi's) culture. The Refuge contains many cultural sites and Traditional Cultural Properties.

C. Public Health and Safety. *The following are examples of project subtypes for public health and safety goals, objectives, or action this nomination will support/accomplish: litter/dumping cleanup; information kiosks and signs; addresses and mitigates adverse impacts to resources caused by the volume of people using the resource; resolving trespass/encroachment/illegal use of public lands (i.e. marijuana grow sites)/boundary surveys; and abandoned mine land (AML) with habitat restoration component.*

Answer:

1) Litter/Dumping Cleanup: litter cleanup is a component of all the construction and improvement projects. During project implementation crew work at sites that are otherwise difficult to access and removing of large trash items or large amounts of litter is often not feasible on foot. During construction litter in the area surrounding the project sites are cleaned up as part of the work, as at that time a helicopter will be available for removal of collected debris.

2) The NTTR portion is difficult to access but is often littered with mylar balloons and military training debris. Access approved for completing projects will also be used to clean-up any litter in the surrounding areas and potentially hazardous military waste such as unexploded ordinance are documented during projects. These are reported to the Air Force for safe removal. While the NTTR is not generally accessible to the public, it is open to sheep hunters two weeks a year. All waste removal benefits human safety and reduces hazards to desert bighorn sheep and other wildlife.

3) Some of the aging guzzler structures, especially storage tanks are beginning to degrade and crack. If tanks and tank lids are not replaced before structural integrity further declines, they may become hazards to smaller wildlife with the potential of trapping animals inside the tanks.

2. **The nomination promotes sustainability by providing benefits in the near and long term by implementing actions to conserve and sustain healthy and resilient landscapes and providing durability, relevancy, and shared support. Answer all applicable.**

A. Conserves resources to ensure availability to future generations through management of natural and/or cultural resources for current public benefit and sustainable social and economic utilization.

Answer:

1) The project helps conserve wildlife resources to ensure availability to future generations. There is a current public benefit and a sustainable social and economic utilization. Locals and tourist from all over the country, and foreign countries, visit the Refuge for hunting bighorn sheep, wildlife viewing, and wildlife photography. The Refuge and the wildlife attracts tour bus groups and field trips by schools within Clark County. The wildlife at the Refuge provides benefits to the community and upgrading the existing guzzlers will increase the sustainability of these projects far past the life expectancy of the previous design. New guzzlers will be built according to the now self-leveling design, which is less prone to failure and will survive decades of use by wildlife before major improvements become necessary. Additionally, when any of the materials require replacement, all the metal will be recycled. Used material taken off site for the improvement projects will also be recycled.

2) Improvements on the existing guzzlers will ensure biological integrity by increasing water availability for wildlife during the height of summer and times of severe, prolonged drought. Providing stable water will allow for migration and migration corridors. Bighorn sheep regularly move between mountain ranges on, and off, the Refuge. These movements are needed to maintain genetic diversity and to build healthy populations. The improved guzzlers will help build and maintain migratory corridors for bighorn sheep and other species. Mule deer and other species are known to utilize guzzlers on the refuge and are facing the same challenges that bighorn sheep face during these times of drought and climate change.

B. Conserves or restores the functionality, resilience, and integrity of biological communities and/or cultural resources through prudent management and prevention of injury, decay, waste, or loss.

Answer:

1) The proposal conserves and restores the functionality, resilience, and integrity of biological communities. The improvements in this proposal will provide real benefits to wildlife for many decades and will help conserve and restore the functionality, resilience, and the integrity of the biological community at the DNWR. Upgrading and constructing guzzlers is in alignment with DNWR's SMP, which is a step-down species plan of the Desert National Wildlife Refuge Complex CCP. The CCP defines five goals for the Refuge, the first of which states, "Maintain and, where necessary, restore healthy population levels of bighorn sheep on DNWR within each of the six major mountain ranges". Water Resources has been identified as a Key Ecological Resource as it is a critical habitat component for the bighorn sheep in the Mojave Desert.

2) Water Resources are a critical habitat component for wildlife within the Mojave Desert and benefit countless species, especially in light of prolonged droughts, high summer temperatures and reduced rainfall brought about by global climate change. The guzzlers build through this nomination will increase habitat quality and functionality and as a result benefit the populations and movement corridors of many mammal and bird species beyond bighorn sheep for decades to come.

C. Will remain relevant and continue to provide a benefit beyond the existence of SNPLMA.

Answer:

1) The improvements in this proposal will remain relevant and continue to provide a benefit beyond the existence of SNPLMA. These improvements should remain functional and benefit wildlife for a minimum of 40 years with modest maintenance. In Southern Nevada, bighorn sheep occupy mountain ranges permanently where there are perennial water sources. Enhancing and maintaining water sources on the Refuge is a critical component of the SMP. The Interagency Management Team of the SMP regularly collaborate to maintain the water sources on the Refuge.

2) Water Resources are a critical habitat component for wildlife within the Mojave Desert and benefit countless species. The guzzlers build through this nomination will benefit the populations and movement corridors of many mammal and bird species beyond bighorn sheep for decades to come.

3. **The nomination promotes community by improving the quality of life for humans by protecting the integrity of biological communities or cultural sites. Answer all applicable.**

A. Encourages people to meaningfully connect with their natural environment and helps them appreciate and care for the environment by providing information and resources to educate and engage people in understanding their role in protection and maintaining the natural environment by providing opportunities for them to connect to the natural resources directly or virtually or provides education of the environment.

Answer:

1) The refuge allows people to meaningfully connect with their natural environment and helps them appreciate and care for the environment by providing information, experiences, and resources to educate and engage. The presence of wildlife attracts people to the Refuge, which enables the Refuge to educate and engage people. This is done by building and maintaining a stable bighorn sheep population, which this proposal would help in accomplishing. Water resources projects offer an opportunity for volunteers an opportunity to work on a project that's directly tied to natural resources management. This helps build ownership of the resources in the community.

2) The DNWR is within the ancestral homeland of Nuwu/Nuwuvi people and desert bighorn sheep have special cultural significance to tribal members. This project will help ensure this culturally important species and the biological community of Mojave Desert mountain habitat exists for present and future generations of tribal people.

B. Project has identified committed non-SNPLMA sources of funding or in-kind contribution for the planning, design, and development of the project.

Answer:

1) The Service is collaborating with state and non-profit entities on the planning, design, and implementation of this plan. NDOW, USGS and Fraternity representatives are members of the Interagency Bighorn Sheep Management Team for DNWR. The Fraternity is a non-profit organization and a key partner and stakeholder in the SMP. NDOW and the Fraternity also provide critical technical expertise and a huge amount of labor for the implementation of these water developments.

C. Preserves the past (cultural or historic sites) for present or future generations.

Answer:

1) The DNWR is within the ancestral homeland of Nuwu/Nuwuvi people and desert bighorn sheep have special cultural significance to tribal members. This project will help ensure this culturally important species exists for present and future generations. There are numerous cultural sites throughout the DNWR. All project sites have or would be surveyed for cultural and historic resources and if cultural or historicalresources are discovered they would be avoided.

4. **The nomination enhances partnerships to promote cooperation and collaboration. The nomination also promotes sustainability, connectivity, and community by linking people to nature and recreational opportunities by uniting communities with important places across the landscape. Answer all applicable.**

A. The nomination addresses and meets the needs of more than one agency (federal or state).

Answer:

1) This is a collaboration between the Service and the state wildlife agency. NDOW, USGS and Fraternity representatives are all members of the Interagency Bighorn Sheep Management Team for DNWR and needs for all three involved agencies are addresses. Desert bighorn sheep is a state managed large game species and NDOW coordinates bighorn sheep management activities, which are planned and implemented with the Service. This proposal also has a partnership and promotes cooperation and collaboration with the Fraternity, a non-government group made up of Nevada residents and wildlife enthusiasts from all over the country. This proposal promotes sustainability, connectivity, and community by linking people to nature and recreational opportunities by increasing wildlife viewing opportunities.

2) By addressing critical conservation needs for desert bighorn sheep populations within the largest tract of land with bighorn sheep conservation as a purpose, the project benefits the BLM and U.S. Forests Service Lands in southern Nevada that are home to desert bighorn sheep.

3) This project will promote stable bighorn sheep populations, thus ensuring the communities hunting opportunities for this highly sought-after game species into the future.

4) The proposal enhances and connects habitats and wildlife migratory corridors in the regional sense. Providing stable water at these locations improves the habitat and allows for greater movement of wildlife within and in between mountain ranges. These movements are needed to maintain genetic diversity and to build healthy populations. The improved guzzlers will help build and maintain migratory corridors for bighorn sheep and other species.

B. The nomination involves non-Federal, public partners, citizen groups or organizations in the development and accomplishment of resource management goals and other activities to prevent waste, damage, or neglect.

Answer:

1) This is a collaborative project with NDOW and the Fraternity. Both partners will participate actively in the planning, design, and implementation of this project, providing technical expertise in designing guzzler projects. Both non-federal partners will also be involved in the implementation of the projects. The Service relies on working with these partners to achieve the Refuges resource management goals. The collaboration of all three organizations, federal agencies, state agency and a non-profit organization, allows for leveraging matching resources and preventing waste by completing tasks and project components using strength and avoiding weaknesses withing the policies and abilities of each organization.

C. The nomination clearly defines and includes a stewardship component (Federal or non-Federal) to broaden support and reduce long-term costs by minimizing the human impact on the environment through an education plan with clear curricula and achievable goals and objectives.

Answer:

1) Improvements to guzzlers would require fewer human impacts in the future through reduced maintenance and fewer trips to these guzzlers, thus increasing wilderness values and decreasing disturbance. Information about these guzzlers and their benefits to wildlife are shared with the public at the DNWR Visitor Center and through social media with many groups, such as school groups and tour buses, that visit the Refuge. This project offers volunteers an opportunity to be directly involved with natural resource management through hands-on work. These volunteers will learn key factors of bighorn sheep management as well as the challenges they face. In addition, particular efforts will be made through outreach and tribal consultation to engage the local tribes. The DNWR is within the ancestral homeland of Nuwu/Nuwuvi people and desert bighorn sheep have special cultural significance to tribal members. This project will help ensure this culturally important species exists for present and future generations.

5. **The nomination has identified committed non-SNPLMA sources of funding or in-kind contributions in the development and/or implementation of the project. Answer all applicable.**
Overhead costs may not be included in determining in-kind contributions.
Labor funded from an appropriation is not considered an in-kind contribution

A. In-kind Contributions. *The following are examples of in-kind contributions this nomination will support: Volunteer Labor – valuation to be computed at the rate used by the Department of the Interior, which is currently $28.54 per hour; Salaried Employees – actual hourly rate plus the value of any fringe benefits received. Nomination must confirm this is from non-appropriated funding to be awarded*
points; Material, Equipment, and/or Supplies - actual costs should be used.

Answer:
The following in-kind contributions for this nomination are from non-appropriated funding.

Non-profit Partnership in-kind contributions (Fraternity):
Volunteer labor: $51,372
Mileage: $10,080

State agency in-kind contributions (NDOW):
Labor: $50,160
Mileage: $11,088

Total: $122,700

L. ORDERS AND PRIORITIES

Respond to the Executive Orders, Secretarial Orders, Department of the Interior Priorities, and USDA Forest Service Priorities as they apply to the purpose of the nomination.

A. Executive Orders (EO):

- ***EO No. 13855: Promoting Active Management of America's Forests, Range Lands to Improve Conditions and Reduce Wildfire Risk***

  Answer: N/A

- ***EO No. 14005: Ensuring the Future is Made in All of America by All of America's Workers***
  Answer: The proposal would comply with EO No. 14005. The Service will follow all current policy and, whenever possible, procure goods, products, materials, and services from sources that will help American businesses compete in strategic industries and help America's workers thrive.

B. Secretarial Orders

- ***SO No. 3347: Conservation Stewardship and Outdoor Recreation.***

  Answer: This proposal supports SO No. 3347. The SO No. 3347 states: "The purpose of this Order is to enhance conservation stewardship, increase outdoor recreation, and improve the management of game species and their habitat". This project could result in an increase in outdoor recreation, such as wildlife viewing, wildlife photography, hunting, and improved management of game species by providing stable water sources for wildlife.

- ***SO No. 3356: Hunting, Fishing, Recreational Shooting, and Wildlife Conservation Opportunities and Coordination with States, Tribes and Territories.***

  Answer: This project could enhance conservation stewardship; increase outdoor recreation opportunities for all Americans, including opportunities to hunt; and improve the management of game species and their habitats for this generation and beyond. This would benefit all Americans and the NDOW. Desert bighorn sheep holds significance for Nuwu/Nuwuvi people, is an icon of the West and a popular large game species for Nevada. Updating and building guzzlers support the bighorn sheep population on the Refuge, which historically supported the largest meta-population in Nevada.

- ***SO No. 3362: Improving Habitat Quality in Western Big-Game Winter Range and Migration Corridors.***

  Answer: This proposal works in close partnership with the State of Nevada through the NDOW. This proposal would enhance and improve the quality of big-game winter range and migration corridor habitats on Federal lands under the management jurisdiction of this Department in a way that recognizes state authority to conserve and manage big-game species. These guzzlers are located at critical areas for bighorn

sheep. The Saddle Mountain project is located in the East Desert Range which is a movement corridor between the Sheep and Desert Ranges. Having reliable water sources within the East Desert Range facilitates movement between the two ranges.

- ***SO No. 3366: Increasing Recreational Opportunities on Lands and Waters Managed by the U.S. Department of the Interior***

  Answer: This proposal supports public lands under the management and administration of the U.S. Department of the Interior (Department) are open and accessible for recreational pursuits by all Americans and visitors to the United States. This proposal could increase recreational opportunities on the DNWR through increased hunting, wildlife viewing and wildlife photography opportunities.

- ***SO No. 3370: Conservation Stewardship and Increasing Public Access to Urban National Wildlife Refuges.***

  Answer: This proposal is consistent with SO No. 3370. The DNWR is an Urban National Wildlife Refuge, and this proposal supports conservation stewardship on public lands. This proposal would support the Secretary's priorities, including restoring trust in the stewardship of public lands by being a good neighbor; creating a conservation stewardship legacy second only to that of President Theodore Roosevelt, Jr.; and encouraging and assisting Americans, particularly those who live in urban areas, to experience the outdoors within their local communities.

- ***SO No. 3372: Reducing Wildfire Risks on Department of the Interior Land Through Active Management.***

  Answer: N/A

- ***SO No. 3373: Evaluating Public Access in Bureau of land Management Public Land Disposal and Exchanges (focus is on Sec. 4.b.(3) Potential increased public recreational access to existing public lands resulting from the proposed land acquired through an exchange (acquisition).***

  Answer: N/A

- ***SO No. 3374: Implementation of the John D. Dingell, Jr. Conservation, Management and Recreation Act.***

  Answer: N/A

- ***SO No. 3376: Increasing Recreational Opportunities through the use of Electric Bikes.***
  Answer: N/A

C. Department of the Interior Priorities:

1. ***Identifying steps to accelerate responsible development of renewable energy on public lands and waters.*** *We are investing in climate research and environmental innovation to incentivize the rapid deployment of clean energy solutions, while reviewing existing programs to restore balance on America's public lands and waters to benefit current and future generations.*

   Answer: N/A

2. ***Strengthening the government-to-government relationship with sovereign Tribal nations.*** *We understand that tribal sovereignty and self-governance, as well as honoring the federal trust responsibility to Tribal Nations, must be the cornerstones of federal Indian policy.*

   Answer: The Desert NWRC has been coordinating with Nuwu/Nuwuvi (Southern Paiute/Chemehuevi) Tribes for the past several years, building relationships. As part of that coordination, we are working with Tribes to identify opportunities for incorporating traditional ecological knowledge and management on the Refuges, which can benefit tribal interests regarding wildlife conservation and habitat management. Tribal involvement and consultation will occur as part of the planning and implementation portion of this project.

3. ***Making investments to support the Administration's goal of creating millions of family-supporting and union jobs.*** *This includes establishing a new Climate Conservation Corps Initiative to put a new generation of Americans to work conserving and restoring public lands and waters, increasing reforestation, increasing carbon sequestration in the agricultural sector, protecting biodiversity, improving access to recreation, and addressing the changing climate.*

   Answer: This project will require contracting both services and significant building materials for wildlife water developments, thus supporting business growth and job creation or retention. The project is designed to protect biodiversity, including desert bighorn sheep and a suite of other desert wildlife that will make use of the new or restored water developments. The project will also result in a smaller carbon footprint as the new guzzlers will require less frequent maintenance due to improved functionality and fewer instances of emergency water hauling during dry periods due to increased capacity and rain collection efficiency.

4. ***Working to conserve at least 30% each of our lands and waters by the year 2030.*** *We will work to protect biodiversity, slow extinction rates, and help leverage natural*

climate solutions by conserving 30% of America's lands and waters by 2030. This relies on support for local, state, private, and tribally led conservation and restoration efforts that are underway across America.

Answer: Yes, the Refuge support a wealth of biodiversity. This project will stabilize populations of desert bighorn sheep and a wide variety of other wildlife, including rare and migratory birds. This project improves the oval habitat quality and suitability to native species and mitigates some effects of climate change by providing reliable water sources, especially critical prolonged drought periods and during hot summer months with ever increasing temperatures, thereby slowing help slow population declines and ultimately extinction rates on America's lands.

5. ***Centering equity and environmental justice.*** *The impacts of the multiple crises in the United States are not evenly distributed in our society. Communities of color, low-income families, and rural and indigenous communities have long suffered disproportionate and cumulative harm from air pollution, water pollution, and toxic sites. At every step of the way, Interior will engage diverse stakeholders across the country, as well as conduct formal consultation with Tribes in recognition of the U.S. government's trust responsibilities.*

   Answer: Yes, we will follow policy and when possible use the U.S. Small Business Administration's 8(a) Business Development Program. The program is designed to benefit firms that are minority-owned and controlled by socially or economically disadvantaged individuals. Disadvantaged businesses have priority to compete for any contracts connected to this project to ensure a diverse group of contractors will have the ability to bid.
   The Refuge involve the local tribes to and complete consultation for this project. This will ensure that cultural significance of desert bighorn sheep and the mountain ranges within DNWR to the cultural heritage of tribal partners is recognized and highlighted.

D. <u>USDA Forest Service Priorities:</u>

1. ***Controlling the COVID-19 pandemic***

   Answer: As per NDOW and USFWS policy, personnel and volunteers will be required to be vaccinated in order to participate on the actual construction of these guzzlers.

2. ***Providing economic relief***

   Answer: N/A

3. ***Tackling climate change***

   Answer: Climate Change has been identified as a critical threat in the SMP as Southern Nevada will experience more frequent prolonged drought periods. These guzzler projects with the modern design will increase precipitation capture and storage capacity. The new guzzler projects will be situated in locations with easier access, so a helicopter isn't necessary. This will make regular maintenance and emergency water delivery operations more efficient.

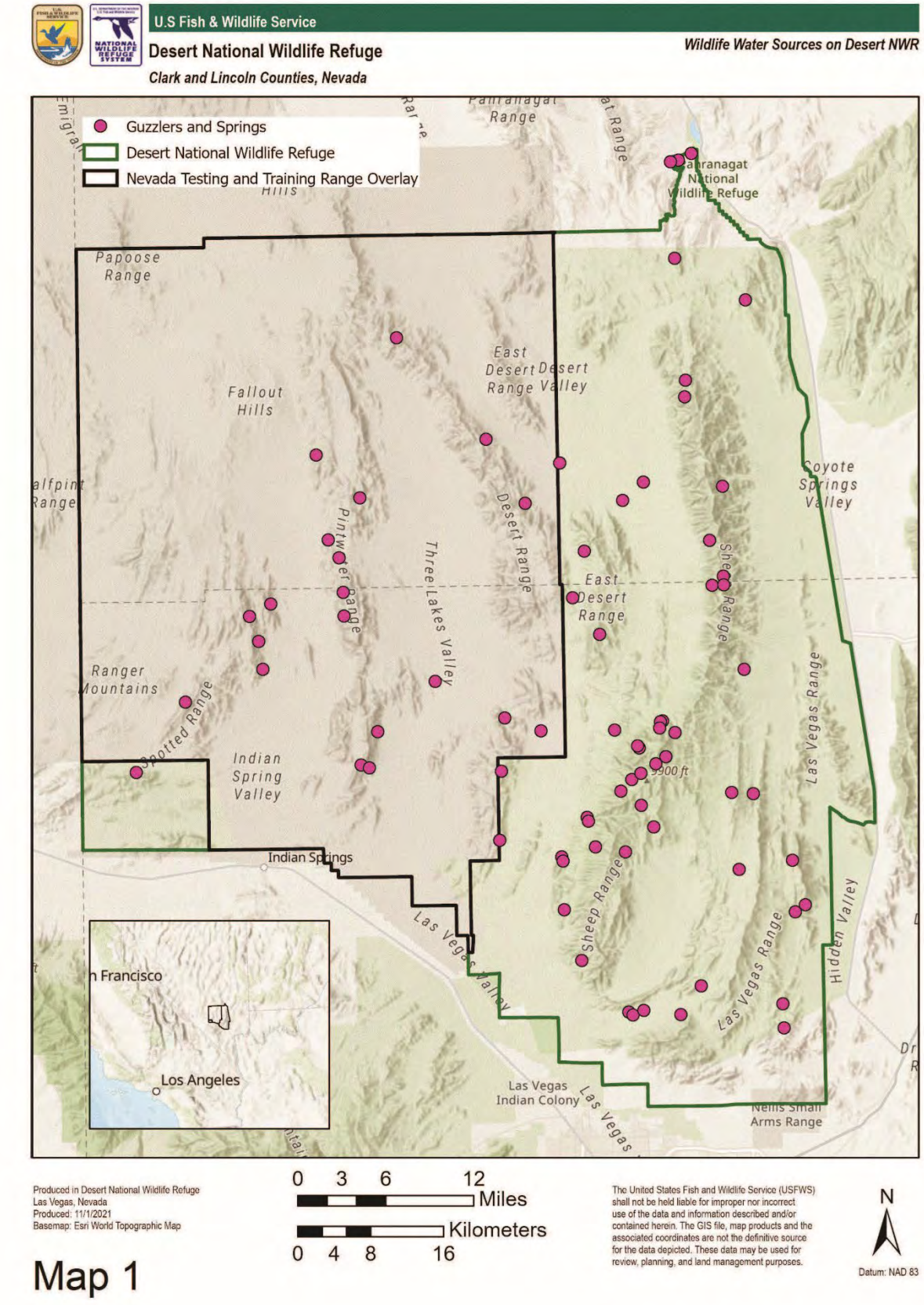
4. ***Advancing racial equity***

   Answer: N/A

5. ***Improving our workforce and work environment***

   Answer: N/A

M. MAPS



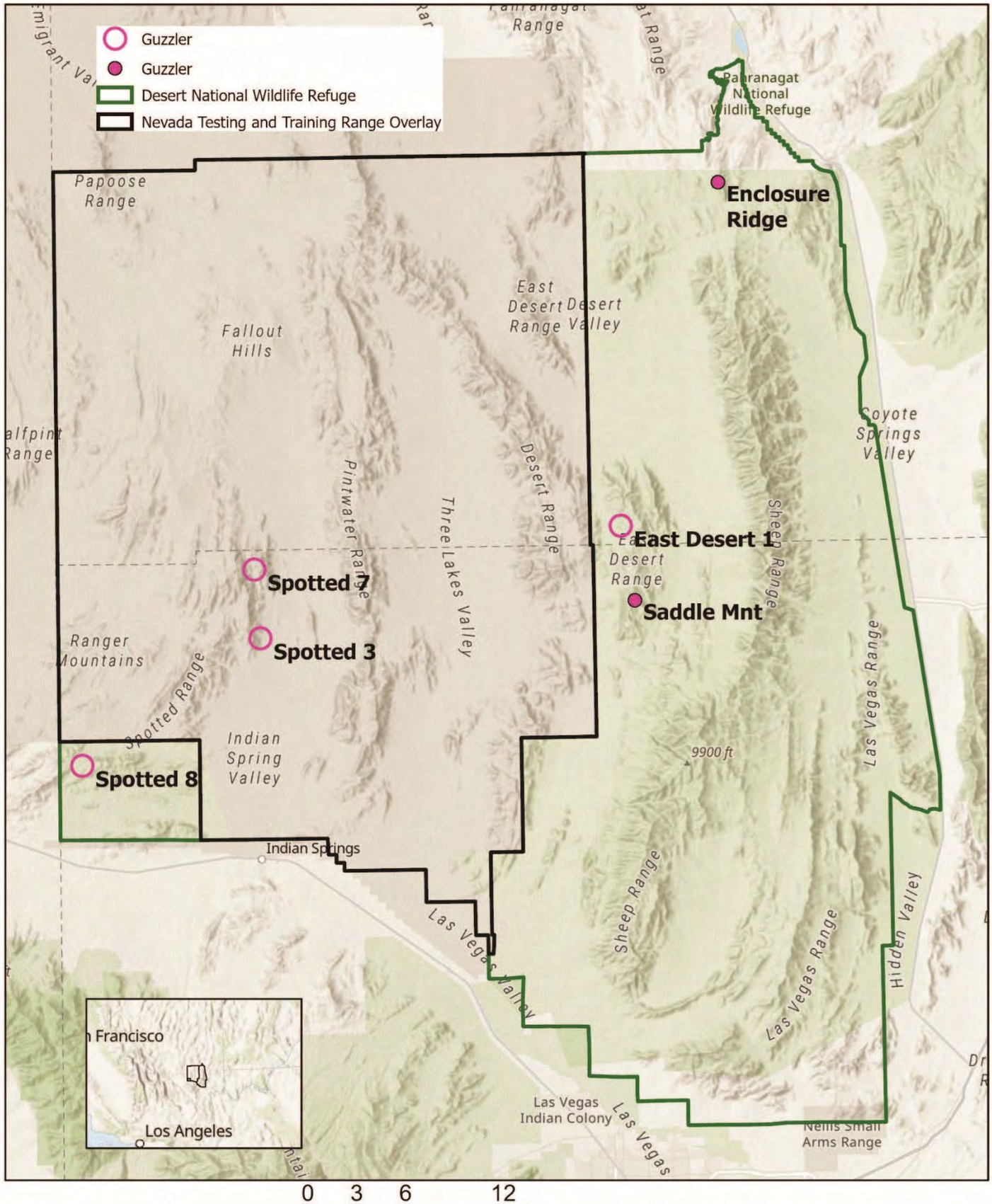
Locations

U.S Fish & Wildlife Service

Desert National Wildlife Refuge

Clark and Lincoln Counties, Nevada

Proposed Water Development Projects



0 3 6 12 Miles

0 4 8 16 Kilometers

Produced in Desert National Wildlife Refuge
Las Vegas, Nevada
Produced: 11/1/2021
Basemap: Esri World Topographic Map

N

Datum: NAD 83

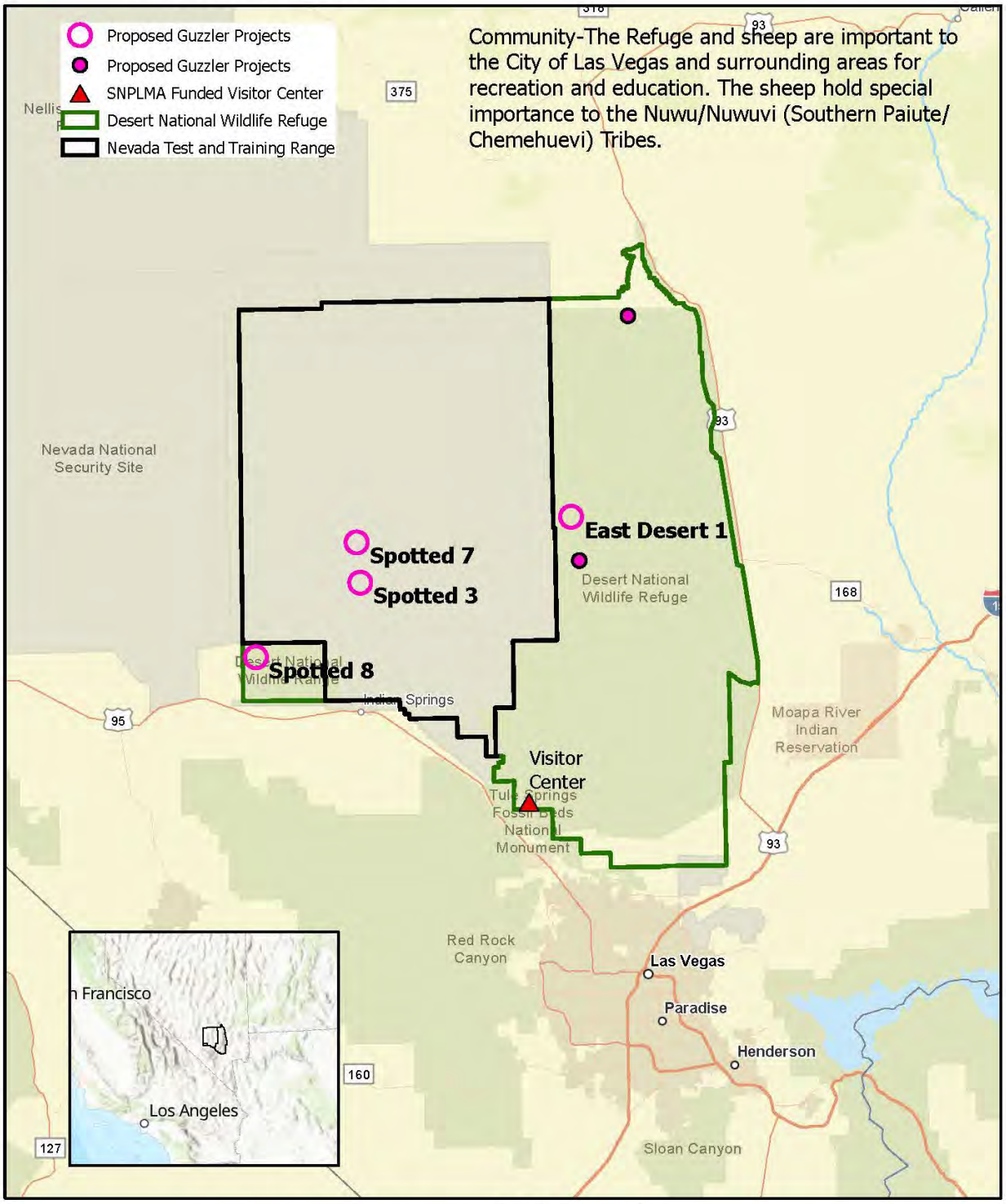
Map 2

U.S Fish & Wildlife Service

Desert National Wildlife Refuge

Clark and Lincoln Counties, Nevada

Strategic Values: Community



Produced in Desert National Wildlife Refuge
Las Vegas, Nevada
Produced: 11/1/2021
Basemap: Esri World Topographic Map

Located 15 miles north of Las Vegas, Desert NWR offers opportunities for the local community for a variety of outdoor activities, such as hunting, wildlife viewing and photography.

0 3.75 7.5 15
Miles
0 4.25 8.5 17
Kilometers

N

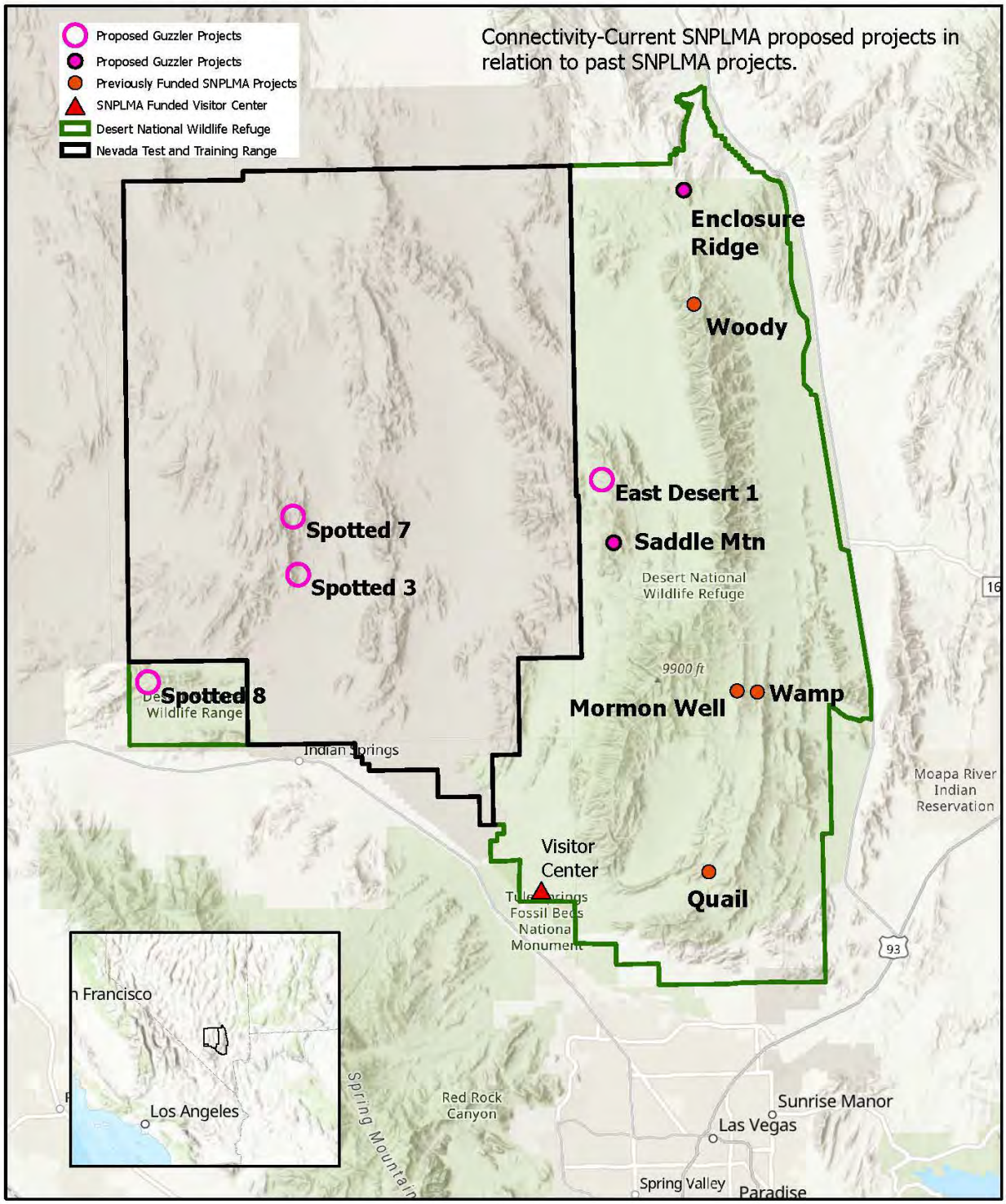
Datum: NAD 83

U.S Fish & Wildlife Service

Desert National Wildlife Refuge

Clark and Lincoln Counties, Nevada

Strategic Values: Connectivity



Produced in Desert National Wildlife Refuge
Las Vegas, Nevada
Produced: 11/1/2021
Basemap: Esri World Topographic Map

Located 15 miles north of Las Vegas, Desert NWR offers opportunities for the local community for a variety of outdoor activities, such as hunting, wildlife viewing and photography.

0 2.5 5 10
Miles
Kilometers
0 3 6 12

N

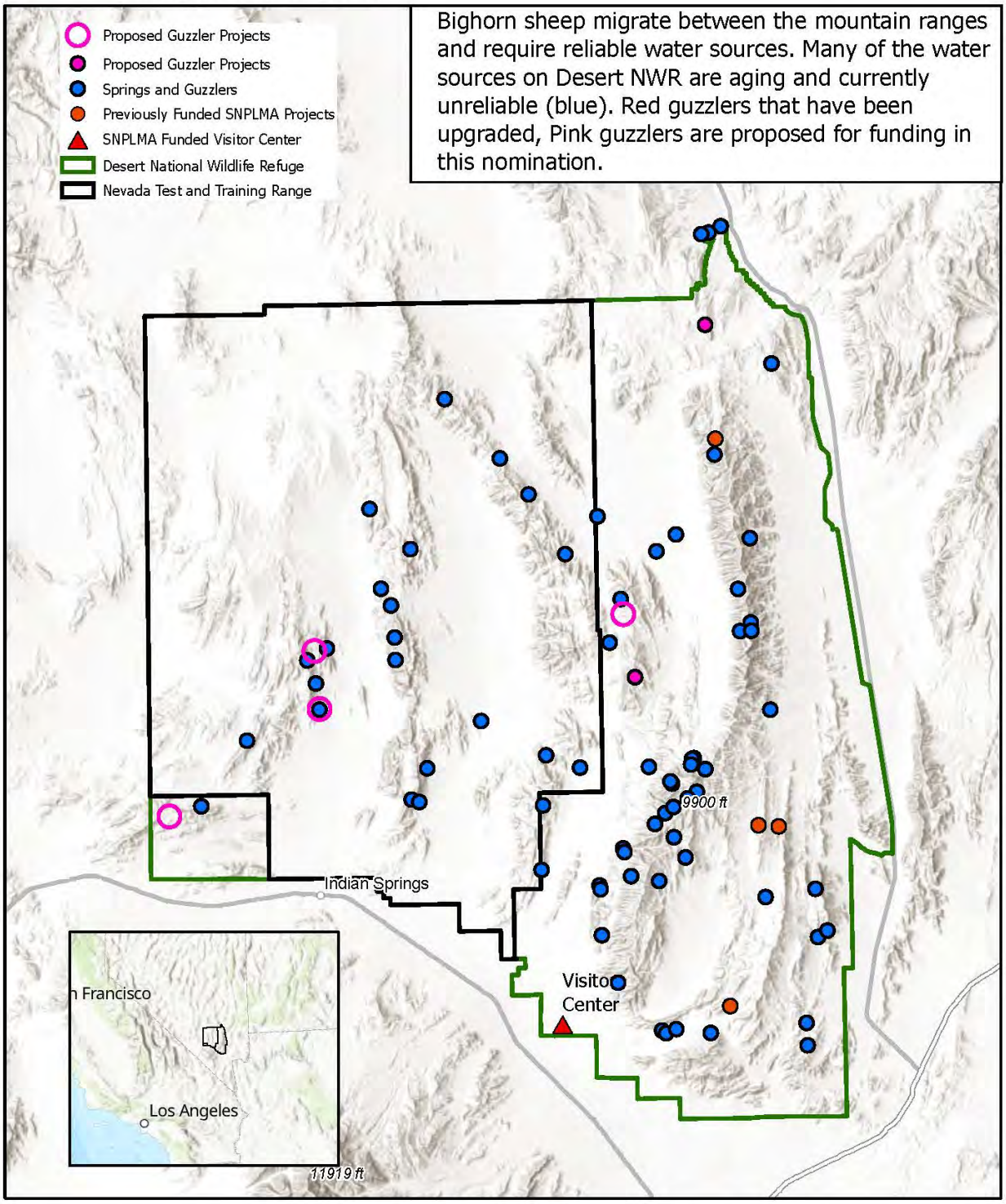
Datum: NAD 83

U.S Fish & Wildlife Service

Desert National Wildlife Refuge

Clark and Lincoln Counties, Nevada

Strategic Values: Sustainability



Produced in Desert National Wildlife Refuge
Las Vegas, Nevada
Produced: 11/1/2021
Basemap: Esri World Topographic Map

Located 15 miles north of Las Vegas, Desert NWR offers opportunities for the local community for a variety of outdoor activities, such as hunting, wildlife viewing and photography.

0 2.5 5 10
Miles
0 3 6 12
Kilometers

N

Datum: NAD 83

N. PERFORMANCE MEASURES

SNPLMA STRATEGIC PLAN GOAL 1: Sustain the Quality of the Outdoor Environment by Conserving, Preserving, and Restoring Natural and Cultural Resources		
Performance Measures for Habitat Enhancement	**Definition of Performance Measure**	**Quantity**
H8 - Number of Water Developments Constructed or Improved for Wildlife	Report the number of water developments for use by wildlife constructed or improved/repaired within all habitat types. Existing projects may be counted under this performance measure if functional improvements/repairs are made as defined in the project nomination. Report each development constructed or improved as one unit (e.g., one project may have three water developments).	6
H15- Number of Conservation Actions Implemented for Non-Listed Species	Report the number of individual conservation actions for species not listed under the Endangered Species Act. Note: One distinct action repeated 5 times over the course of the project would report as 1 action, not 5. The same conservation action conducted at distinct sites can be counted once for each site (this does not apply to individual plots within one single project site). The number of acres over which the actions were taken are reported under either H4 or H6. Report each action as one unit.	6

SNPLMA STRATEGIC PLAN: Other Performance Measures that Also Support the Three Values for SNPLMA Implementation of Sustainability, Connectivity, and Community		
Other Performance Measures	**Definition of Performance Measures**	**Quantity**
O1 - Number of Hazardous Sites Remediated	Report the number of hazardous sites where remediation actions are completed. Actions to be included are: removal of safety hazards, clean-up operations, restoration actions, and water quality remediation actions. Do not report temporary remediation measures. Report each site as one unit. When applicable, also report total weight of trash removed during clean-up operations.	2

O9 – Number of GIS Databases Generated and/or Map Layers Produced	Report the number of GIS databases created and/or the number of map layers produced to identify the location of natural resources within the environment and provide mapping for use in educational programs. Report each database or map layer as one unit.	1
O10 – Number of Volunteers Used	Report the number of volunteers used in educational or interpretive programs and for surveying, monitoring, or restoration activities. Report each volunteer as one unit.	85
O11 – Number of Databases, Reports, and Other Electronic Means of Documenting Activities	Report the number of new databases, electronic reporting tools, mathematical/statistical models, websites, or reports developed and implemented to document project and/or program work. Report each electronic document or method developed as one unit.	1

O. PHOTOS

Figure 1. Existing apron and upright tanks at the Enclosure Ridge project. Both apron and tanks need tobe replaced due to age and upgraded to create larger precipitation collection and storage capacity.

Figure 2. Old style float-valve drinker of the Enclosure Ridge project. The float-valve is the weakest linkin this system, is prone to complete failure and requires regular replacement. The drinker will be replaced with a self-leveling drinker.

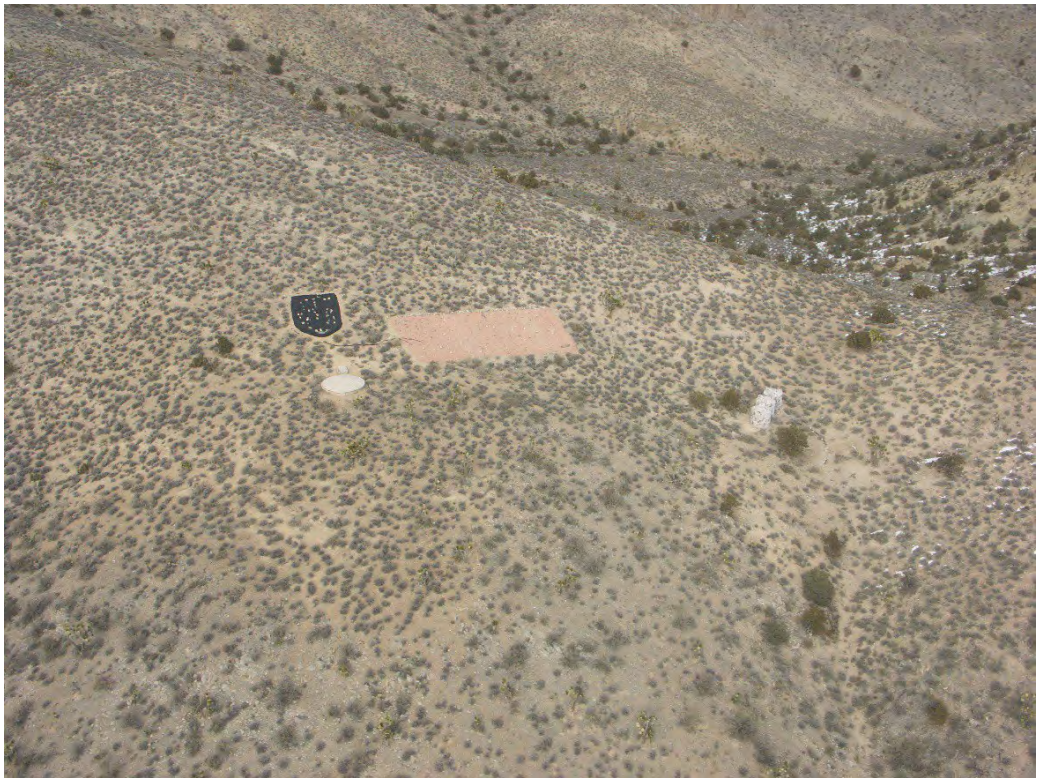


Figure 3. Overview of the Saddle Mountain project with older Hypalon aprons in the center and the 3upright tanks further to the right. The black apron and old circular storage tank are inoperable. This system will be replaced by a guzzler of updated design.

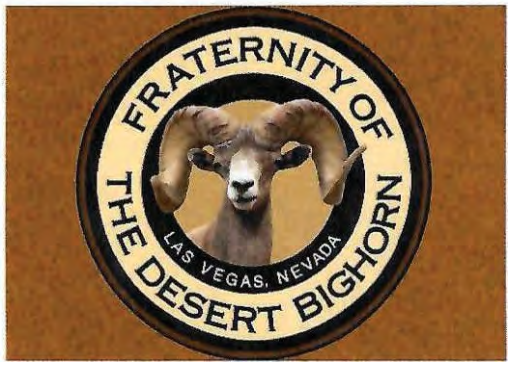
Figure 4. Existing tanks at the Saddle Mountain project. The tanks are in poor condition and the earthbeneath the tanks is eroding away, the tanks will be replaced.

Figure 5. An example of the new, larger capacity flat tanks utilized in the modern guzzler design. Theseare the tanks at the already updated Joe May project.

Figure 6. Example of a self-leveling drinker at the White Sage Gap project. There are no moving partswhich lowers maintenance needs at this site. All upgrades and new projects will use this design.

P. SUPPORT LETTERS

1. Fraternity of the Desert Bighorn
2. Nevada Department of Wildlife, Biologist
3. US Geological Survey
4. NV Department of Wildlife, Deputy Director



November 1, 2021

Mr. Robert Wandel
Assistant District Manager
SNPLMA Division
Bureau of Land Management
4701 N. Torrey Pines Dr.
Las Vegas, NV 89130

Dear Mr. Wandel,

The Fraternity of the Desert Bighorn is a 501-C-3 volunteer organization that works with Land Management Agency's installing and maintaining big game water developments (guzzlers). We wholly support the request from the Desert National Wildlife Refuge for their request for funding from SNPLMA Round 19 for the installation of six (6) guzzlers.

We would also be supplying volunteer labor for these installations with between 35 and 55 volunteers per project with an average of approximately 500 hours plus travel for each project.

We have been assisting the Refuge with installations for over 40 years and look forward to working with them for the next 40 years. If you have any questions, please feel free to contact me at the number below.

Note: Please reference the attached email from the Desert National Wildlife Refuge.

Sincerely,

Fraternity of the Desert Bighorn

702-499-7501
President

Reply all | Delete | Junk | Block

RE: [EXTERNAL] NDOW

From: Sam A. Hughes <sahughes@ndow.org>
Sent: Friday, November 12, 2021 2:50 PM
To: Weise, Christa <christa_weise@fws.gov>
Cc: Daehler, Michael A <michael_daehler@fws.gov>
Subject: [EXTERNAL] NDOW

Hello,

For putting an exact number to the process of building a wildlife water development project, (Guzzler) on the Desert National Wildlife Refuge.

- Site location.
    - 2 employees working a 10 hour day.
        - For 1 day, at an average rate of $38.00 per hour - **$760**
- Material transportation, slinging, and construction.
    - 5 Employees working 10 hour days
        - Over the course of 4 days, at an average rate of $38.00 per hour - **$7,600**
- Vehicles
    - Average rate of 150 miles per day.
        - 600 miles per vehicle
            - 3,300 miles for sighting, staging, and building at an average rate of $0.58 per mile - **$1,914**
- Total Guzzler contribution - **$ 10,274**
- **Total Guzzler Contribution for 6 wildlife water developments - $61,644**

Thanks - Sam Hughes
Nevada Department of Wildlife
Southern Region Water Development Biologist

U. S. Department of the Interior
U. S. GEOLOGICAL SURVEY
BIOLOGICAL RESOURCES DIVISION
WESTERN ECOLOGICAL RESEARCH CENTER
Boulder Field Station
500 N. Stephanie St.
Boulder City, NV 89074

4 November 2021

Bureau of Land Management
SNPLMA Division
4701 N Torrey Pines Dr.
Las Vegas, NV 89130

Attention: Terri Halbardier - Program Manager Conservation Initiatives

RE: SNPLMA Round 19 Project
Desert National Wildlife Refuge - Wildlife Water Development for Desert Bighorn Sheep Conservation

To Whom It May Concern:

The U.S. Fish and Wildlife Service is requesting funding through SNPLMA Round 19 to upgrade, replace, or construct new guzzlers on the Desert National Wildlife Refuge (NWR). As a biologist who has spent the past 30 years studying desert bighorn sheep, including sheep populations in the Desert NWR. (An Assessment of the Desert Bighorn Sheep in the Desert National Wildlife Refuge, SNPLMA Round 9 Conservation Initiatives: Project Number FW 67), I am writing this letter to emphasis the importance of this project for the conservation of bighorn sheep and their habitat on the Desert NWR. The Interagency Sheep Management Team have identified changes in water availability due to less reliable rainfall patterns and periods of drought, potentially due to climate change. Loss of available water is a critical threat to desert bighorn sheep on the refuge.

Water is always a critical element in desert environments, and on the Desert NWR water is available to wildlife at over 60 sources scattered across the refuge, including both springs and 'guzzlers,' or man-made water catchments, designed to capture precipitation. However, most of the existing guzzlers on the refuge are decades old and have fallen into various stages of disrepair. They are of an outdated design that uses float valves which are prone to failure. The new projects and upgrades will result in guzzlers of a newer and more efficient self-leveling gravity fed system and increase collection and storage capacity of installations. Site selection for new or replacement guzzlers will be completed with several variables in mind, including potential for bighorn sheep use, distance to other water sources, accessibility for major maintenance and supplemental water delivery during droughts.

The nomination proposes building or improving six wildlife guzzlers within three mountain ranges on Desert NWR. The new projects will be built in strategic locations to increase accessibility and create more reliable water sources for wildlife, particularly desert bighorn

sheep. Additionally, the guzzlers will benefit many of the herptiles, over 50 mammal and 320 bird species documented on the refuge. I cannot over-stress the importance of this project for bighorn sheep and for the other numerous species on the Desert NWR who rely on these water sources.

The proposed work is a collaboration with the Nevada Department of Wildlife, the Fraternity of Bighorn Sheep (NGO) and other key partners including all members of the Water Working Group of the Interagency Desert Bighorn Sheep Management Team. I have complete confidence that this project can successfully be completed by the personnel involved in this proposal and have tremendous respect for their expertise, ingenuity, and their ability to work collaboratively.

Sincerely,
Kathleen Longshore, PhD

Kathleen Longshore, PhD
Research Wildlife Biologist
USGS Western Ecological Research Center
P.O. Box 60640
Boulder City, NV 89005

STATE OF NEVADA

DEPARTMENT OF WILDLIFE

6980 Sierra Center Parkway, Suite 120
Reno, Nevada 89511
Phone(775)688-1500 • Fax(775)688-1595

STEVE $!SOLAK
Governor

TONYWASLEY
Director

BONNIE LONG
Deputy Director

JACK ROBB
Deputy Director

November 4, 2021

Bureau of Land Management
SNPLMA Division
Attn: Teri Halbardier- Program Manager Conservation Initiatives
4701 N Torrey Pines Dr.
Las Vegas, NV 89130

Re: SNPLMA Round 19 Project - Desert National Wildlife Refuge Wildlife Water Development for Desert Bighorn Sheep Conservation

To Whom it May Concern:

The Nevada Department of Wildlife (Department) would like to take this opportunity to support the U.S. Fish and Wildlife Service Desert National Wildlife Refuge's **(DNWR)** Southern Nevada Public Land Management Act (SNPLMA) funding proposal to rebuild existing and install new wildlife water developments on the DNWR. Wildlife water developments, or "guzzlers", provide a reliable source of water to wildlife and play an essential role in sustaining desert bighorn sheep and many other wildlife species, including 50 species of mammals and over 350 species of birds within the DNWR.

The Department and DNWR have a strong collaborative working relationship and continue to coordinate on desert bighorn sheep and wildlife water management on the refuge. The Department's southern region water development crew is responsible for managing water developments throughout central and southern Nevada, including those projects within the DNWR. As part of the DNWR's funding proposal, the Department will be contributing use of equipment, vehicles, and experienced personnel to maintain, upgrade, or replace guzzlers within the refuge. Where new guzzlers are needed, the Department will help identify the best locations. Additionally, the Department will supply approximately five (5) employees and state-owned resources to complete construction of the project(s). Historically, these types of projects have been very popular volunteer events, and the Department anticipates up to 50 volunteers from organizations such as the Fraternity of the Desert Bighorn will contribute their time and manpower to assist with construction needs.

Wildlife water developments are a critical tool for managing and sustaining desert bighorn sheep in Nevada and on the DNWR. The Department fully supports the DNWR funding proposal and commits to assisting the DNWR wherever necessary to complete the project work.

Sincerely,

Jack Robb
Deputy Director
Nevada Department of Wildlife

Southern Nevada Public Land Management Act
Conservation Initiatives
Round 19

Pahranagat National Wildlife Refuge

Modernization of Groundwater Wells for Wildlife Refuge HabitatConservation

Amount Requested: $1,441,426

A. BACKGROUND INFORMATION

The U.S. Fish and Wildlife Service (Service) is requesting funding to replace and modernize two agricultural wells at Pahranagat National Wildlife Refuge (Refuge). The Refuge includes two groundwater wells with water rights to pump up to 1,685 acre-feet per year. However, the wells are currently either underperforming or inoperable due to old, outdated and damaged well components. Receiving funding to repair these wells will increase water available for management of wetland, marsh and riparian habitat, support wildlife conservation, enhance visitor experience, and protect the Refuge's natural resources in times of drought.

Water is a precious resource in the desert and at Pahranagat National Wildlife Refuge.

Located in the Pahranagat Valley of southern Nevada, the Refuge was established in 1963 to provide habitat for migratory birds, especially waterfowl. The Refuge is but one link in a chain of increasingly rare open water and riparian habitats across the arid western United States and especially across Nevada. Perennial water on the Refuge sustains a variety of habitat patches, including open lake, marsh, wet meadow, alkali meadow, and riparian woodlands that provide valuable aquatic and wetland habitat for many of Nevada's native species. The Refuge provides essential stopover habitat for over 230 species of migratory birds traveling along the Pacific Flyway in the spring and fall. Willow groves on the Refuge provide critical nesting habitat for the endangered southwestern willow flycatcher (*Empidonax traillii extimus*) and migration habitat for the threatened western yellow-billed cuckoo (*Coccyzus americanus occidentalis*). Marshes on the Refuge provide migration habitat for the endangered Yuma Ridgway's rail (*Rallus obsoletus yumanensis*), while springs are home to rare aquatic species such as the Pahranagat speckled dace (*Rhinichthys osculus veilfe*r), and northern leopard frog (*Lithobates pipiens*). The Pahranagat valley is an extremely important cultural landscape to many people, especially the Nuwu/Nuwuvi, or Southern Paiute/Chemehuevi peoples. The Refuge stewards a diversity of prehistoric and historic resources, including Black Canyon Archaeological District. The Refuge protects and preserves these historical and cultural resources so that current and future generations may connect with their human history and heritage.

The Refuge provides a welcoming oasis, not only for unique and migratory wildlife species, but also attracts visitors from large cities and rural areas that come to enjoy the outdoors and gain an appreciation of an important Nevada wetland. Opportunities for birding, hiking, hunting, nature-journaling, cultural and historical tourism, and wildlife photography bring visitors to the Refuge and help connect them with nature at this oasis in the desert.

Water is one of the Refuge's most important resources, as its availability and management allow us to create and maintain wetland habitats that are suitable to meet the needs of the wildlife that depend on the Refuge. The Refuge's primary source of water is sustained flows of surface water from upstream springs, namely Crystal and Ash Springs, primarily during the fall and winter, with very little water entering the Refuge during the spring and summer. While the total volume of water flowing from the upstream springs has not changed significantly over the past century, the total volume of water entering the Refuge annually has declined by up to 2,000 acre-feet since the 1960s. Drought conditions exacerbated by climate change and increased water usage upstream of the Refuge create chronic water shortages, especially during the summer. Due to the scarcity of water shared by upstream ranchers and the Refuge, today's managers face a challenge to maintain wetland habitats with a limited water supply. In particular, wetland

habitats near the Visitor Center suffer from water shortages in the summer months, which limits habitat quality, promotes desertification, and negatively impacts visitor experiences.

The Refuge has groundwater rights for two wells, but well deterioration and pump inefficiencies that increase operation costs currently prohibit the use of this water.

Fortunately, there is a reasonable solution to address water shortages at the Refuge. The Refuge has two groundwater wells, north well and south well, with water rights to pump up to 1,685 acre-feet per year; however, the wells are currently either underperforming or inoperable due to old, outdated and damaged well components. Due to the wells' current condition and prohibitive operation costs to run the wells, the Refuge is unable to use even a small fraction of its full water allotment. If these wells were replaced and their pumping capability modernized, and the Refuge was able to pump its full allotment of water rights, the Refuge would have approximately 25% to 50% more water available for use on an annual basis. Increasing the Refuge's available water budget by such a large volume would greatly bolster the Refuge's ability to provide critical habitats for migrating birds and other wetland-dependent wildlife and would improve visitor experience on the Refuge.

The north well delivers water to an existing water delivery system from which the water can be diverted to flow through Black Canyon or be delivered to the Refuge's pipeline. This pipeline (construction was funded by SNPLMA CI39-Water in the Desert: Water Delivery System) connects to several marsh units and the Lower Lake. The north well was constructed in 1962 and is suffering from a combination of aging and material-related deterioration. During its initial well test in 1962, this well pumped 800 gallons per minute (gpm). By 2007, the well could pump only 350 gpm, and the well in its current state is only able to pump 45 gpm, roughly 5% of its original capacity. A recent inspection by a well contractor revealed several issues leading to this decrease in function, including a cracked and corroded well casing, a broken pump-end, a broken motor, and a substantial hole in the drop pipe.

The south well delivers water to the Refuge's concrete delivery ditches that connect to the meandering stream, which passes through the Visitor Center Trail Area, the Dove Unit, the WHIN Unit, and the marshes that ultimately feed the Lower Lake. At its construction in 1971, the south well drew 420 gpm, but this amount had decreased to 270 gpm by 2009 and flows are currently between 100 and 115 gpm. Because it was originally constructed out of materials that are not corrosion-resistant, severe corrosion is evident throughout the casing and this well is at risk of collapse. After lowering a camera into the well, the well contractor recommends that the South Well be redrilled in an adjacent location due to the deterioration of the well in its current position.

The north and south wells need to be replaced using modern, corrosion-resistant materials and powered with solar energy to ensure their ability to provide water for the Refuge year-round.

We propose to improve the operation and maintenance of the north and south wells by replacing the wells and their associated components with long-lasting, corrosion-resistant materials that will increase the life expectancy of the wells and decrease the frequency of maintenance repairs. To reduce operating costs, the Refuge proposes to use sustainable solar energy as the primary energy source to power groundwater pumping from the wells. This energy-independent solution gives the Refuge the ability to bring groundwater to the surface in

times of need without the high costs and negative environmental impact associated with running the system completely on the power grid. The wells will only use commercial power in emergency situations such as filling firefighting equipment, supplementing wildlife guzzlers during drought, or when short term higher outputs are needed to immediately impact wetland habitats. The Refuge proposes connecting the wells to the power grid via buried service lines to prevent collisions with migratory birds. Buried service is required by the Migratory Bird Treaty Act to reduce "incidental take" of migratory birds within migratory bird refuges.

Several areas of the Refuge would directly benefit from an increase in water availability, contributing to resource conservation and protection and enhancing visitor experience.

Typically, what little water the Refuge has at its disposal during the summer months must be used to maintain breeding, feeding, and resting habitat for waterfowl and other migratory birds, including the endangered southwestern willow flycatcher. If the north and south wells were fully functional, and inexpensive to run by using solar energy, the increase in available water would make an extensive impact on the Refuge's wetland and riparian habitats. By pumping groundwater from the wells into the Refuge's existing water delivery systems, several areas of the Refuge would directly benefit from an increase of surface water availability, contributing to resource protection, habitat conservation and restoration, and enhancing visitor experience.

The Visitor Center Trail area is one of the most visited areas of the Refuge. There are several short, accessible trails with interpretive signs and shade structures (improved by SNPLMA FW38 – Visitor Center Trails Improvement). The Visitor Center Trail pays homage to Nuwu/Nuwuvi culture, and tribal members collaborated with U.S. Fish and Wildlife Service (Service) staff in designing the trail and its exhibits. The centerpiece of the trail is the Solitude Circle, which consists of four benches encircling a set of seven concentric blue circles representing the seven tribes of the Southern Paiute. The circle is a place of contemplation and reflection, but, unfortunately, it currently overlooks drought-stricken fields. The meandering stream channel that travels through the area of the trails has been dry recently due to drought conditions, the need for water to be used elsewhere on the Refuge, and the lack of water being produced from the dilapidated wells. These conditions have led to a proliferation of invasive species in this area, with historic wet meadows and wetlands now dominated by Russian knapweed (*Rhaponticum repens*), kochia (*Bassia scoparia*), and Russian thistle (*Kali tragus*), and an overstory of cottonwood (*Populus fremontii*) and willow (*Salix* spp.) trees that are chronically stressed or have died. Many of the interpretive signs emphasize the ecological importance of this area as an oasis for migrating birds, but this concept may be difficult for visitors to appreciate when much of the vegetation surrounding the trials is either weedy invasive plants or native plants suffering from drought conditions. With the increase in available water from functional and modernized wells, the Refuge could divert water once again through the meandering channel to support rare native riparian vegetation and combat invasive species through habitat enhancement and restoration projects adjacent to the trails.

Black Canyon is a culturally important area of the Pahranagat Valley and is listed as a significant Archaeological District by the National Register of Historic Places. The area is well known to Native Americans, archaeologists, rock writing enthusiasts, and the local community of Lincoln County. Trails, shade structures, and interpretive kiosks were recently installed in this area (funded by SNPLMA FW76 – Black Canyon Cultural Resource Protection) and a turn lane

from the highway was created, providing easier and safer access for the public. The scope of this project proposal would allow water from the north well to flow into the stream channel that flows through the canyon, which is highly visible and supports ecologically important riparian habitat. The overall visitor experience would likely be enhanced in Black Canyon as a result of increased water flows into the canyon. Maintaining lush riparian and wetland habitat in Black Canyon helps to preserve the integrity of the site by maintaining the ecological context that supported its creation. By increasing water delivery capabilities in this area, we can restore the riparian corridor between the Upper Lake and the visitor center area.

The currently degraded riparian habitat in the Visitor Center Unit and Black Canyon Unit, if managed properly, has the potential to become suitable habitat for the endangered southwestern willow flycatcher (*Empidonax trailii extimus*). A portion of the North Marsh Unit on the Refuge supports mature Goodding's willow (*Salix gooddingii*), Fremont cottonwood (*Populus fremontii*) and coyote willow (*Salix exigua*) in soils that are saturated from storing water that flows to the Refuge from Ash and Crystal Springs in summer. This forest area supports one of the largest nesting populations of southwestern willow flycatchers in Nevada's Lower Colorado River system. Breeding southwestern willow flycatchers require dense riparian vegetation typically associated with surface water nearby or adequate soil moisture. Prior to human alteration of the Pahranagat Valley, streams that carried spring water were lined with a narrow riparian woodland corridor and flowed through the valley, creating a unique mosaic of wetland, riparian and adjacent upland communities. Both Black Canyon and the Visitor Center Trail areas support cottonwoods and willows, but these trees are chronically stressed because the Refuge currently does not have enough water to keep these areas irrigated during the spring and summer because the little water the Refuge has in the summer must be used to maintain wetland habitats for breeding and migrating waterfowl. Replacing the wells would increase water availability in the summer and using that water in riparian areas could support their development into suitable southwestern willow flycatcher habitat, like the forest in the North Marsh Unit.

The Bluff Unit is a 30-acre unit of the Refuge that, before the implementation of a water delivery pipeline (CI39 – Water in the Desert: Water Delivery System) had been cut off from the water delivery system for over six years. This unit now has the potential to be flooded to provide habitat for nesting waterfowl, and waterfowl have been observed nesting in this unit. However, during the past two years, the Refuge has not had sufficient available water to keep this unit flooded throughout the entirety of the breeding season. As a result, by the time the ducklings are leaving the nest, the unit is beginning to dry up, decreasing the survival probability of the ducklings by reducing available habitat, cover, and food sources. Modernizing the wells will allow the Refuge to keep the Bluff Unit inundated until the ducklings are old enough to vacate the area on their own. In addition, we propose to actively restore wetland vegetation in this unit by planting alkali bulrush (*Bolboschoenus maritimus*) and/or other wetland-obligate native species that are beneficial to waterfowl and will compete with non-native and invasive species (*e.g.*, tall whitetop (*Lepidium latifolium*)).

The West Dove Unit was historically a wet meadow, with a portion of the meandering stream running through it. Recent droughts and decreased water flows have impacted species richness in the native plant community and promoted the pioneering of invasive species. This area has been important to the endangered Pahranagat Valley montane vole (*Microtus montanus fucosus*), as well as the Lower Colorado River Valley population of sandhill crane (*Antigone canadensis*). Recent telemetry projects have identified the Refuge as a critical fall migration staging area for this population of sandhill crane. With increased water availability, the Refuge will be able to

reintroduce water to the meandering stream, which flows through the West Dove Unit, improving hydrology in the wet meadow. This would have immediate positive impacts on wet meadow plant diversity and overall habitat health of the West Dove Unit, which would improve habitat conditions for the Pahranagat Valley montane vole and improve foraging habitat for migrating sandhill cranes.

Increasing our ability to use groundwater will augment our ability to manage and restore wetland, meadow, and riparian habitats throughout the Refuge, which in turn will improve wildlife habitat, biological communities and visitor experiences. To increase the likelihood of success in restoring the areas noted above, primarily the Visitor Center Unit and the Bluff Unit, we will implement an active restoration program in these areas. Because the Refuge only has two permanent full-time employees, we will hire a Restoration Biologist to oversee the restoration activities in these and other areas of the Refuge that will be served by increased available water from the wells. We will engage the local community by holding planting events as an opportunity to educate volunteers about the importance of the new habitat they are helping to create.

Relevant Agency Approved Land Use Plans:

- Desert National Wildlife Refuge Complex Final Comprehensive Conservation Plan and Environmental Impact Statement – August 2009
- Final Recovery Plan – Southwestern Willow Flycatcher (*Empidonax traillii extimus*) - August 2002

This proposal is not an interagency project.

a. Describe Relationship to prior Approved Phases or Related SNPLMA Projects and Anticipated Future Phases

This project will improve areas served by the following prior SNPLMA projects:

- FW76 Black Canyon Cultural Resource Trail – This project provides the Refuge with the ability to use green energy to move water through the Black Canyon meandering stream that runs adjacent to this trail. This project will provide needed water through the Black Canyon Archaeological District to maintain habitat restoration and cultural resources that make the Black Canyon Unit a spiritually significant location for the Nuwu/Nuwuvi people.
- FW37 Restoration of Black Canyon – FW37 contributed to restoration of native riparian species adjacent to the meandering stream that flows through Black Canyon. This project will allow adequate irrigation of the restored areas to improve survival of native species by restoring historic water conditions through the canyon.
- FW34 Visitor Center Construction Project – The Visitor Center was designed and constructed along the meandering stream that represents remnants of channels created by the historic White River, which now supports rare riparian habitats. Due to limited surface water flows during the summer months, the meandering stream only receives water in rare times of excess, unallocated water. The project would provide a feasible water source using the Refuge's groundwater rights and green energy to keep the receding riparian habitat surrounding the Visitor Center from being lost.
- FW38 Visitor Center Trails Improvement – The Visitor Center Trail area is one of the most visited areas of the Refuge. There are several short, accessible trails with interpretive signs and shade structures that were improved by SNPLMA FW38 Visitor Center Trails Improvement. The Visitor Center Trail pays homage to Nuwu/Nuwuvi culture, and tribal members collaborated with Service staff in designing the trail and its exhibits. The meandering stream channel that travels through the area of the trails has been dry recently due to drought conditions, the need for water to be used elsewhere on the Refuge, and the lack of water being produced from the dilapidated wells. These conditions have led to a proliferation of invasive species in this area, with historic wet meadows and wetlands now dominated by invasive species and an overstory of cottonwood and willow trees that are chronically stressed or have died. Many of the interpretive signs emphasize the ecological importance of this area as an oasis for migrating birds, but this concept may be difficult for visitors to appreciate when much of the vegetation surrounding the trials is either weedy invasive plants or native plants suffering from drought conditions. With the increase in available water from functional and modernized wells, the Refuge could divert water once again through the meandering channel to support rare native riparian vegetation and combat invasive species through habitat enhancement and restoration projects adjacent to the trails.
- FW39 Water in the Desert: Water Delivery System – The project nomination will have direct ties to the Refuge water delivery system that currently supplies water to the water delivery system pipeline (FW39). The project will provide surface water augmentation to the wetland habitats that receive water from the underground water delivery system, including the Bluff Unit. As a result of decreased surface water inflows to the Refuge, the Bluff Unit has not received water in over six years. As the hydrologic cycle decreased, the unit has experienced constant desertification, resulting in an onslaught of invasive

species and upland plants taking hold. Since FW39 has allowed the Refuge an efficient way to transport water throughout the Refuge, the Refuge can supply this unit with water. With the proposed addition in water, as well as the proposed wetland restoration in this project proposal, the Bluff Unit will again be a productive wetland management unit for migratory birds.

- Recently Funded SNPLMA Round 18 Upper Lake Modernization and Water Management Improvements – Water from the wells will be delivered to improved water management structures funded in Round 18 and will allow the Refuge to further modernize the water delivery and water conservation practices used to manage wetland habitats in the desert southwest. Water augmentation through the project nomination will increase the available water and will have significant impacts to the Refuge's long-term plan to manage the wetland habitats in the face of long-term droughts and climate change.

b. Acknowledgement of Stand-Alone Project and no Guarantee of Funding for Future Phases

We acknowledge that this is a stand-alone project with no guarantee of funding for future phases.

B. SNPLMA STRATEGIC PLAN VALUES

Conservation Initiative projects have two goals identified in the Strategic Plan:

- Goal 1: Sustain the quality of the outdoor environment by conserving, preserving, and restoring natural and cultural resources.
- Goal 2: Improve the quality of life for all publics in urban and rural communities by enhancing recreational opportunities that connect people with the outdoor environment.

Nominated projects should meet these goals by focusing on the three SNPLMA core values, connectivity, sustainability, and community. Every nomination must explain how the three values are promoted by the project.

1. Sustainability:

   The availability of surface water fluctuates every year, with chronic shortages in recent decades on the Refuge. By tapping into groundwater resources, and powering wells with solar energy, we will increase the durability and sustainability of this system, ensuring our ability to support and manage approximately 3.5 miles of important riparian corridors and approximately 1,671 acres of wetland habitats in the near and long term, even in years when rainfall is low or upstream water usage is high. The Refuge is responsible for operating and maintaining the wells and using the water from these wells to conserve, preserve, and restore natural resources of the Pahranagat Valley.

2. Connectivity:

   This project will allow Refuge staff to divert water through existing corridors that connect important riparian habitats throughout the Refuge. By ensuring these habitats have adequate water through the dry summer months, we will protect the integrity of

these habitats, preventing desertification or invasion of these areas by non-native species, and maintaining the ecological context of important cultural sites. In addition to connecting these habitats locally, improving these areas at the Refuge furthers the Refuge's purpose to protect important wetlands and wet meadows for wetland dependent migratory birds and endangered species of the Pacific Flyway. Pahranagat is but one link in a chain of increasingly rare open water and riparian habitats across the arid western United States. The Refuge provides essential staging, wintering, and breeding habitat for over 230 species of migratory birds traveling along the Pacific Flyway. Birds migrate hundreds of miles before stopping and refueling on the Refuge before flying several hundred more miles across the Mojave and Sonoran deserts to the Imperial Valley and wetland habitats in Mexico.

Along with birds, the Refuge serves as migration hubs to Nevada's native big game species, like Mule Deer. The habitats of the Refuge provide life nourishing water and lush vegetation to fulfill critical life history requirements for the big game animals that move through the Refuge. We will actively restore approximately ½ mile of riparian and approximately 30 acres of wetland habitat by planting native species in these areas and will connect with the community by holding public volunteer planting events. These actions will enhance opportunities for visitors to connect with nature by improving birding, hiking, hunting, nature journaling, wildlife photography, and observing cultural resources.

3. Community:

This project will allow Refuge staff to provide water to riparian habitats adjacent to existing public use trails that contain interpretive panels outlining the importance of emergent wetland, riparian, and wet meadow habitat on the Refuge for migratory birds. The trails around the Visitor Center and Black Canyon showcase interpretive panels from the Nuwu/Nuwuvi perspective and the cultural importance of water in the Pahranagat Valley. By increasing available and dependable water to these wetland areas, we will improve the quality of riparian, wet meadow, and emergent wetlands adjacent to the trails. Lush vegetation will improve the quality of outdoor recreation activities in these areas for the local and regional community, such as birding, hiking, nature journaling, observing wildlife, and observing cultural resources.

C. PURPOSE STATEMENT

The purpose of this project is for the U.S. Fish and Wildlife Service to replace and modernize two agricultural wells at Pahranagat National Wildlife Refuge to increase total available water by effectively using the Refuge's existing groundwater rights to better address chronic drought conditions and water shortages. The anticipated increases in water available to the Refuge are expected to help manage and conserve wildlife and riparian habitat, enhance visitor experience, and protect the Refuge's natural resources in times of drought and long-term climate change.

D. PROJECT DELIVERABLES

1. Primary Deliverables:
   - Design, plan and install approximately 2 agricultural wells on concrete well platforms with long-lasting, corrosion-resistant well casings, solar power capability (*e.g.* solar array) and approximately 870 feet of underground power lines in the vicinity of existing Refuge wells, contingent upon environmental compliance assessments and final design considerations
   - Decommission/plug the sites of the 2 old wells to comply with State of Nevada Division of Water Resources regulations
   - Design, plan, and install approximately 1,000-2,000 feet of underground, fireproof, corrosion-resistant water delivery systems from each well to existing Refuge water delivery infrastructure

2. Anticipated Deliverables:
   - Install standpipes at both agricultural wells (no more than 2 total) to support wildland firefighting activities
   - Install approximately 6-8 butterfly valves on the water delivery system to allow efficient water management practices
   - Install 4 bollards around each well to prevent accidental collisions
   - Install approximately 2 flowmeters, one at each well outlet, to allow for monitoring real time, continuous flows and water use tracking for required reporting to Nevada Water Resources Branch
   - Install approximately 800 feet of chain link, or other effective security type fencing, around each well and solar array to prevent vandalism, damage, or theft.
   - Install approximately 2 safety signs at well sites
   - Plant up to 1000 cuttings or root stock of native vegetation in areas irrigated by the wells
   - Conduct 2 public outreach planting and/or weeding events
   - Monitor the results of restoration efforts by conducting 1 spring and 1 fall riparian sapling survival surveys and 1 summer wetland plant community survey, post planting; conduct 1 baseline avian diversity survey, followed by 1 post restoration avian diversity survey

3. Standard Deliverables:

- Contract and budget management by agency personnel throughout the project's duration, including but not limited to:
  - Developing scopes of work
  - Writing bid requests
  - Reviewing proposals/bids
  - Providing technical representation for Contracting Officer
  - Reviewing and approving invoices
  - Compiling budget information
- Project management by a Refuge employee to:
  - Oversee or implement project activities and deliverables
  - Conduct appropriate review throughout different stages of deliverables

- Coordinate with other agency personnel or contractors
- Ensure sufficient progress throughout the duration of the project

- Environmental compliance by agency personnel when applicable, such as National Environmental Policy Act, Section 106 of the National Historic Preservation Act, Section 7 of the Endangered Species Act, etc.

E. PROJECT LOCATION

Latitude and Longitude:
37.269724, -115.119192

Identify Congressional District(s):
Congressional District 4

F. PROJECT TIMEFRAME

Table 1: Deliverables and Implementation Timeframe:

Deliverable	Year 1	Year 2	Year 3	Year 4	Year 5
(1) Development of a construction design report to determine appropriate approach to complete groundwater modernization casing installation, water delivery systems, photovoltaic system install, materials, construction sequencing, and best management practices (BMPs).	Planning and Design				Final Documentation and Closeout
(2) Publication of an Environmental Assessment (EA) report, including Section 7 and 106 Cultural Resource consultations by USFWS, for groundwater modernization, to be reviewed by the public and tribal partners.	Planning and Design	Planning and Design Construction and Installation			Final Documentation and Closeout
(3) Based on the results of the EA, USFWS will publish a Finding of No Significant Impact (FONSI) statement or Environmental Impact Statement (EIS) and Record of Decision (ROD).	Planning and Design	Planning and Design Construction and Installation			Final Documentation and Closeout
(4) Two well casing installation jobs, using corrosion resistant materials.		Planning and Design	Construction and Installation		Final Documentation and Closeout
(5) Installation of photovoltaic systems		Planning and Design	Construction and Installation		Final Documentation and Closeout

Deliverable	Year 1	Year 2	Year 3	Year 4	Year 5
(6) Decommission old well sites.		Planning and Design	Construction and Installation		Final Documentation and Closeout
(7) Installation of water delivery systems, with fireproof exit locations.		Planning and Design	Construction and Installation		Final Documentation and Closeout
(8) Installation of flowmeters.		Planning and Design	Construction and Installation		Final Documentation and Closeout
(9) Installation of security fencing andsafety signage.		Planning and Design	Construction and Installation		Final Documentation and Closeout
(10)Wetland and riparian restorationwork using environmental education.		Planning and Design		Restoration and Monitoring	Final Documentation and Closeout
(11)Plant, animal, and water surveys.				Restoration and Monitoring	Final Documentation and Closeout
(12) Completing biological reports anduploading to ServCat				Restoration and Monitoring	Restoration and Monitoring
(13) Environmental permitting by USFWS agency personnel when applicable, such as required by the National Environmental Policy Act (NEPA), Section 106 of the National Historic Preservation Act,Section 7 of the Endangered Species Act, etc.	Planning and Design	Planning and Design			Final Documentation and Closeout
(14) Project management by a refugeemployee on the project	Throughout Project Duration				

Project Implementation Process

The project implementation process would generally follow the Project Timeframe and Deliverables outlined below.

Year 1:

- The Refuge Manager will work with USFWS Administrative Officer to Complete SMART workplans and request funding to initiate the project.
- The Refuge Manager will coordinate with Ecological Services to conduct needed NEPA, Section 7, Section 106 compliance, and any required permits.
- The Refuge Manager will work with USFWS contracting to contract and complete the Environmental Assessment and Finding of No Significant Impact (FONSI).
- The Refuge Manager will work with USFWS engineering to develop scope of work for well casing installation, photovoltaic array systems, water delivery supply systems, and security fencing.
- The Refuge staff will collect plant materials to start growing root stock seedlings for riparian restoration at Song Dog Nursery.
- Contract award to hire Wildlife Biologist (Restoration Biologist).

Year 2:

- The Refuge Manager will coordinate with the USFWS contracting officer and USFWS engineer to conduct scoping meetings, bid the contracts to complete the ground water supply work, and review proposals/bids for selection of a contractor or cooperator to complete the deliverables.
- The Refuge Manager and USFWS engineer will coordinate with the selected contractor or cooperator on final planning, permitting and design. Once those steps are completed, implementation would follow.
- The Implementation process will consist of installation of the new well casings and setting pumps and controllers; installation of the photovoltaic arrays, inverters and controllers; installation of water delivery systems; installation of protective fencing.
- The Restoration Biologist will conduct plant and animal surveys for baseline monitoring.

Year 3

- Any ongoing water delivery systems installation completed.
- The Restoration Biologist completes wetland restoration work.
- Riparian restoration is completed using volunteers and environmental education events.
- The Restoration Biologist will conduct wetland plant community surveys for monitoring.
- The Restoration Biologist will conduct avian habitat use surveys for monitoring.
- The Restoration Biologist will complete water delivery and water use surveys.

Year 4

- The Restoration Biologist will begin survival surveys on riparian plantings and develop a best management practice (BMP) for planting root stock on the Refuge.
- The Restoration Biologist will conduct wetland plant community surveys for wetland restoration monitoring.
- The Restoration Biologist will conduct avian use surveys for species diversity monitoring.
- The Restoration Biologist will conduct water delivery and water use surveys for monitoring and reporting.

- The Restoration Biologist will begin working on reports and BMPs from the results of the project.

Year 5

- Project close out with SNPLMA
- Final site inspection
- Uploaded reports will be available to other agencies and the public by being posted on ServCat and, if possible, in a peer-reviewed journal.
- Once the project is complete, final documentation and a closeout package will be prepared and submitted for approval.
- Final review of project file and expenditures
- Request for closeout
- SNPLMA closeout of the funding authorization

The SNPLMA project will be considered completed after all groundwater modernization contracts have been completed; primary deliverables have been achieved and reports generated from plant, animal, and water monitoring have been finalized and uploaded into ServCat; and SNPLMA close out requirements have been completed and accepted.

G. LEVEL OF PROJECT READINESS FOR IMPLEMENTATION

Is this a shovel-ready project? ☒Yes ☐No

The Refuge is ready to initiate implementation of the nominated project with notification of approval. Over past years, USFWS has managed existing projects and completed SNPLMA projects at the Refuge well before project deadlines. The Refuge continues to make excellent progress on existing SNPLMA projects. Environmental assessments can begin immediately upon approval.

H. FUTURE OPERATING AND MAINTENANCE

Well operation and maintenance:
Water wells require routine maintenance to ensure optimal water flow and water safety. The water wells will be inspected annually for obvious signs of damage or contamination by Refuge staff. If a decrease in the rate at which water can be pumped from the well is detected, a professional well water contractor will inspect the well with a downhole camera. If necessary, the well screen and/or casing will be cleaned to eliminate incrustation from mineral deposits. By using non-corrosive material for the well casing, we will decrease the likelihood of deterioration or corrosion of the well casing (a common problem of wells that are cased with material that is susceptible to corrosion). If no decrease in the rate at which water can be pumped from the well is detected, the well will be professionally inspected by a water well contractor at least every ten years. The O&M impact of this project has been evaluated by the experience of Refuge staff with existing wells on the Refuge and consultation of professional well contractors and USFWS hydrologists.

Solar array operation and maintenance:
Ground mount solar array maintenance considerations include vegetation management (*e.g.*, mowing, trimming, or herbicides) and cleaning requirements. The need for vegetation management will be reduced by following guidelines established by the National Renewable Energy Laboratory (https://www.nrel.gov/docs/fy19osti/73822.pdf) including ensuring the

panels are mounted with sufficient and uniform clearance from the ground, establishing low-growing native plants in the area that will not block insolation, and considering the future height of any nearby trees that might cause shading of the system. Refuge staff will clean panels when soiled with plain demineralized water and mild detergent as recommended by the manufacturer.

I. PROJECT BUDGET

Instructions: Put project cost estimates in Tabs 1-8. The values from those tabs will roll-up to this summary worksheet. The Non-Federal Contribution can be entered in Tabs 1-8 as a whole amount, it does not need to be broken out by unit cost. Non-Federal entities must use the standard form for an assistance agreement SF-424A Budget Non-Construction (PDF) and Budget Detail (Word document).

PROJECT BUDGET			
Project Name:	Modernization of Groundwater Wells forWildlife Refuge Habitat Conservation	**Date:**	11/3/2021
Project Manager:	Rob Vinson	**Agency:**	USFWS

Cost Categories	**SNPLMA**	**Non-Federal Contribution**
1. Personnel (labor plus benefits)	$ 77,986	$ 51,372
2. Travel	$ 2,400	$ -
3. Training	$ -	$ -
4. Equipment	$ -	$ -
5. Supplies/Materials	$ 5,500	$ -
6. Contracts and/or Agreements	$ 1,355,540	$ 2,655
7. Vehicle Use	$ -	$ -
8. Other Necessary Expenses	$ -	$ -
9. TOTAL PROJECT BUDGET	**$ 1,441,426**	**$ 54,027**

Notes:

Partnership and/or Contributed Funds

The Refuge was awarded a $10,000 grant from the Association of Retired U.S. Fish and Wildlife Service Employees in August 2021 to assist with improving the wells on the Refuge. Part of these funds have been used to conduct professional assessments of the wells and have led to our understanding that replacement of these wells is necessary to restore their function. $2,655 of this grant remains to assist with the costs of modernizing the drop pipe, well pumps, and controllers.

The Service estimates that there will be $51,373 of non-federal contribution in the form of volunteer labor for assisting with wetland and riparian habitat restoration.

J. KEY CONTACTS

Authorized Officer: Kevin J. DesRoberts, Project Leader
Email: kevin_desroberts@fws.gov
Phone Number: 702-515-5451

Project Manager: James Robert Vinson, Wildlife Refuge Manager
Email: james_vinson@fws.gov
Phone Number: 775-725-3417 ext. 102

Budget Officer: Leanne Abel, Administrative Officer
Email: leanne_abel@fws.gov
Phone Number: 702-515-5463

K. RANKING CRITERIA

The Ranking Criteria are used to evaluate the nomination against the goals for the Conservation Initiatives category. Nominating entities are not to include either the total point value or the point values by criteria in their responses. Nominations will be reviewed and scored by the Conservation Initiatives subgroup.

1. **The nomination supports habitat enhancement, cultural resources, and/or public health and safety through connectivity and sustainability.** Include as many project subtypes as applicable to your nomination. Points will be awarded by the subgroup based on the level of support the nomination shows toward a variety of subtypes, the more variety, the more points. The subtypes below are not all inclusive.

    A. Habitat Enhancement. *The following are examples of project subtypes for habitat enhancement goals, objectives or actions this nomination will support/accomplish: enhances or connects habitats, migratory corridors, or protected areas; endangered species; proactive steps to prevent listing; invasive species treatment and/or control (plant or animal); restoration of habitat for sensitive species at the watershed or landscape level; climate change; water quality and quantity monitoring; cave management; restoration of springs, streams, and rivers; road decommissioning and rehabilitation; reintroduction of extirpated species to restore overall ecosystem.*

Answer:

Enhances or connects habitats, migratory corridors, or protected areas:

The increased water availability from replacing the wells on the Refuge will enhance the habitats that have previously suffered due to water shortages. These areas currently serve as dry barriers to wildlife that might wish to travel between the Upper Lake riparian vegetation and wetland habitats south of the Visitor Center. Restoring the riparian habitats of Black Canyon and the Visitor Center area by providing adequate water to these areas will connect these habitats.

In addition to connecting these habitats locally, improving these areas at the Refuge furthers the Refuge's purpose to protect important wetlands and wet meadows for wetland dependent migratory birds and endangered species of the Pacific Flyway. The Refuge is but one link in a chain of increasingly rare open water and riparian habitats across the arid western United States and especially across Nevada. Perennial water on the Refuge sustains a variety of habitat patches, including open lake, marsh, wet meadow, alkali meadow, and riparian woodlands that provide valuable aquatic and wetland habitat for many of Nevada's native species. The Refuge provides essential stopover habitat for over 230 species of migratory birds traveling along the Pacific Flyway in the spring and fall. Willow groves on the Refuge provide critical nesting habitat for the endangered southwestern willow flycatcher (*Empidonax traillii extimus*) and migration habitat for the threatened western yellow-billed cuckoo (*Coccyzus americanus occidentalis*).

Several areas of the Refuge are important to the endangered Pahranagat Valley montane vole (*Microtus montanus fucosus*), as well as the Lower Colorado River Valley population of sandhill crane (*Antigone canadensis*). Recent telemetry projects have identified the Refuge as a critical fall migration staging area for this population of sandhill crane. With increased water availability, the Refuge will be able to reintroduce water to the meandering stream that flows through the West Dove Unit, which will improve hydrology in the wet meadow. This would have immediate positive impacts on wet meadow plant diversity and overall habitat health of the West Dove Unit, which would improve habitat conditions for the Pahranagat Valley montane vole and improve foraging habitat for migrating sandhill cranes.

Endangered species:

Increasing available water on the Refuge will allow better management practices to benefit endangered species on the Refuge. The currently degraded riparian habitat in the Visitor Center area and in Black Canyon, if managed properly, has the potential to become suitable habitat for the endangered southwestern willow flycatcher (*Empidonax trailii extimus*). A portion of the North Marsh Unit on the Refuge supports mature Goodding's willow, Fremont cottonwood and coyote willow in soils that are saturated from storing water that flows to the Refuge from Ash and Crystal springs in summer. This forest area supports one of the largest nesting populations of southwestern willow flycatchers in Nevada's Lower Colorado River system. Breeding southwestern willow flycatchers require dense riparian vegetation with tree or shrub cover that is greater than 3m tall, has dense twig structure, and high levels of live green foliage. These riparian forests are typically associated with surface water nearby or adequate soil moisture. Prior to human alteration of the Pahranagat Valley, streams that carried spring water were lined with a narrow riparian woodland corridor and flowed through the valley, creating a unique mosaic of wetland, riparian and adjacent upland communities. Both Black Canyon and the Visitor Center Trail areas support cottonwood and willow trees, but these trees are chronically stressed, because the Refuge currently does not have enough water to keep these

areas irrigated during the spring and summer. The little water the Refuge has in the summer must be used to maintain wetland habitats for breeding and migrating waterfowl. Replacing the wells would increase water availability in the summer and using that water in these areas could support their development into suitable southwestern willow flycatcher habitat, like the forest in the North Marsh Unit.

Proactive steps to prevent listing:

The Refuge contains migration habitat for the threatened western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), a riparian species dependent on relatively large patches of native, stream-side forest in the American West. Connecting and improving riparian habitats on the Refuge will improve this species' success during migration.

Several of the National Audubon Society's 2021 Priority Bird species (species of conservation concern that benefit most from conservation work) use water or wetland habitats on the Refuge as part of their annual cycle, including American Avocet (*Recurvirostra americana*), Eared Grebe (*Podiceps nigricollis*), Sandhill Crane *(Grus canadensis)*, Ruddy Duck (*Oxyura jamaicensis*), Western Sandpiper (*Calidris mauri*), White-faced Ibis (*Plegadis chihi*) and Wilson's Phalarope (*Phalaropus tricolor*). Improving the Refuge's supply of available water year-round will ensure our ability to maintain and improve wetland habitats across the Refuge to benefit these species and proactively prevent listing.

Invasive species treatment and/or control (plant):

Increasing our ability to use groundwater will augment our ability to manage and restore wetland, meadow, and riparian habitats in areas currently dominated by invasive species. These opportunistic plants have historically been difficult to control and have a negative impact on habitat. Periodic flooding has proven to be a successful management strategy on the Refuge for Russian knapweed (*Acroptilon repens*) perennial whitetop (*Lepidium latifolium*), and tamarisk (*Tamarix* spp.). However, current water levels on the Refuge do not support this strategy for broader use. Water supplied from this project will allow flooding to be used as a future management approach to these invasive plants. To increase the likelihood of successfully controlling invasive plants, we will implement an active restoration program primarily in the Visitor Center Unit. Restoring historic water levels will favor native species that adapted to those conditions, rather than non-native species that opportunistically invaded the landscape. We will engage the local community by holding planting events and intend to plant up to 1,000 cuttings or root stock of native vegetation in areas irrigated by the wells.

Restoration of habitat for sensitive species at the watershed or landscape level:

The following sensitive species inhabit areas of the Refuge that would be served by improved water conditions from the two wells, encouraging the growth of native vegetation and its associated biodiversity: northern leopard frog (*Lithobates pipiens*), loggerhead shrike (*Lanius ludovicianus*), peregrine falcon (*Falco peregrinus*), sandhill crane (*Antigone canadensis*), big brown bat (*Eptesicus fuscus*), canyon bat (*Parastrellus hesperus*), and monarch butterfly (*Danaus plexippus plexippus*).

Climate change:

By powering the new wells with solar energy, we will reduce our reliance on electricity generated from fossil fuels that contribute to climate change. The use of groundwater year-round will also help mitigate the effects of climate change in this area, namely the increase in frequency and intensity of drought conditions. Drought conditions created by climate change have also increased the likelihood of wildfires – especially in the Western United States – and functional wells are critical to refuge wildland firefighting capabilities.

Water Quantity Monitoring:

By installing flowmeters associated with the two wells, the Refuge will accurately and precisely monitor the amount of water made available by the wells to ensure we do not exceed our allotted amount or overexploit this resource. Additionally, augmenting the Refuge's ability to monitor water quantity is critical to making informed water management decisions and optimizing wildlife management goals.

B. Cultural Resources. *The following are examples of project subtypes for cultural resources goals, objectives or actions this nomination will support/accomplish: surveys; National Register (eligible or currently approved); protection/site stewards; restoration/stabilization; and tribal involvement and/or consultation.*

Answer:

National Register (currently approved):

Black Canyon is a culturally important area of Southern Nevada's Pahranagat Valley and is listed as a significant Archaeological District by the National Register of Historic Places. Water from this project will be used to improve wildlife habitat within and adjacent to the cultural resource sites of Black Canyon. The interpretive elements along the hiking trail showcase the Nuwu/Nuwuvi culture and heritage and educate visitors about Black Canyon as a sacred site. By providing consistent water flows through the meandering stream channel of Black Canyon, we will support native vegetation which will help stabilize soils and protect sacred areas. Maintaining lush riparian and wetland habitat in Black Canyon preserves the integrity of the site by maintaining the ecological context that supported its creation. This allows visitors to appreciate these cultural resources surrounded by the natural habitat that once occupied the area. We hope this will lead to increased visitation and increased awareness of the cultural importance of the area to the Nuwu/Nuwuvi conveyed by educational panels that are already in place.

Restoration/Stabilization:

Increasing the water flowing through Black Canyon will help to restore the ecological context of the rich human history in this area. Prehistoric peoples were drawn to the abundance of resources of the Pahranagat Valley such as water, animal and plant food sources, medicinal plants and clothing materials. Restoring water flow through this historic river valley will foster a deeper understanding and appreciation of the Refuge's treasured cultural resources.

Tribal Involvement or Consultation:

The interpretive elements of the Refuge's Visitor Center and trails were developed with partnerships and intimate involvement of the Nuwu/Nuwuvi tribes. If the project is funded, the Service will present the proposed work plan as well as any assessment documents generated for the project to Nuwu/Nuwuvi partners. Because the Refuge is located within the Nuwu/Nuwuvi ancestral homelands, the Service consults and collaborates with the tribes on all planned large conservation projects.

C. Public Health and Safety. *The following are examples of project subtypes for public health and safety goals, objectives, or action this nomination will support/accomplish: litter/dumping cleanup; information kiosks and signs; addresses and mitigates adverse impacts to resources caused by the volume of people using the resource; resolving trespass/encroachment/illegal use of public lands (i.e. marijuana grow sites)/boundary surveys; and abandoned mine land (AML) with habitat restoration component.*

Answer:

Public Health and Safety:

People of all ages and abilities enjoy higher levels of health and well-being when they have nature nearby. Access to nature has been related to lower levels of mortality and illness, higher levels of outdoor physical activity, relief from stress, and a greater sense of well-being. The trails available to the public are currently surrounded by sparse, stressed, and unappealing vegetation due to chronic drought conditions. By improving the quality of the vegetation in areas available to the public, we may attract more visitors or visitors will be more likely to return frequently and access the benefits of spending time in nature.

Addresses and mitigates adverse impacts to resources caused by the volume of people using the resource:

Water is the Refuge's most important resource. Water shortages compromise the Refuge's ability to create and maintain wildlife habitat. The Refuge's primary source of water is sustained flows of surface water from upstream springs. While the total volume of water flowing from the springs has not changed significantly over the past century, since the 1960s, the total volume of water entering the Refuge annually has declined by up to 2,000 acre feet - roughly the amount of water stored in the Refuge's Lower Lake. This is largely due to increased water usage by users upstream of the Refuge and this has fostered a trend of chronic water shortages at the Refuge, especially during the summer months. Due to the scarcity of water shared by upstream ranchers and the Refuge, today's managers face a challenge to maintain wetland habitats with a limited water supply. Several wildlife units near the Visitor Center now suffer from chronic water shortages which harm habitat quality, promote desertification, and negatively impact visitor experiences. Surface water is unavailable in these areas because of the volume of people using the resource upstream. Using groundwater to supplement our surface water flows will help mitigate the impact on our riparian and wetland habitats. The installation and operation of the two modernized wells will directly address the impact to these areas from overuse of surface water upstream of the Refuge. Increasing our supply of available water will augment our ability to manage and restore wetland, meadow, and riparian habitats, which in turn will improve wildlife habitat, biological communities and visitor experiences.

Information Signs and Protective Fencing:

The Refuge will install fencing around the well project area to protect the Refuge infrastructure and protect visitors from inadvertently harming themselves while recreating near the well sites. Along with protective fencing, safety signs at the new well locations will warn of the hazards of nearby electrical systems.

Decommissioning Old Wells:

The existing old wells will be plugged and decommissioned to the specifications of the Nevada Department of Environmental Protection and Nevada Water Resources. This will

prevent contaminants from polluting the groundwater aquifer and eliminate public safety concerns at the old well sites.

2. **The nomination promotes sustainability by providing benefits in the near and long term by implementing actions to conserve and sustain healthy and resilient landscapes and providing durability, relevancy, and shared support. Answer all applicable.**

A. Conserves resources to ensure availability to future generations through management of natural and/or cultural resources for current public benefit and sustainable social and economic utilization.

Answer:

Actions to sustain healthy and resilient landscapes for the current public benefit:

The Refuge has collaborated with the Lincoln County Conservation District (LCCD) to identify and focus management on local community resources of concern. Water quantity and quality were identified as an immediate need for the Pahranagat Valley. The Refuge has been focusing on water quantity concerns the Refuge can directly control. Drought conditions on the Refuge have led to large die-offs of native vegetation and a lack of recruitment of new plant growth due to poor habitat conditions. Managing these areas by supplying water to chronically drought-stricken units of the Refuge will increase the likelihood that vegetation will reach maturity and produce seeds, as well as increasing the likelihood of seed germination and survival. Mature plants are key for maintaining healthy, resilient landscapes and biodiversity. These healthy and resilient landscapes will benefit the public by improving the accessible areas of the Refuge to improve the ecological experience of visitors.

Public Benefit for Sustainable Social and Economic Utilization:

The Refuge attracts a wide variety of migratory birds due to the presence of wetland habitats in an otherwise arid desert region. Many people visit the Refuge due to their interest in hunting and wildlife observation, in particular duck hunting and birdwatching. These user groups patronize the local town of Alamo's facilities and services including motels, grocery stores and gas stations. The local economy in Alamo is greatly bolstered by the influx of wildlife-related tourism dollars. By improving wildlife habitat on the Refuge, this project will help to sustain, protect and grow the wildlife tourism industry in the Pahranagat Valley thereby ensuring the continued enjoyment and economic benefit for current and future generations of locals and visitors.

The surrounding landowners in the Pahranagat Valley have begun to take advantage of the waterfowl populations that currently use the Refuge. Landowners are now leasing their private fields to hunters, which brings more revenue into the small town of Alamo. The improvements proposed in this project will allow the Refuge to more effectively manage the wetlands and continue to provide a sustainable attraction for migratory birds and hunters alike.

B. Conserves or restores the functionality, resilience, and integrity of biological communities and/or cultural resources through prudent management and prevention of injury, decay, waste, or loss.

Answer: The Refuge is a wetland refuge in a dry desert. Increasing the volume and reliability of the water supply on the Refuge is fundamental to conserving and restoring the

functionality, resilience and integrity of biological communities by preventing the loss of viable wetland plant communities on the Refuge, especially in areas surrounding the Visitor Center area and in Black Canyon (*e.g*. the biological communities around the Visitor Center and the biological communities and cultural resources in Black Canyon):

Functionality: Our current groundwater well systems are not functioning as intended and this project to modernize the wells will augment our ability to restore and maintain functional biological communities on the Refuge. Water is a necessity to any type of wetland habitat. This project provides an additional source of water to augment declining surface water rights to maintain extremely rare Nevada desert oasis habitats.

Resilience: Restoring native wetland plants and combatting drought conditions through irrigation will improve resiliency against the threat of invasive species pioneering new sites as historic wetland areas become drier. A reliable year-round source of water on the Refuge creates resiliency in habitat management programs, reducing the need to only store and use water in our most critical habitats. By using corrosion-resistant materials in the well's construction, the life expectancy of the project is expected to exceed 75 years, which will add resilience to providing the Refuge's groundwater rights for beneficial wildlife use well into the foreseeable future.

Integrity: This project will allow the Refuge to augment the decreasing surface water inflows by 25-50%. Having such a large potential impact on the Refuge's existing 1,671 acres of wetlands, and over 13 miles of riparian habitat, the project provides habitat integrity by being able to maintain the current habitat even in times of drought. With this project, the Refuge can plan habitat restoration in locations that have experienced desertification or severe drought. The project not only promotes the integrity of our wildlife habitats, but also brings integrity to the cultural resources of Black Canyon by restoring the ecological context of the area.

The Refuge is committed to prudent management to prevent the following:

Injury: The current groundwater well systems were built from materials prone to decay, and this has led to the riparian areas near the Visitor Center and Black Canyon sustaining injuries from the lack of water on the Refuge. This proposed project replaces the wells with durable, modern materials that will not corrode over time. The Refuge will maintain the wells and use the additional water supply to correct the current issues we are experiencing with habitat on the Refuge.

Decay: The use of durable, modern materials and a reliable, sustainable solar-powered energy source will greatly reduce the decay of the Refuge's groundwater pumping capabilities. This increase in water will allow us to maintain more durable ecological environments around the Visitor Center and Black Canyon, helping to stabilize these sites, protecting them from erosion and fire. The improvement to habitats will also aid in maintaining populations of at-risk species. The ability to augment the declining surface water with the Refuge's groundwater rights will preserve the Refuge's existing wetland acres and stop the slow decay and desertification of wetlands and riparian areas.

Waste: The current groundwater system operates at greatly reduced efficiency and is wasteful to operate, preventing its use. The modern wells proposed in this project will eliminate this problem and allow beneficial use of groundwater for restoring and maintaining habitat. Throughout the project's implementation, the Refuge staff is committed to using project resources in an efficient, as-needed manner, avoiding waste. The use or solar energy, a sustainable and green energy source, as the primary mode of operation will greatly reduce energy waste as a result of using the systems.

Loss: Habitat restoration efforts supported by this project will directly benefit the endangered southwestern willow flycatcher, Pahranagat Valley montane vole, and Yuma Ridgeway's rail, the threatened western yellow-billed cuckoo, and several sensitive species that use the habitat on the Refuge. It is of critical importance to avoid the loss of these species or any of the Refuge's precious biodiversity. The trend of decreasing inflows at the Refuge has caused a substantial loss of wetland habitat. This project will help to mitigate and reverse this wetland habitat loss by augmenting total water supply. The Refuge has been experiencing a loss of surface water inflows. This project will allow the Refuge to mitigate the trend of surface water losses and prevent further wetland habitat loss.

C. Will remain relevant and continue to provide a benefit beyond the existence of SNPLMA.

Answer: The Refuge will always need water to manage its diverse wetland habitats. By using corrosion-resistant materials, the life expectancy of the project is expected to exceed 75 years. The project will increase the Refuge's annual water availability by 25-50% which can support the habitats of the Refuge for decades to come. Using solar power will ensure self-sustainability, ensuring that even without budget money available for electricity to run these wells, solar power will ensure the wells can continue to pump groundwater. The habitat restoration that these wells enable will benefit the wildlife that need the Refuge to survive. Working with urgency in the short term by addressing the impacts of drought and water shortages on the Refuge supports our goal of preserving at-risk species for the long term.

3. **The nomination promotes community by improving the quality of life for humans by protecting the integrity of biological communities or cultural sites. Answer all applicable.**

A. Encourages people to meaningfully connect with their natural environment and helps them appreciate and care for the environment by providing information and resources to educate and engage people in understanding their role in protection and maintaining the natural environment by providing opportunities for them to connect to the natural resources directly or virtually or provides education of the environment.

Answer: Improving the natural habitats around the Visitor Center and trails will significantly improve visitor experience. Visitors come to the Refuge for birding, hiking, nature journaling, wildlife photography, and observing cultural resources - activities will be enriched by restoring native habitat the areas around the Visitor Center and in Black Canyon. Educational outreach events and recruiting volunteers to help with planting events in these areas will provide further opportunities for them to connect to natural resources directly and educate them about the Refuge's natural and cultural resources.

B. Project has identified committed non-SNPLMA sources of funding or in-kind contribution for the planning, design, and development of the project.

Answer: $2,655 of a $10,000 grant awarded to the Refuge by the Association of Retired U.S Fish and Wildlife Service Employees in August 2021 remains to assist with improving the

wells on the Refuge. The remainder of this grant was used to professionally assess the wells to contribute to the planning and design of this project. The USFWS estimates that there will be $51,373 of non-federal contribution in the form of volunteer labor for assisting with wetland and riparian habitat restoration.

C. Preserves the past (cultural or historic sites) for present or future generations.

Answer: Supporting native vegetation with appropriate water management in Black Canyon Archaeological District will protect this area from wildfire or flood events, helping to stabilize the site and lead to increased durability. This area is culturally important to the Nuwu/Nuwuvi people and supporting a healthy biological community in this area will preserve this important archaeological site and restore its ecological context for present and future generations. The interpretive elements along the hiking trail which showcase the Nuwu/Nuwuvi culture explains that Black Canyon is a sacred site and describes the historical and ecological significance of water to the Black Canyon Archaeological District. Restoring the flow of water through Black Canyon preserves and enriches an important cultural site for present and future generations to enjoy.

4. The nomination enhances partnerships to promote cooperation and collaboration. The nomination also promotes sustainability, connectivity, and community by linking people to nature and recreational opportunities by uniting communities with important places across the landscape. Answer all applicable.

A. The nomination addresses and meets the needs of more than one agency (federal or state).

Answer: The project supports the cooperative goal of conserving the southwestern willow flycatcher (SWFL). The southwestern willow flycatcher is both a Federal and State Endangered Species, and a Species of Conservation Priority in Nevada's Wildlife Action Plan. By increasing available water at the Refuge, managers can support potential SWFL habitat in riparian corridors that are currently too drought-stressed to mature into the appropriate habitat characteristics required by the SWFL.

The project supports the conservation of wetland habitats for migratory birds which addresses the shared needs and goals of agencies like the Nevada Department of Wildlife as well as all other state and federal agencies in the Pacific Flyway. The Refuge provides a critical migration stopover for birds in the Pacific Flyway including shorebirds, sandhill crane, waterfowl, wading birds, raptors, and neotropical migrants. This project addresses needs outlined in the Shorebird Management Plan, North American Waterfowl Management Plan, and the Lower Colorado Valley Population of Sandhill Crane Management Plan among others. The Refuge actively participates in partnerships and collaboration with multiple agencies regarding named management plans.

The project addresses local and state invasive species management goals by empowering the Refuge to combat the spread of invasive species. Increasing the Refuge's total available water will help to address chronic drought conditions and ensure that the Refuge will be able to prevent desertification of Refuge wetland habitats. By restoring hydrological conditions to meet the needs of wetland, meadow and riparian plant communities, the Refuge will be able to

implement cultural methods of the integrated pest management plan (IPM), allowing native plant species to out-compete invasive species.

B. The nomination involves non-Federal, public partners, citizen groups or organizations in the development and accomplishment of resource management goals and other activities to prevent waste, damage, or neglect.

Answer: As part of the project, the Refuge will implement an active restoration program primarily in the Visitor Center trail area. We will partner with volunteers from the local community and citizen groups such as the Red Rock Audubon Society and the Nevada Native Plant Society by holding planting events and intend to plant up to 1,000 cuttings or root stock of native vegetation in areas irrigated by the wells. The Refuge will work with the local Wildlife Habitat Improvement of Nevada (WHIN) to coordinate volunteer work dates in addition to implementing any needed assistance to complete wetland restoration activities.

C. The nomination clearly defines and includes a stewardship component (Federal or non-Federal) to broaden support and reduce long-term costs by minimizing the human impact on the environment through an education plan with clear curricula and achievable goals and objectives.

Answer: The Refuge partners with Nevada's State Historic Preservation Office (SHPO) to monitor cultural resource sites on the Refuge through the Site Steward Program. Site Stewards are trained to provide information to visitors while conducting a long-term monitoring plan. This partnership reduces the public's impact on the environment and cultural resources by educating visitors about the importance of Nevada's cultural heritage. Additionally, collaborating with Nevada's SHPO helps to reduce long-term costs for the Refuge while ensuring that historic resources are preserved for their educational and intrinsic values for future generations to appreciate. Through this project, the Refuge will fulfill its responsibilities as stewards of cultural resources by enriching the natural and cultural resources at significant sites on the Refuge.

The Refuge will also continue to implement the Visitor Services Plan which provides clear objectives on continued environmental education as it pertains to the Refuge's Purposes. The project will support the Visitor Services Plan, as well as the Black Canyon Public Use Plan, by providing an outdoor classroom example of how wetland habitats are managed in a highly altered landscape. The Refuge also provides interpretive panels that allow visitors to learn about the rare wetland ecosystems without increasing human disturbance in these systems.

5. The nomination has identified committed non-SNPLMA sources of funding or in-kind contributions in the development and/or implementation of the project. Answer all applicable.

Overhead costs may not be included in determining in-kind contributions.
Labor funded from an appropriation is not considered an in-kind contribution

A. In-kind Contributions. *The following are examples of in-kind contributions this nomination will support: Volunteer Labor – valuation to be computed at the rate used by the Department of the Interior, which is currently $28.54 per hour; Salaried Employees – actual hourly rate plus the value of any fringe benefits received. Nomination must*

confirm this is from non-appropriated funding to be awarded points; Material, Equipment, and/or Supplies - actual costs should be used.

Answer: The Service estimates that there will be $51,373 of non-federal contribution in the form of volunteer labor for assisting with wetland and riparian habitat restoration.

L. ORDERS AND PRIORITIES

Respond to the Executive Orders, Secretarial Orders, Department of the Interior Priorities, and USDA Forest Service Priorities as they apply to the purpose of the nomination.

A. Executive Orders (EO):

- ***EO No. 13855: Promoting Active Management of America's Forests, Range Lands to Improve Conditions and Reduce Wildfire Risk***

  Answer: By placing water in the units adjacent to the Visitor Center and Black Canyon, we will actively manage these areas to improve conditions and reduce wildfire risk. Without adequate water, trees in these areas are stressed and may die, becoming dry material that, if ignited, could encourage the spread of wildfire. We will also install standpipes at each well so that water from the wells can be used to directly suppress the spread of wildfire.

- ***EO No. 14004: Ensuring the Future is Made in All of America by All of America's Workers***

  Answer: During the bid process, the Refuge will work with the Contracting Officer to ensure that supplies and materials are all purchased by American companies if available and practical and can meet the government's needs.

B. Secretarial Orders

- ***SO No. 3347: Conservation Stewardship and Outdoor Recreation.***

  Answer: Using groundwater to enhance the vegetation and habitat of the areas adjacent to existing trails on the Refuge will encourage and improve outdoor recreation activities in these areas. It is our hope that improving these areas and visitor experiences will inspire visitors to become conservation stewards to help protect these special areas.

  Restoring riparian and wetland habitat will leave a lasting conservation legacy for future generations to enjoy. If left in the current state, these important and rare habitats will continue to degrade, and loss of habitat could potentially have lasting consequences to Nevada's migratory bird corridors. Along with lasting habitat benefits for migratory birds, the project nomination also increases wetland management capabilities, resulting in continued ability to provide migratory bird hunting opportunities and wildlife observation and photography to southern Nevada. These recreational uses have been constantly increasing over the past four years.

- ***SO No. 3356: Hunting, Fishing, Recreational Shooting, and Wildlife Conservation Opportunities and Coordination with States, Tribes and Territories.***

  Answer: By filling units with water that previously remained dry, we can increase opportunities on the Refuge for appropriate waterfowl or dove hunting habitat. Over the past four years, habitat improvements have increased waterfowl numbers on the Refuge. The result is increased hunting opportunity. By the close of the 2020/2021 hunting season the Refuge experienced an increase of 1,000 waterfowl hunters from the FY19, as a result. Supporting big game populations by providing water and forage during their migration will help keep populations healthy enough to be hunted.

- ***SO No. 3362: Improving Habitat Quality in Western Big-Game Winter Range and Migration Corridors.***

  Answer: The Refuge is part of a major big game migration route for mule deer and desert bighorn sheep. By increasing surface water availability, we will ensure that water habitats that big game have historically relied on will remain on the landscape in addition to providing suitable native plants for browsing.

- ***SO No. 3366: Increasing Recreational Opportunities on Lands and Waters Managed by the U.S. Department of the Interior***

  Answer: Using groundwater to enhance the vegetation and habitat of the areas adjacent to existing trails on the Refuge will encourage and enhance outdoor recreation, by being able to see water in areas described by interpretive panels along the multiple hiking trails on the Refuge. Wetland restoration will also improve habitats used by migratory birds and increasing huntable wetland acres. By increasing and improving habitat in these areas, the quality of outdoor activities such as hunting, wildlife observation, wildlife photography, and environmental education will be improved on the Refuge.

- ***SO No. 3370: Conservation Stewardship and Increasing Public Access to Urban National Wildlife Refuges.***

  Answer: The project is located within 100 miles of Las Vegas, the largest city in Nevada. Being near Las Vegas, and adjacent to the Desert National Wildlife Refuge, an Urban Refuge, Pahranagat NWR serves as a link to Nevada’s largest urban population. The Refuge is visited by approximately 60,000 visitors annually with most visitors being from the Las Vegas metropolitan area. This project provides improvements that provide quality rare, aquatic outdoor recreation opportunities that are severely limited in southern Nevada.

- ***SO No. 3372: Reducing Wildfire Risks on Department of the Interior Land Through Active Management.***

  Answer: By placing water in the units adjacent to the Visitor Center and Black Canyon, we will actively manage these areas to improve conditions and reduce wildfire risk. Without adequate water, trees in these areas are stressed and may die, becoming dry material that, if ignited, could encourage the spread of wildfire. Leaving these areas with accumulated, dry, downed vegetation would all but ensure a fire would ignite if exposed to a spark. In addition, the restored wells with standpipes will provide a source for water during prescribed burns on the Refuge, as well as for wildland firefighting efforts in emergency situations or nearby wildfires.

- ***SO No. 3373: Evaluating Public Access in Bureau of land Management Public Land Disposal and Exchanges (focus is on Sec. 4.b.(3) Potential increased public recreational access to existing public lands resulting from the proposed land acquired through an exchange (acquisition).***

  Answer: The criteria/factor does not apply to this project nomination

- ***SO No. 3374: Implementation of the John D. Dingell, Jr. Conservation, Management and Recreation Act.***

  Answer: The criteria/factor does not apply to this project nomination.

- ***SO No. 3376: Increasing Recreational Opportunities through the use of Electric Bikes.***
  Answer: One trail in the project, Waterway Trail, is a major biking trail between the Visitor Center and the campgrounds. Waterway Trail is named for the meandering stream that used to flow alongside the trail and support riparian habitat. The project would allow the Refuge to continue to support riparian habitat along the trail which provides critical migration habitat to birds, as well as favorite foraging and loafing habitat for other species, such as mule deer. Maintaining this habitat will provide the biking and e-biking user group with a unique experience while biking along the trail. The overall experience of having all four senses being stimulated as a result of water running, shrubs blooming, birds singing, and moving about through the riparian habitat should increase the overall experience for those using this special biking trail.

C. Department of the Interior Priorities:

1. ***Identifying steps to accelerate responsible development of renewable energy on public lands and waters.*** *We are investing in climate research and environmental innovation to incentivize the rapid deployment of clean energy solutions, while reviewing existing programs to restore balance on America's public lands and waters to benefit current and future generations.*

   Answer: This project will deploy a clean, renewable energy solution (solar power) as a primary power supply for the pumps. The Refuge's goal is to passively (during daylight hours) operate the well systems to use existing groundwater rights and augment the Refuge's existing water supply for wetland management functions.

2. ***Strengthening the government-to-government relationship with sovereign Tribal nations.*** *We understand that tribal sovereignty and self-governance, as well as honoring the federal trust responsibility to Tribal Nations, must be the cornerstones of federal Indian policy.*

   Answer: The Refuge has an established relationship with the Nuwu/Nuwuvi tribes tied to the Refuge. The Refuge meets with Nuwu/Nuwuvi tribes regarding major projects on the Refuge, and keeps our tribal partners engaged in the restoration and reconstruction activities. The Refuge plans to continue to strengthen the relationship with our tribal partners by meeting with them about this project, if funded.

3. ***Making investments to support the Administration's goal of creating millions of family-supporting and union jobs.*** *This includes establishing a new Climate Conservation Corps Initiative to put a new generation of Americans to work conserving and restoring public lands and waters, increasing reforestation, increasing carbon sequestration in the agricultural sector, protecting biodiversity, improving access to recreation, and addressing the changing climate.*

   Answer: This project will provide jobs for American families that will be part of the contractor workforce that will be implementing the groundwork. The project also identifies the need to hire a Restoration Biologist, which will be processed through a conservation partner, such as Great Basin Institute. The duration of the position is four years, which will oversee the project planning and implementation of restoration efforts, along with monitoring efforts to measure the success of the project. The Refuge will use the project to assist with the Administration's goal of creating local jobs for American families.

4. ***Working to conserve at least 30% each of our lands and waters by the year 2030.*** *We will work to protect biodiversity, slow extinction rates, and help leverage natural climate solutions by conserving 30% of America's lands and waters by 2030. This relies on support for local, state, private, and tribally led conservation and restoration efforts that are underway across America.*

   Answer: This project has the potential to improve areas of the Refuge to make them more suitable nesting habitat for the endangered southwestern willow flycatcher. Increasing the amount of suitable habitat may help prevent the extinction of this subspecies, which in turn will protect biodiversity and help slow extinction rates on America's lands. Other areas of the Refuge support a wealth of biodiversity, especially compared to the surrounding desert landscape. Ensuring our ability to provide water to these habitats in times of need protects this biodiversity. The Refuge is currently facing a future of uncertainty regarding global climate change. The Refuge is already experiencing a reduction in water inflows, which can already be seen on the landscape, as historic riparian habitats are struggling, and desertification of wet meadow is creeping across the landscape. This project nomination provides the Refuge with the tools it needs to proactively work on long term wetland management strategies in order to mitigate habitat loss.

5. ***Centering equity and environmental justice.*** *The impacts of the multiple crises in the United States are not evenly distributed in our society. Communities of color, low-income families, and rural and indigenous communities have long suffered disproportionate and cumulative harm from air pollution, water pollution, and toxic sites. At every step of the way, Interior will engage diverse stakeholders across the country, as well as conduct formal consultation with Tribes in recognition of the U.S. government's trust responsibilities.*

   Answer: The Refuge has contracted work for other past SNPLMA projects to firms via the U.S. Small Business Administration's 8(a) Business Development Program. The 8(a) Business Development Program is designed to benefit firms that are minority-owned and controlled by socially and economically disadvantaged individuals. The USFWS Contracting Officer will explore the feasibility and encourage small, disadvantaged businesses to compete in the bidding process. Identified 8A contractors will be sent bidding invites, in order to ensure a diverse group of contractors will have the ability to bid.

   The Refuge will meet with the local Nuwu/Nuwuvi tribes to review the project deliverables. The Refuge fosters a relationship with the Nuwu/Nuwuvi tribes and formal consultation for this project will continue to ensure the tribal partners stay engaged. This project helps to recognize and celebrate the cultural heritage of the Nuwu/Nuwuvi tribes.

D. USDA Forest Service Priorities:

1. ***Controlling the COVID-19 pandemic***

   Answer: Not applicable

2. ***Providing economic relief***

   Answer: Not applicable

3. ***Tackling climate change***

   Answer: Not applicable

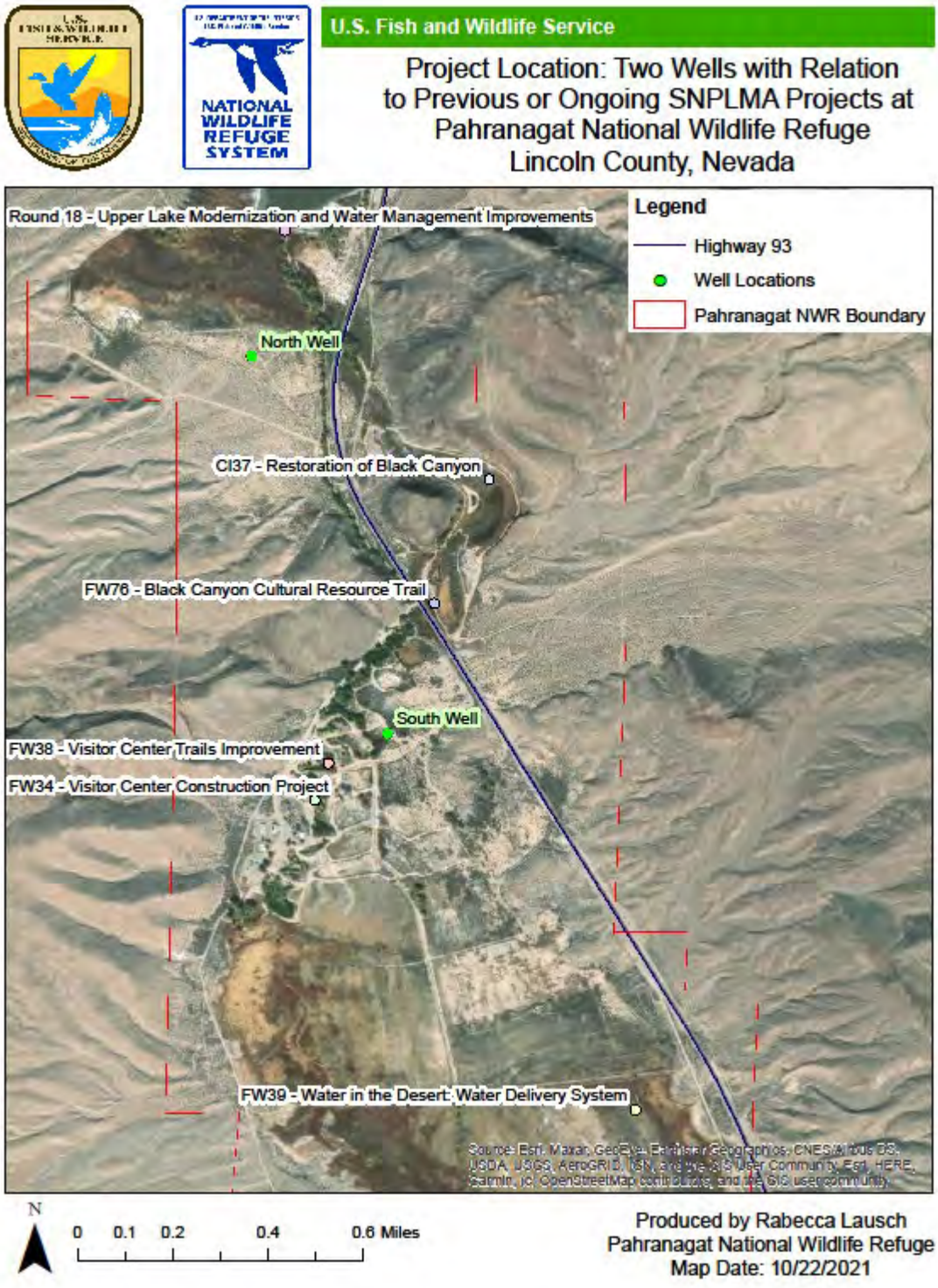
4. ***Advancing racial equity***

   Answer: Not applicable

5. ***Improving our workforce and work environment***

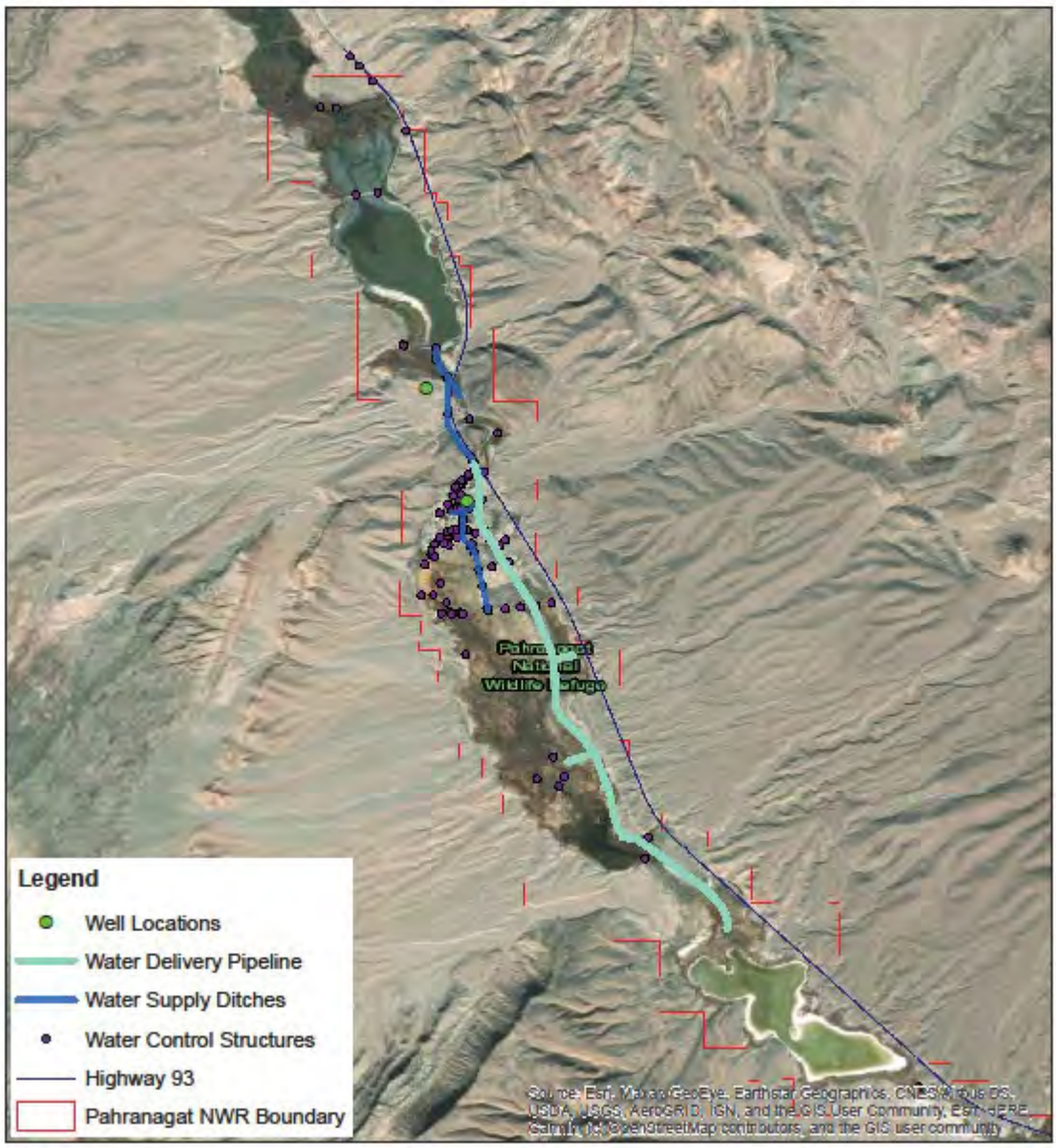
   Answer: Not applicable

M. MAPS


U.S. Fish and Wildlife Service
NATIONAL WILDLIFE REFUGE SYSTEM
Project Location: Two Wells with Relation to Previous or Ongoing SNPLMA Projects at Pahranagat National Wildlife Refuge Lincoln County, Nevada
Legend
Highway 93
Well Locations
Pahranagat NWR Boundary
Round 18 - Upper Lake Modernization and Water Management Improvements
North Well
CI37 - Restoration of Black Canyon
FW76 - Black Canyon Cultural Resource Trail
South Well
FW38 - Visitor Center Trails Improvement
FW34 - Visitor Center Construction Project
FW39 - Water in the Desert: Water Delivery System
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
N
0 0.1 0.2 0.4 0.6 Miles
Produced by Rabecca Lausch
Pahranagat National Wildlife Refuge
Map Date: 10/22/2021

U.S. Fish and Wildlife Service

Project Location: Two Wells with Relation to Existing Water Control and Delivery Structures at Pahranagat National Wildlife Refuge Lincoln County, Nevada



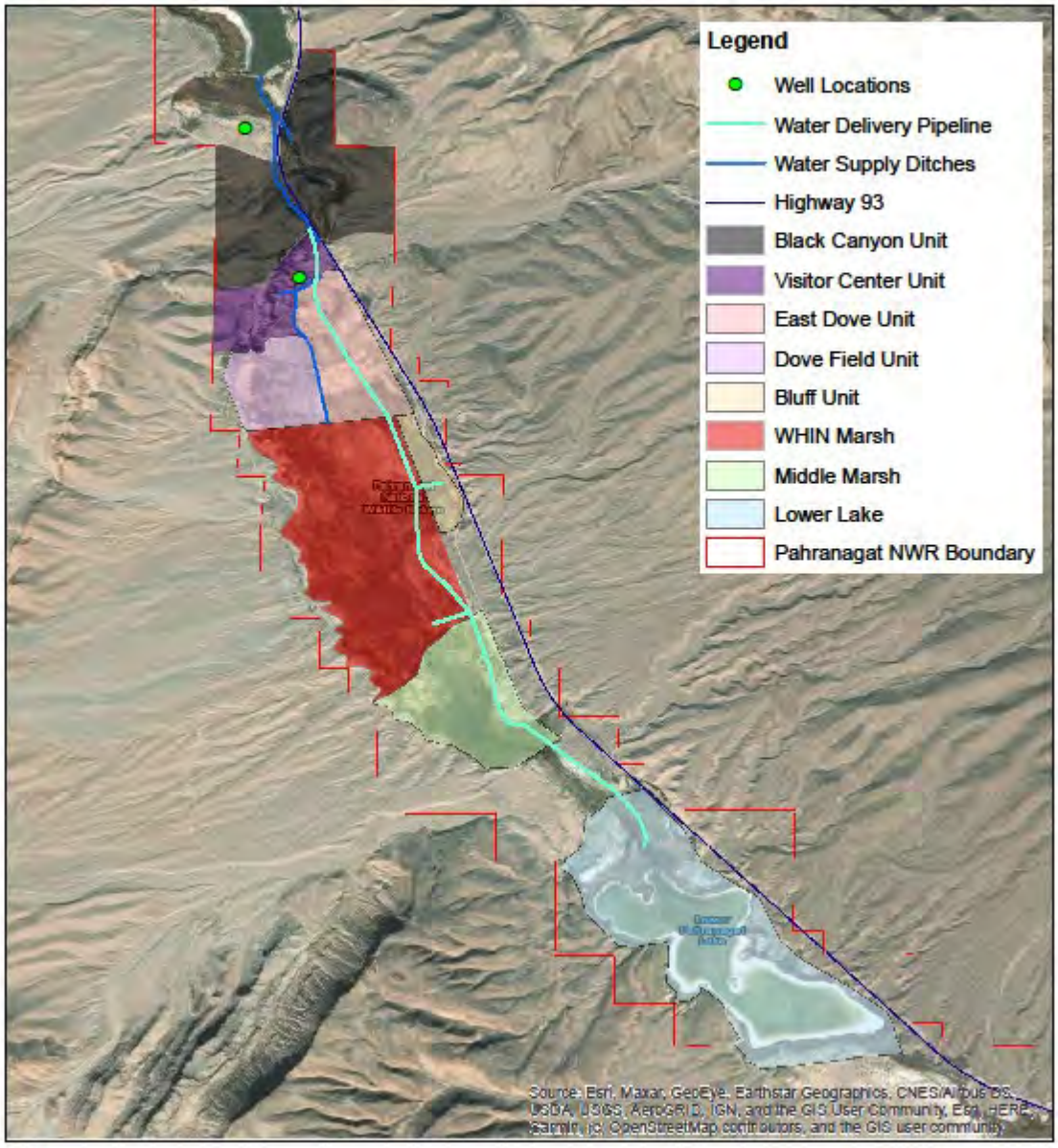
N

0 0.5 1 2 3 Miles

Produced by Rabecca Lausch
Pahranagat National Wildlife Refuge
Map Date: 10/21/2021

U.S. Fish and Wildlife Service

Project Location: Units Served by Two Wells at Pahranagat National Wildlife Refuge Lincoln County, Nevada



N

0 0.25 0.5 1 1.5 2Miles

Produced by Rabecca Lausch
Pahranagat National Wildlife Refuge
Map Date: 10/21/2021

Strategic Values - Community

U.S. Fish and Wildlife Service

Communities Served by Enhanced Recreational Opportunities at Pahranagat National Wildlife Refuge Lincoln County, Nevada

N

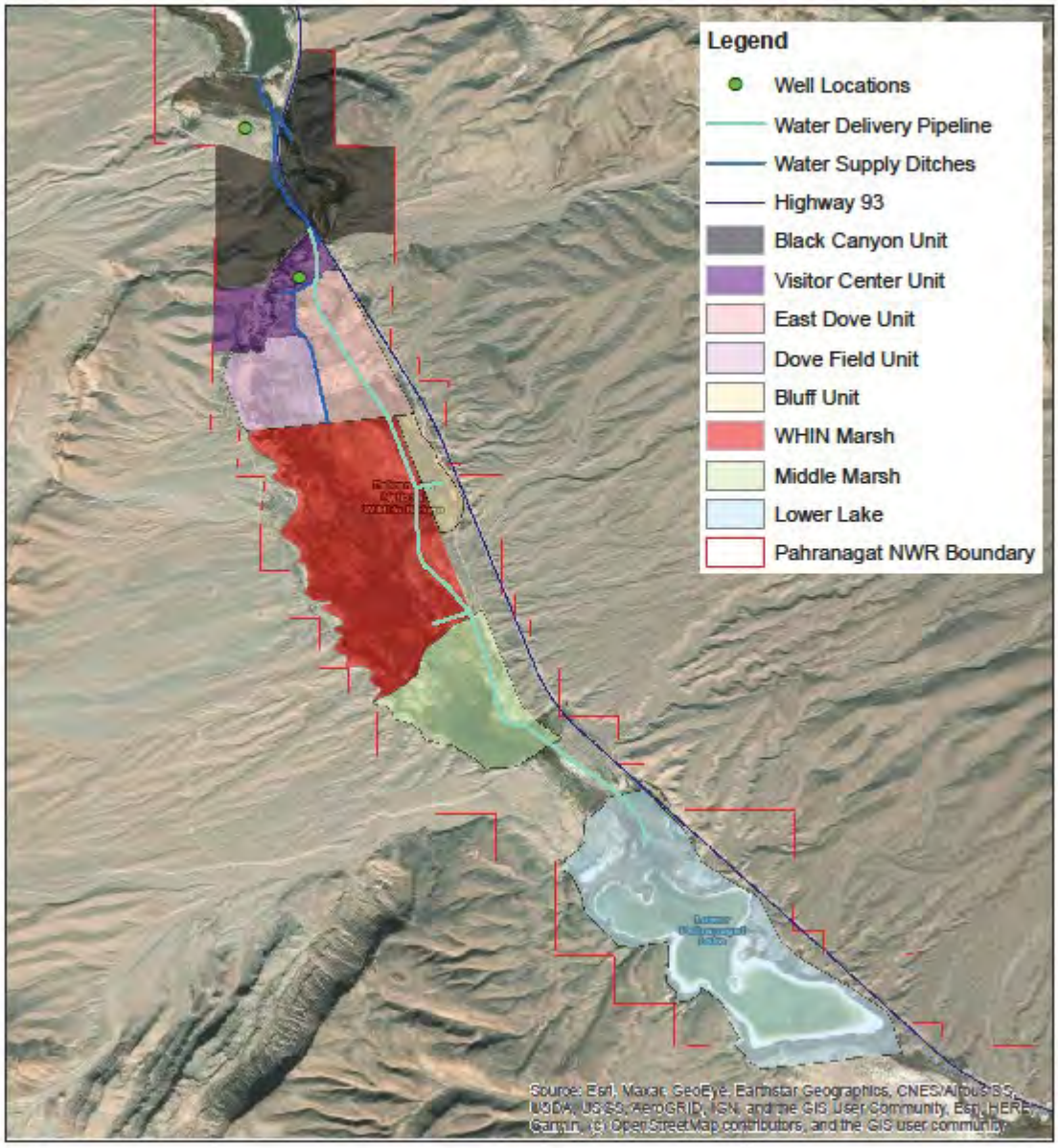
0 5 10 20 30 Miles

Produced by Rabecca Lausch
Pahranagat National Wildlife Refuge
Map Date: 10/22/2021

Strategic Values – Sustainability & Connectivity

U.S. Fish and Wildlife Service

Sustainability and Connectivity: Wetland, Riparian, and Wet Meadow Units Served by Water from Two Wells at Pahranagat National Wildlife Refuge



N

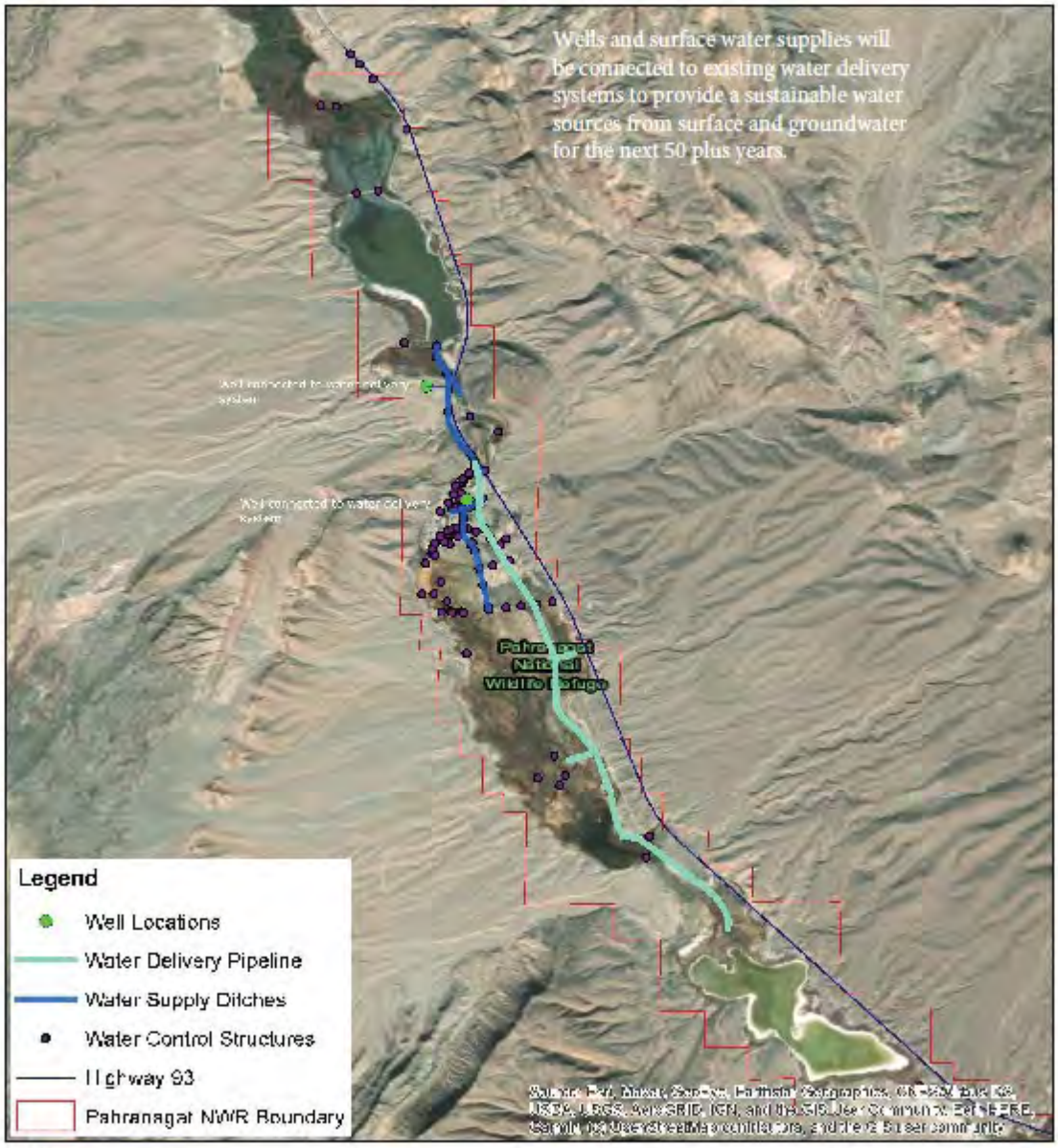
0 0.25 0.5 1 1.5 2Miles

Produced by Rabecca Lausch
Pahranagat National Wildlife Refuge
Map Date: 10/21/2021

Strategic Values – Sustainability & Connectivity

U.S. Fish and Wildlife Service

Sustainability/Connectivity: Well locations with relation to existing water control structures and water delivery systems at Pahranagat NWR, Lincoln County, Nevada



Produced by Rabecca Lausch
Pahranagat National Wildlife Refuge
Map Date: 10/21/2021

N. PERFORMANCE MEASURES

SNPLMA STRATEGIC PLAN GOAL 1: Sustain the Quality of the Outdoor Environment by Conserving, Preserving, and Restoring Natural and Cultural Resources		
Performance Measures forHabitat Enhancement	**Definition of Performance Measure**	**Quantity**
H2 - Miles of Riparian Streamor Shoreline Habitat Treated, Enhanced, or Restored	Report the number of miles of riparian stream and/or shoreline vegetation and/or wildlife habitat treated, enhanced, or restored. This can include retreatment and/or maintenance treatments only if the initial treatment was not funded through SNPLMA and the miles have not been accounted for in the performance measures for another SNPLMA project. Include acres treated by fire for resource benefits, but not other types ofwildland fire. Do not report treatments targeting invasive vegetation, as those should be reported under the H9 performance measure. Do not report hazardous fuels reduction projects, as those should be reported under either the F1 or F2 performance measures. Report to the nearest whole mile.	4
H3 - Miles of Riparian Stream or Shoreline Habitat Surveyed, Inventoried, or Monitored	Report the number of miles of riparian stream and/or shoreline vegetation and/or wildlife habitat surveyed, inventoried, or monitored. Report to the nearest whole mile.	4
H6 - Acres of Wetland / Riparian Habitat Treated,Enhanced, or Restored	Report the number of acres of wetland vegetation and/or wildlife habitat treated, enhanced, or restored. This can include retreatment and/or maintenance treatments only ifthe initial treatment was not funded through SNPLMA and the acres have not been accounted for in the performance measures for another SNPLMA project. Include acres treated by fire rehabilitation projects or byfire for resource benefits, but not other types of wildlandfire. Do not report treatments targeting invasive vegetation, as these should be reported under the H9 performance measure. Do not report hazardous fuels reduction projects, as these should be reported under either the F1 or F2 performance measures. Report to the nearest whole acre.	1146
H7 - Acres of Wetland / Riparian Habitat Surveyed,Inventoried, or Monitored	Report the number of acres of wetland vegetation and/or wildlife habitats inventoried or monitored. Report to the nearest whole acre.	30
H8 - Number of Water Developments Constructed orImproved for Wildlife	Report the number of water developments for use by wildlife constructed or improved/repaired within all habitat types. Existing projects may be counted under	1

	this performance measure if functional improvements/repairs are made as defined in the project nomination. Report each development constructed or improved as one unit (e.g., one project may have three water developments).	
H9 - Acres of Invasive Plant Species Treated or Restored	Report the number of acres of weed infestation treated with chemical, mechanical, physical, or biological control agents for the purpose of weed control. Include acres treated by fire when fire is used as a physical control agent for weed control rather than as a hazardous fuels treatment. Each acre treated is counted only once during the life of the project, no matter how many re-treatments occurred during the project. Report to the nearest whole acre.	15
H10 - Acres of Invasive Plant Species Surveyed, Inventoried, or Monitored	Report the number of acres of weed infestation inventoried or monitored. Include monitoring of weed treatment projects reported under performance measure H9. Report to the nearest whole acre.	15
H14 - Number of Threatened and Endangered Species Recovery Actions Implemented	Report the number of individual recovery actions performed for threatened or endangered species recovery as identified in recovery plans, conservation management plans, or land use planning documents. Include surveys, inventories, and monitoring as recovery actions. Note: One distinct action repeated 5 times over the course of the project would report as 1 action, not 5. The same recovery action conducted at distinct sites can be counted once for each site (this does not apply to individual plots within one single project site). The number of acres over which the actions were taken are reported under either H4 or H6. Report each action as one unit.	3
H15- Number of Conservation Actions Implemented for Non-Listed Species	Report the number of individual conservation actions for species not listed under the Endangered Species Act. Note: One distinct action repeated 5 times over the course of the project would report as 1 action, not 5. The same conservation action conducted at distinct sites can be counted once for each site (this does not apply to individual plots within one single project site). The number of acres over which the actions were taken are reported under either H4 or H6. Report each action as one unit.	6
H16 - Miles of Roads or Trails Decommissioned and/or Rehabilitated	Report the number of miles of roads and/or trails decommissioned and/or rehabilitated within all habitats (urban, upland, riparian, stream, trails in caves, etc.). Closure may include designation, signing, blockage by physical means, obliteration, etc. Report to the nearest whole mile.	3

H17 – Miles of Roads or Trails Surveyed, Inventoried, or Monitored	Report the number of miles of roads and/or trails inventoried or monitored. Report to the nearest whole mile or linear foot. Report to the nearest whole mile.	3

Performance Measures for Wildland Fire Management	Definition of Performance Measure	Quantity
F1 - Acres of Hazardous Fuels Treated – Non-Wildland Urban Interface (WUI)	Report the total number of acres of hazardous fuels treated, enhanced, or restored to reduce wildland fuels hazards and to restore or maintain ecosystem resiliency outside the WUI. Where multiple treatments are necessary to meet vegetation management objectives, such as hand thinning followed by re-seeding, each treatment is counted individually. Report to the nearest whole acre.	6

O. PHOTOS

The Bluff Unit has experienced severe desertification due to water shortages from surface water rights. With the construction and operation of SNPLMA's CI39 pipeline, the Refuge has the ability to move water back into the unit. This is the site for a 10 acre wetland restoration project, and site for passive water delivery from the proposed improved wells. Thissite has been an important waterfowl nesting area and brood rearing habitat in the past.

The solitude circle in the Visitor Center Trail area is a place for visitors to pause, reflect, and appreciate the resources around them. This place was visited and blessed by tribal elders before construction of thetrails began. At present, the fields adjacent to the solitude circle are sparsely vegetated due to drought conditions and water shortages. Replacing the wells on the Refuge would increase the available water todeliver to units like these to encourage the growth of native vegetation and prevent desertification of these areas.

Left: Two invasive common cocklebur plants *(Xanthiumstrumarium*) growing in the dry meandering stream channel adjacent to the Visitor Center Trail bridge.
Rehydrating the stream channel will encourage thegrowth of native vegetation and create unsuitable conditions for invasive species like cocklebur.

Below: Several Cottonwood trees adjacent to the Pahranagat Loop Trail have succumbed to droughtstress. Delivering water to these areas by using therepaired wells will increase survival of native tree species, especially in times of drought.

The north well is currently inoperable due to its aged pump and drop pipe. This well was historically the largest water producer on the Refuge. The Refuge would have the ability to use approximately 1,000 acre feet of groundwater rights from this well, which would impact Black Canyon Archaeological District. Water could also feet into the pipeline constructedthrough CI39, which would have directimpacts to the Bluff Unit's proposed wetland restoration in addition to providing water for 1,146 acres of wetland habitat on the Refuge.

The south well, constructed in 1971, is in desperate need of replacement. Thiswell is at risk of collapse, which would jeopardize the refuge's ability to use more than 700 acre feet of groundwater from this well. Costs of electricity to run this well also prohibit its continued use, and we propose installing a solar array to power this and the north well.

P. SUPPORT LETTERS

1. Ducks Unlimited
2. Lincoln County Conservation District
3. US Fish & Wildlife Service Retirees Association
4. Red Rock Audubon
5. Southern Nevada Water Authority
6. Wildlife and Habitat Improvement of Nevada
7. US Fish & Wildlife Service, Pacific Southwest Region

Western Regional Office
3074 Gold Canal Drive
Rancho Cordova, CA 95670
Ph: 916-852-2000, Fax: 916-852-2200
www.ducks.org

October 28, 2021

Bureau of Land Management
Southern Nevada District Office
SNPLMA Division
4701 N. Torrey Pines Drive
Las Vegas, Nevada 89130

Re: Support for Pahranagat National Wildlife Refuge, SNPLMA grant nomination

Dear Partners Working Group and Executive Committee:

Ducks Unlimited (DU) supports the U.S. Fish and Wildlife Service's (USFWS) grant application to the Southern Nevada Public Land Management Act (SNPLMA) to replace two groundwater wells accompanied by solar-powered pumps on Pahranagat National Wildlife Refuge (NWR).

Pahranagat NWR is a unique oasis surrounded by the Mojave Desert in southern Nevada and provides rare wetland and riparian habitats in the region. As such, the wetlands on the NWR provide an important stopover location for migratory waterfowl, shorebirds, and waterbirds during both fall and spring migrations. The riparian areas are even more critical as they provide nesting habitat for songbird species such as the endangered Southwestern willow flycatcher.

The proposed project on Pahranagat NWR will improve water availability which is integral in supporting and maintaining these important habitats. In particular, the proposed project will replace two deteriorated wells that no longer effectively pump water with two newly drilled groundwater wells. These new wells will be constructed out of corrosion-resistant materials and will be solar-powered. With the replacement of these two wells, the Refuge is expected to be able to pump its full allotment of water rights which would increase its water availability 25% to 50% annually. This increase in available water would be used to support native riparian vegetation to support increased breeding habitat for the endangered Southwestern willow flycatcher, and wetland habitat to support increased breeding and migration habitat for waterfowl.

In Nevada, DU has worked in collaboration with private landowners, other non-governmental organizations, and state and federal agencies to help conserve wetlands through land protection, restoration, and enhancement projects. We look forward to continued collaborative efforts with USFWS and urge you to give this project your highest consideration.

Sincerely,

Jeffrey McCreary
Director of Operations

Lincoln County Conservation District
360 Lincoln St. PO Box 445
Caliente, NV 89008
775 726-3101 / lincolncountycdnv@gmail.com

"Conserving our Resources for Future Generations"

November 3, 2021

Bureau of Land Management
SNPLMA Division
4701 N. Torrey Pines Dr.
Las Vegas NV 89130
Attn: Terri Halbardier - SNPLMA Acting Program Manager

Dear Ms. Halbardier,
Lincoln County Conservation District supports the Pahranagat National Wildlife Refuge SNPLMA Round 19 Proposal to replace two groundwater wells with modern, solar-powered technology.

We recognize that the current wells do not operate effectively which has a negative effect on wildlife habitat. We are particularly interested in the idea to have adequate water through the dry summer months to protect the integrity of the variety of habitats on the Refuge, prevent desertification or invasion of these areas by non-native species, and maintain the ecological context of cultural sites.

Our experience with solar wells elsewhere is that they demonstrate an efficient way to provide water at a cost savings and in remote locations. We support the idea to replace the existing wells with new casings and solar energy.

Thank you for your consideration.

Sincerely,

Maggie Orr

Maggie Orr
Vice-Chair, Lincoln County Conservation District

Association of Retired U.S Fish and Wildlife Service Employees
698 Conservation Way
Shepherdstown, WV 25443

http://fwsretirees.org/

August 14, 2021

Traver Detras, Maintenance Mechanic
Pahranagat National Wildlife Refuge
U.S. Fish and Wildlife Service
P.O. Box 510
Alamo, NV 89001

Dear Traver,

I am pleased to inform you that the Association of Retired U.S. Fish and Wildlife Service Employees has selected your proposal: "*Improving Agricultural Wells for Use in Restoration of Pahranagat National Wildlife Refuge*" for funding. A check for $10,000.00 will be made available for the work through our BillPay system. This can be accomplished by having your chosen contractor send an invoice via email to our treasurer, Steve Rideout, at treasurer@fws.retirees.org for the above referenced project and amount. Please have the contractor also send a courtesy copy of the invoice email to your project leader.

Congratulations on the selection of your project. Only five of the 50 proposals reviewed were selected! Please remember also to share a final report with our organization, including at least one photo suitable for publication, within six months of finishing the work.

Best wishes,

Robin West, Vice Chair
Association of Retired FWS Employees

Vice Chair, FWS Retirees, P.O. Box 1630, Rogue River, OR 97537
(541) 787-0938 robinnoteast@gmail.com

Red Rock Audubon

Red Rock Audubon's mission is to bring people together for the conservation and enjoyment of birds, other wildlife, and the natural world throughout Southern Nevada and neighboring areas.

P.O. Box 96691 Las Vegas, Nevada 89193

Bureau of Land Management
Southern Nevada District Office
SNPLMA Division
4701 N. Torrey Pines Dr.
Las Vegas NV 89130

RE: SNPLMA Round 19 Proposal, Replacing Two Groundwater Wells with Modern, Solar-Powered Technology, Pahranagat National Wildlife Refuge

To Whom It May Concern:

The Red Rock Audubon Society (RRAS) supports Pahranagat National Wildlife Refuge's project proposal to replace two nonfunctional agricultural well pumps with modern, green energy solar-powered technology.

Water is a precious resource at Pahranagat NWR, which was established to protect wetlands and wet meadows for wetland-dependent migratory birds and endangered species of the Pacific Flyway. It is vital that the upper and lower lakes, the wetlands, and wet meadows be protected from drought caused by the diminishing flow of water into the refuge. It is also important to maintain a healthy habitat around the Visitor Center to attract human visitors as well as the resident birds and other wildlife that inhabit the area.

Replacing the two existing, low functioning wells with modern solar powered technology will restore the original water flow and accomplish this goal at a low energy cost to the refuge.

Red Rock Audubon is a Southern Nevada chapter of the National Audubon Society with over a thousand members. We have a long history and productive relationship with the Pahranagat National Wildlife Refuge. Our community outreach and community science programs include the annual Christmas Bird Count and field trips. Pahranagat National Wildlife Refuge is a strategic and unique habitat for the protection and survival of migratory waterfowls.
The successful achievement of this project goals will support the accomplishment of our chapter's mission.
Please contact me directly at 702-349-7848 or email me at president@redrockaudubon.com if you have further questions about RRAS's support of this project.

Red Rock Audubon

Red Rock Audubon's mission is to bring people together for the conservation and enjoyment of birds, other wildlife, and the natural world throughout Southern Nevada and neighboring areas.

P.O. Box 96691 Las Vegas, Nevada 89193

Sincerely,

Paul Rodriguez
President
Red Rock Audubon Society

SOUTHERN NEVADA WATER AUTHORITY

I 00 City Porkw3y. Su11e 700 • Lm; Vegas. NV 89106
PO Box 99956 • Las Vegas. NV 89193-9956

November 4, 2021

Rob Vinson
Wildlife Refuge Manager
U.S. Fish and Wildlife Service
Pahranagat and Moapa Valley NWRs
PO BOX 510, Alamo, NV 89001

Dear Mr. Vinson:

The Southern Nevada Water Authority (SNWA) and the U.S. Fish and Wildlife Service (USFWS) have been working together to protect the endangered Moapa dace, the Southwestern willow flycatcher, and the threatened, yellow-billed cuckoo and the other sensitive species in the Upper Muddy River since 2006. The Pahranagat National Wildlife Refuge (PNWR) is seeking Southern Nevada Public Lands Management Act (SNPLMA) grant funding to replace two water wells used to supply water as part of a permitted water right to pump up to 1685 acre-feet per year to support riparian, woodland and aquatic habitat for these birds and other species at the refuge. These wells are currently in poor condition and require replacement. Existing riparian, woodland and aquatic habitat is stressed by the lack of irrigation water. Although the PNWR is located about 50 miles upstream from the Warm Springs Natural Area (WSNA) and the adjacent Moapa Valley National Wildlife Refuge, it is the nearest area of riparian, woodland and aquatic habitat to the north of WSNA and is a critical link in migratory bird pathways connecting areas of suitable habitat across Nevada.

SNWA is dedicated to the conservation and recovery of endangered and threatened species and operates WSNA to protect the Moapa dace and its habitat and has been working to maintain, restore, and increase riparian bird habitat (Warm Springs Natural Area Stewardship Plan, SNWA 2011). SNWA supports USFWS' s SNPLMA grant application to replace the two water wells, install solar power systems to power well pumps, and to restore riparian, woodland, and aquatic habitat on the PNWR.

SNWA looks forward to continued collaboration with USFWS in increasing riparian, woodland and aquatic habitat for sensitive species.

Sincerely,

Zane L. Marshall
Director, Water Resources

ZLM:nh

Wildlife and Habitat Improvement Of Nevada
PO Box 98435
Las Vegas, NV 89193

November 1, 2021

Bureau of Land Management
Southern Nevada District Office
SNPLMA Division
4701 N. Torrey Pines Dr.
Las Vegas NV 89130

To Whom it may concern

WHIN is in support of Southern Nevada Public Land Management Act (SNPLMA) Round 19 Project Proposal - Pahranagat NWR. This NWR is in desperate need of water and this project would be a huge help to the wildlife in southern Nevada. This would create more opportunities for the people in southern Nevada to enjoy everything this refuge has to offer.

Best Regards

Mitchell Stoker
Vice President
Wildlife and Habitat Improvement Of Nevada

United States Department of the Interior

FISH AND WILDLIFE SERVICE
911 NE 11th Avenue
Portland, Oregon 97232-4181

In Reply Refer to:
FWS/LR 1/NWRS-WRB

Bureau of Land Management
Southern Nevada District Office
SNPLMA Division
4701 N. Torrey Pines Dr.
Las Vegas NV 89130

November 4, 2021

To whom it concerns:

As Acting Water Resources Branch Chief for the U.S. Fish and Wildlife Service National Wildlife Refuge System Pacific Southwest Region, we are writing to express full support for the proposed groundwater well project at Pahranagat National Wildlife Refuge for Round 19 of the Southern Nevada Public Lands Management Act (SNPLMA). The project, entitled "Replacing Two Groundwater Wells with Modern, Solar-Powered Technology", entails drilling new wells at the refuge to replace two older ones that are failing and no longer capable of pumping the total volume of water for which they were designed. The two new proposed wells are energy-efficient and would allow the refuge to place the full amount of water allocated in their groundwater rights to beneficial use.

Pahranagat NWR is a crucial migration stop in the Pacific Flyway and for Nevada's waterbirds including ducks, geese, swans, Sandhill cranes, neotropical migrants, and the endangered Southwestern Willow Flycatchers. Water availability is a key determining factor in the successful development of the marshes, meadows, and lakes of the refuge that provide sanctuary for these birds. The habitat the refuge provides is irreplaceable. Lack of adequate water resources could substantially change migration strategies and have significant and irreversible long-term impacts on species that have relied upon habitat in the Pahranagat Valley for thousands of years.

The refuge has been facing extreme drought in the past few years and, with increasing warming from climate change, an increase in regional water demand that is causing stress on refuge water supplies. Only 2.61 inches of rain fell there in 2020, the lowest total since 2002 and the second lowest in the last 21 years of data.[1] With precipitation inputs in recent decline, water

1. The source for these meteorological data is the Alamo weather station in the "Community Environmental Monitoring Program." Website: https://cemp.dri.edu/cgi-bin/cemp_stations.pl?stn=alam.

users in the valley have relied more on other water sources, including stream flows from Ash and Crystal Springs north of Alamo. While there is no certainty on whether these precipitation patterns will persist as climate changes, it can be expected that increases in water demand from rising temperatures and evapotranspiration will continue to drive drought stress and water limitations into the future2•

Due to increased strain upon water availability from the springs for all diverters, refuge spring-source inflows have decreased overall since 200 5. The refuge currently relies on decreed and state- issued surface water rights for Ash and Crystal Springs. Pahranagat received less spring water in the winter season of 2021 (defined as the period between 10/01/20 and 03/14/21) than any other winter season in the past 16 years.3 The refuge cannot continue to meet habitat demands and fulfill its mission if these conditions persist.

The well project proposed by the refuge is an outstanding solution to mitigate future potential shortages in spring water sources with an alternative supply of locally pumped groundwater. The project design for the two wells is environmentally sound, can operate under existing water rights (rather than requiring new water right applications), and allows the refuge to utilize its full allocation of water per those rights which provides an opportunity to avoid water right loss and forfeiture. The groundwater wells will help ensure that waterbirds visiting the Pahranagat Valley will continue to have habitat in which they can thrive.

Please feel free to contact us with any questions about this letter of support.

Michael Jeletic
Acting Supervisory Hydrologist/ Hydrologist
Pacific Regions Water Resources Branch
U.S. Fish and Wildlife Service
(503) 231 -2233
michael_jeletic@fws.gov

2. Isla Simpson, National Center for Atmospheric Research, oral presentation September 21 2021 "Setting the Stage: How did we get here?", 2021 Southwest Drought Virtual Forum, National Oceanic and Atmospheric Administration Drought Information System (NIDIS).
3. However, the 2007, 2012, and 2016 winter seasons were excluded due to insufficient data collected during part or all of those seasons.

Southern Nevada Public Land Management Act
Conservation Initiatives
Round 19

National Park Service, Great Basin National Park

Improving Mountain Lion Management with Outreach, Inclusiveness, and Community Science

Amount Requested: $2,210,324

A. BACKGROUND INFORMATION

Mountain lions are the last apex predator in the Great Basin. As keystone species, mountain lions influence ecosystem resiliency and function through predation. These “top down” effects regulate prey abundance and behavior, reduce herbivory, invasive species, and disease transmission, while increasing soil fertility and biodiversity (Beschta and Ripple, 2009). Such trophic cascades are a foundational ecological concept and can maintain and restore ecosystems at the landscape scale (Fraser et al., 2015).

However, predator management is a polarizing issue. Despite the positive effects of predators on ecosystems, mountain lions can be viewed negatively, particularly in rural areas. For example, mountain lion predation on livestock, is an economic burden for agricultural producers. When mountain lions switch from their preferred prey of mule deer to alternative prey like bighorn sheep, predation can negatively impact prey populations, reduce recreational hunting and viewing opportunities, and suppress bighorn population growth (Rominger et al., 2004).

Further complicating predator management is the rural urban divide. Mountain lion conservation is widely supported in cities and suburbs, but mountain lions occur mostly in rural areas and federally managed lands in Nevada. Rural populations that co-exist directly with mountain lions often hold fundamentally different views on wildlife management and unlike urban dwellers, may not support predator conservation (Manfredo et al., 2021).

National Parks find themselves in the middle of this controversy. The mission of Great Basin National Park (GRBA) is to protect its resources and ecosystem processes “unimpaired for future generations”. Apex predators are valued as an integral component of the faunal community but large-bodied obligate carnivores like mountain lions have extensive spatial and caloric requirements (Stoner et al., 2018). The home range of a single adult male mountain lion is a similar size to the entire area of Great Basin National Park. These life history characteristics mean that mountain lions must leave the sanctuary of the park, where the find conflicts between lions and neighboring agricultural communities arise. Predator management presents a complex and challenging issue for national parks trying to conserve large predators, trophic cascades, and ecosystem processes, while maintaining good relationships with surrounding communities.

Cooperative conservation is the only effective management strategy for large animals, like mountain lions, which must be managed at landscape scales, across administrative boundaries (Elbroch, 2020). Because of the mismatch between the scale of animal movements and the matrix of land ownership patterns, national parks should partner with wildlife managers, surrounding stakeholders, land management agencies, livestock producers, and private landowners to effectively conserve large carnivores and sustainable ecosystem function.

The NPS Connected Conservation (C2) community was formed to encourage partnerships and communication for cross-border, collaborative conservation to sustain nature, culture, and community (https://www.nps.gov/subjects/connectedconservation/index.htm). This project will implement the Connected Conservation model using mountain lion research and management as tools in community based, inclusive conservation. Shifting conservation towards social engagement, outreach, and education while incorporating communities into gathering and

interpretation of wildlife management data will improve management outcomes and ecosystem health.

The goal of this project is to engage and connect communities to achieve sustainable, resilient landscapes and ecosystems. Project objectives are to (1) Engage communities and Tribes in research and management through citizen science, outreach and education; (2) Conduct social Science examinations of land managers, livestock producers, federal and state agencies, landowners, Tribal members, and community members to inform and support management decisions; (3) Use mountain lion research as a tool to connect with communities through outreach, education and citizen science; (4) Use a novel approach of providing training in wildlife techniques to students from an underserved urban setting, while introducing them to local stakeholders and rural communities through discussions and research of local management issues.

a. Describe Relationship to prior Approved Phases or Related SNPLMA Projects and Anticipated Future Phases

Round 16 Conservation Initiatives Project (NP78), "Can land managers prevent the 'inevitable collapse' of bats in the western US?" was a bat research and management project at caves and mines in White Pine County. This project worked with multiple partners in academia, state and federal agencies to achieve positive conservation outcomes across administrative boundaries. Outreach, education, community science, and partnerships were core components of this project.

Round 10 Conservation Initiatives (FW67) "Survival and Habitat Requirements of Bighorn Sheep on the Desert NWR" was a community focused project that determined survivorship for bighorn sheep, mountain lion predation, and habitat modeling. The principal investigators and cooperators from FW67 are assisting with this project.

b. Acknowledgement of Stand-Alone Project and no Guarantee of Funding for Future Phases

This project is a stand-alone, one-time, non-phased, viable project. No other SNPLMA funds will be requested for this action.

B. SNPLMA STRATEGIC PLAN VALUES

Conservation Initiative projects have two goals identified in the Strategic Plan:

- Goal 1: Sustain the quality of the outdoor environment by conserving, preserving, and restoring natural and cultural resources.
- Goal 2: Improve the quality of life for all publics in urban and rural communities by enhancing recreational opportunities that connect people with the outdoor environment.

Nominated projects should meet these goals by focusing on the three SNPLMA core values, connectivity, sustainability, and community. Every nomination must explain how the three values are promoted by the project.

1. Sustainability:

Large, apex predators sustain healthy ecosystems. For example, mountain lions create trophic cascades with far reaching effects on plant productivity, nutrient cycling, disease transmission, and biodiversity through interactions with prey species. Mountain lion predation indirectly moderates stream morphology and aquatic biodiversity and directly affects prey species such as bighorn sheep and mule deer. However, predator management requires community support and engagement to sustain these beneficial processes. This project will use outreach, education, and community science, proven tools in conservation, to achieve sustainable management of mountain lions across administrative boundaries.

2. Connectivity:

Large-bodied obligate carnivores like mountain lions require extensive areas to support their caloric needs. For example, the home range of a single adult male mountain lion is about the same size as Great Basin National Park (77,000 acres). Although national parks highly value apex predators, most parks are not large enough to protect intact predator populations. Similarly, prey species such as mule deer and bighorn sheep migrate seasonally in and out of the park. Connecting ecosystem processes and habitats through partnerships across administrative boundaries is necessary to effectively conserve large predators and their prey.

3. Community:

Conservation is a human endeavor. Without community support, dialogue, and engagement conservation falls flat and difficult problems become more difficult. Despite this, most agencies and conservation biologists fail to acknowledge the importance of social differences and human behavior in wildlife management. Therefore, we propose to use mountain lion research and management as tools for community engagement with stakeholders, tribes, and partners, while facilitating interactions between historically disparate urban and rural communities. This will be accomplished through outreach, education, and surveys, connecting multiple interest groups in discussions of resource conservation, and management. Additionally, this project will provide essential information on cougar ecology using community scientists to collect and analyze data.

C. PURPOSE STATEMENT

Great Basin National Park in partnership with academia and the Nevada Department of Wildlife will oversee a community outreach, education, and science project. The goal of this project is to engage and connect communities to achieve sustainable, resilient landscapes and ecosystems. Mountain lion research will be used as an educational tool to improve partnerships between agency staff, private landowners, community members, and students to better manage large predators across administrative boundaries. Additionally, this project will provide essential information on cougar ecology using community scientists to collect and analyze data. A curriculum will be developed to facilitate interactions between historically disparate urban and rural communities. Connecting communities with predator management will sustain and improve healthy ecosystem processes.

D. PROJECT DELIVERABLES

1. Primary Deliverables:

- Conduct virtual and in person mountain lion kill investigations with classes and school groups (25)
- Annual community meetings in Baker and Ely, NV (3)
- Stakeholder interviews by graduate students (5)
- Social science investigation with agencies and stakeholders (1)
- Undergraduate wildlife management techniques class for underserved populations (3)
- Social media outreach via Instagram, YouTube, Twitter, and Facebook accounts (25)
- Assess number and demographic structure of mountain lions in the Snake Range (1)
- Estimate mountain lion diet profiles, including composition of prey, distributions of prey, specific kills, and intervals between kills (1)
- Assess mountain lion habitat use, home range and core use areas (1)

2. Anticipated Deliverables:

- Peer-reviewed publications (3)
- Graduate student theses (2)
- Articles highlighting project and accomplishments in the Park Natural Resource newsletter (*The Midden*; 3)
- Presentations at professional meetings (3)
- Educational materials about mountain lion ecology and management to school and community groups and newspapers (3)
- Spatially-explicit model for risk of mountain lion predation for bighorn sheep, mule deer, elk, and domestic sheep (1)
- Risk assessment for mountain lion mortality in and outside park (1)
- Quantify mule deer mortality risk, home ranges, and seasonal movements via GPS collars (1)
- Continue investigations of bighorn sheep ecology and management (1)
- Databases for collars, captured animals, GPS locations, and kill sites. Databases will be consistent with and attributed according to existing databases for USGS-NPS mountain lion studies in southern Nevada and southern Utah (1)

3. Standard Deliverables:

- Specialist's review of project documents
- Annual Reports to include permits and NEPA compliance; capture and GPS monitoring; investigation of GPS location clusters and preliminary determination of prey selection, kill rates and habitat use.
- Final Report, including details of all trapping results, cougar monitoring, prey selection and habitat use including information on mountain lion population size, demographic structure, prey composition and kill rate, home ranges, habitat utilization, and core use areas. recommendations on how to ensure mountain lion persistence at GRBA, GIS data layer of capture, GPS animal and kill site locations
- Detailed implementation plan will be developed and entered into a SNPLMA access database

- NEPA
- Section 106 (including Tribal Consultation)
- Develop a Scope of Work for contracting and cooperative agreements
- Budget Tracking
- Quarterly and annual reporting
- Final project report
- SNPLMA close-out package

E. PROJECT LOCATION

Great Basin National Park, Snake Range, Schell Creek Range, Snake Valley, Spring Valley

Latitude and Longitude:
N 39.005479 W -114.220686

Identify Congressional District(s):
4th Congressional district of Nevada

F. PROJECT TIMEFRAME

The project is expected to last 5 years from the initiation date and will be initiated within one year of the Authorization to Expend Funds. The project will be completed when the deliverables have been met, final reports received, and education and outreach has been completed. These products will be included in the final closeout report to SNPLMA to confirm completion.

Year 1

- Initiate NEPA, NHPA Section 106, Tribal consultation, hiring, contracts and agreements.
- Secure necessary permits.
- Selection of CESU cooperators.
- Draft cooperative agreements and study and implementation plans.
- Project planning with partners.
- State agency and USDA review of cooperative agreements and study plans for mountain lions, mule deer, bighorn sheep, and social science investigation.
- Initiate equipment purchasing.
- Animal Care and Use and Review Board application for universities and NPS
- Curriculum development and approval for wildlife ecology and management techniques course.

Year 2

- Continue any needed compliance.

- Finalize cooperative agreements, study, and implementation plans.
- Begin field work (tracking, camera-trap set-up for location and population census).
- Begin mountain lion and mule deer captures. Collect location data (for approx.14 months after each GPS collar deployed).
- Data collection for estimation of mountain lion diet profiles.
- Social Media posts and Community Planning and outreach meetings.
- Kill site investigations with volunteers and school groups.
- Wildlife ecology and management techniques course.
- Data sharing agreement with NDOW
- Data management plan and protocols

Year 3

- Collect location data until all collars are retrieved,
- Continue mountain lion and mule deer captures and collaring.
- Kill site investigations with school groups and volunteers.
- Social media outreach.
- Initiate social science study.
- Meetings with stakeholders.
- Wildlife ecology and management techniques course.

Year 4

- Continue to collect location data until all collars are retrieved, continue mountain lion and mule deer captures and collaring.
- Kill site investigations with school groups and volunteers.
- Wildlife ecology and management techniques course.
- Social media outreach.
- Finalize social science study.
- Meetings with stakeholders.
- Begin analyses: 1) Estimates of population size and demography; 2) estimation of mountain lion diet profiles, including composition of prey, distributions of prey-specific kills, and intervals between kills of mountain lions. 3) Habitat use and home range of individual mountain lions.

Year 5

- Finalize analyses and reports.
- Complete any aspects of project not yet completed
- Continue educational and social media outreach
- Project close-out
- Final project report.
- Meetings with stakeholders presenting final results.

G. LEVEL OF PROJECT READINESS FOR IMPLEMENTATION

Is this a shovel-ready project? ☒Yes ☐No

The level of readiness to implement the project within one year of notification of funds availability (NOFA) is very high. The park and their partners have much of the staff, training, and resources necessary to implement this project. Staff include:

- Wildlife Biologist, permanent
- Environmental Protection Specialist, permanent
- Natural Resource Manager, permanent
- Ecologist, permanent
- Archeologist, permanent
- Archeologist, permanent subject to furlough
- Cultural Resource Program Manager, permanent
- Biologist, permanent
- Bio-Sci. Tech. Lead, permanent

H. FUTURE OPERATING AND MAINTENANCE

This project is not expected to incur any long-term O&M costs. If monitoring devices are still active at the end of the project, the park, NDOW, and academic partners will continue to support any collar recovery or data management needs past that time.

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I. PROJECT BUDGET

Instructions: Put project cost estimates in Tabs 1-8. The values from those tabs will roll-up to this summary worksheet. The Non-Federal Contribution can be entered in Tabs 1-8 as a whole amount, it does not need to be broken out by unit cost. Non-Federal entities must use the standard form for an assistance agreement SF-424A Budget Non-Construction (PDF) and Budget Detail (Word document).

PROJECT BUDGET

Project Name:	Improving Mountain Lion Management	**Date:**	11/5/2021
Project Manager:	Bryan Hamilton	**Agency:**	National Park Service

Cost Categories	**SNPLMA**	**Non-Federal Contribution**
1. Personnel (labor plus benefits)	$ 615,430.00	$ 22,618.00
2. Travel	$ 17,000.00	$ 15,000.00
3. Training	$ 24,000.00	$ -
4. Equipment	$ -	$ -
5. Supplies/Materials	$ 201,150.00	$ 13,750.00
6. Contracts and/or Agreements	$ 1,279,006.00	$ -
7. Vehicle Use	$ 28,488.00	$ -
8. Other Necessary Expenses	$ 45,250.00	$ -
9. TOTAL PROJECT BUDGET	**$ 2,210,324.00**	**$ 51,368.00**

Notes:

Partnership and/or Contributed Funds

- Volunteers appx 200 hours
- NDOW- 160 hours for predator specialist @$38.22/hour= $6,116
- Academia- 160 hours 2 pay periods for predator specialist @$38.22/hour= $6,116
- ENLC 160 hours 2 pay periods for predator specialist @38.22/hour= $6,116
- SNWA- Lodging and camping- 300 nights @ $50/night=$15,000
- NPS-GBNP can contribute 5 Iridium collars for this project for a match of $13,750.

$51,368 Total Contributed funds

J. KEY CONTACTS

Authorized Officer: James Woolsey, Superintendent
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Phone Number: (775)234-7502

Project Manager: Bryan Hamilton, Wildlife Biologist
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Phone Number: 775-234-7563

Budget Officer: Anita Hansen, Administrative Officer
Email: anita_hansen@nps.gov
Phone Number: 775-234-7501

K. RANKING CRITERIA

The Ranking Criteria are used to evaluate the nomination against the goals for the Conservation Initiatives category. Nominating entities are not to include either the total point value or the point values by criteria in their responses. Nominations will be reviewed and scored by the Conservation Initiatives subgroup.

1. **The nomination supports habitat enhancement, cultural resources, and/or public health and safety through connectivity and sustainability.** Include as many project subtypes as applicable to your nomination. Points will be awarded by the subgroup based on the level of support the nomination shows toward a variety of subtypes, the more variety, the more points. The subtypes below are not all inclusive.

    A. Habitat Enhancement. *The following are examples of project subtypes for habitat enhancement goals, objectives or actions this nomination will support/accomplish: enhances or connects habitats, migratory corridors, or protected areas; endangered species; proactive steps to prevent listing; invasive species treatment and/or control (plant or animal); restoration of habitat for sensitive species at the watershed or landscape level; climate change; water quality and quantity monitoring; cave management; restoration of springs, streams, and rivers; road decommissioning and rehabilitation; reintroduction of extirpated species to restore overall ecosystem.*

Answer: Large predators are critical to ecosystem function. The indirect effects of mountain lion predation enhances and connects habitats, creates migratory corridors, and benefits sensitive species (Beschta and Ripple, 2009). Effective predator management requires community support and engagement with diverse groups of stakeholders. We propose to integrate academic research, community outreach, and citizen science to engage the public to improve mountain lion management. Data on lion movements will be used to identify critical areas for connectivity between the GBNP and surrounding landscapes as well as possible sites of conflict. Combined with the outreach to local stakeholders and tribal consultation, this information can be used to build local support for maintenance of critical habitat necessary to maintain a long-term viable population of mountain lions and their prey in and around the GBNP. The net effect of this work will allow trophic cascades to create and maintain resilient ecosystems at the landscape scale, while incorporating local knowledge and opinions of diverse stakeholders into management.

B. Cultural Resources. *The following are examples of project subtypes for cultural resources goals, objectives or actions this nomination will support/accomplish: surveys; National Register (eligible or currently approved); protection/site stewards; restoration/stabilization; and tribal involvement and/or consultation.*

Answer: NA

C. Public Health and Safety. *The following are examples of project subtypes for public health and safety goals, objectives, or action this nomination will support/accomplish: litter/dumping cleanup; information kiosks and signs; addresses and mitigates adverse impacts to resources caused by the volume of people using the resource; resolving trespass/encroachment/illegal use of public lands (i.e. marijuana grow sites)/boundary surveys; and abandoned mine land (AML) with habitat restoration component.*

Answer: Nature is medicine. Healthy ecosystems support our well-being, mental and physical health and are vital for people to rest recharge and relax (Victorson et al., 2020). As apex predators, mountain lions maintain healthy ecosystems through trophic cascades but also invoke strong emotions in humans . While predator management requires solid scientific information, conservation is emotional and is often limited by social norms and human behavior (Castillo-Huitrón et al., 2020). Failing to acknowledge the human aspect of conservation or to openly engage with communities can jeopardize healthy ecosystems and land management strategies. We propose to improve predator management, ecosystem health, and human well-being using mountain lion research to engage and connect communities. Information gathered on mountain lion use of the park will be incorporated into park kiosks, displays, and outreach to inform the public on safe practices when encountering mountain lions and the real versus perceived risks of interactions with mountain lions in the park and surrounding environment. Social media outreach and virtual kill investigations will form a significant portion of this protect to reach a wider audience.

2. **The nomination promotes sustainability by providing benefits in the near and long term by implementing actions to conserve and sustain healthy and resilient landscapes and providing durability, relevancy, and shared support. Answer all applicable.**

A. Conserves resources to ensure availability to future generations through management of natural and/or cultural resources for current public benefit and sustainable social and economic utilization.

Answer: The mission of Great Basin National Park (GRBA) is to protect its resources and ecosystem processes unimpaired for future generations and apex predators are valued as an integral component of the faunal community. Trophic cascades induced by mountain lion predation sustain and connect habitats, create migratory corridors, benefit sensitive species and riparian areas, and maintain and create resilient and resistant landscapes. But like most national parks, GRBA is not large enough on its own to sustain a viable population of mountain lions. Mountain lions regularly move across administrative boundaries, in and out of the park. When mountain lions leave the sanctuary of the park, Conflicts between lions and neighboring agricultural communities can arise. These conflicts present a challenging issue for the national park trying to conserve large predators, trophic cascades, and ecosystem processes. Therefore, this project will focus on engagement with the community and tribes to produce best available scientific information, while improving land management for the benefit of present and future generations.

B. Conserves or restores the functionality, resilience, and integrity of biological communities and/or cultural resources through prudent management and prevention of injury, decay, waste, or loss.

Answer: In the last decade, management of biological communities has shifted from a focus on single towards an emphasis on resistant and resilient landscapes (Curtin and Parker, 2014; Freund et al., 2021). Attributes of resistance and resilience can predict ecosystem response and recovery from stressors such as drought, climate change, disturbances, fire, disease, and invasive species. Predators are vital to creating resilient and resistant landscapes. Predator induced trophic cascades are both free and highly effective in maintaining ecological integrity. But the role of predators as ecological tools in land management is often limited by administrative boundaries, social constraints and community engagement. We will use mountain research as a tool to engage with communities to maintain the role of predators in increasing ecosystem resilience and resistance. This project will provide vital information and advance the knowledge of mountain lion biology and ecology, including their impact on prey species including bighorn sheep, mule deer, and potentially domestics. This information is necessary to improve the management of federal lands for mountain lions and other wildlife, specifically by providing a basis for the role mountain lions may play in maintaining biodiversity on the GBNP. As an exemplar of dynamics on a park surrounded by public and private lands, the results will inform management practice across public lands faced with similar multiple-use conditions.

C. Will remain relevant and continue to provide a benefit beyond the existence of SNPLMA.

Answer: The National Park Service, Nevada Department of Wildlife, Southern Nevada Water Authority, and Bureau of Land Management are partners in wildlife management in the Snake Range and have worked together to manage a viable bighorn sheep herd. The results of this project are expected to improve management of mule deer and bighorn sheep as well as mountain lions and will improve recreational viewing and hunting opportunities for these species. This proposal will establish the basis for continued long-term monitoring of natural resources that integrates community-based science, public involvement, and ongoing education and training of new personnel through the field-based courses at UNLV. Annual interactions between UNLV students and local scientists, park and agency personnel, land managers, and the community will be maintained with each new student cohort. Mountain lion kill investigations will be a powerful tool for connecting people with nature. These experiences will remain relevant and continue to influence participants beyond the existence of SNPLMA.

3. **The nomination promotes community by improving the quality of life for humans by protecting the integrity of biological communities or cultural sites. Answer all applicable.**

A. Encourages people to meaningfully connect with their natural environment and helps them appreciate and care for the environment by providing information and resources to educate and engage people in understanding their role in protection and maintaining the natural environment by providing opportunities for them to connect to the natural resources directly or virtually or provides education of the environment.

Answer: The primary focus of this project to connect people to the natural world. Although meaningful connection with the natural world is vital to human health, many people do not understand their role in protecting and maintaining the natural word due to lack of opportunities or education. This project will improve human health and well being through connection, education, and outreach. By conducting a field course on wildlife ecology, the project will provide a unique opportunity for underserved urban students to directly experience the natural environment of the GBNP, while also receiving training in wildlife techniques. In addition to helping these students appreciate and care for the environment, it will promote interest in their pursuing professions in conservation and wildlife management. Consequently, the program will provide a conduit through which parks may gain qualified candidates for future service professionals. Although less direct, social media outreach is an important way to reach distant audience and will form a core outreach component.

B. Project has identified committed non-SNPLMA sources of funding or in-kind contribution for the planning, design, and development of the project.

Answer: Yes

C. Preserves the past (cultural or historic sites) for present or future generations.

Answer: NA

4. **The nomination enhances partnerships to promote cooperation and collaboration. The nomination also promotes sustainability, connectivity, and community by linking people to nature and recreational opportunities by uniting communities with important places across the landscape. Answer all applicable.**

A. The nomination addresses and meets the needs of more than one agency (federal or state).

Answer: The project addresses the needs of multiple agencies including Nevada Department of Wildlife, Bureau of Land Management and National Park Service.

B. The nomination involves non-Federal, public partners, citizen groups or organizations in the development and accomplishment of resource management goals and other activities to prevent waste, damage, or neglect.

Answer: The project involves non-federal organizations in academia, Eastern Nevada Landscape Coalition, area Tribes, community scientists, local stakeholders and students.

C. The nomination clearly defines and includes a stewardship component (Federal or non-Federal) to broaden support and reduce long-term costs by minimizing the human impact on the environment through an education plan with clear curricula and achievable goals and objectives.

Answer: Stewardship is the primary goal of this project. A curriculum will be developed for long term and achievable goals and objectives. Creation and implementation of a field course will be conducted by UNLV personnel. This may include creating and teaching a campus-based preparatory course in wildlife ecology and management principles, as a precursor to the GBNP-based intensive field sampling and management course. In addition, UNLV, USU and USGS scientists will be involved in establishment of long-term monitoring programs on the GBNP that can benefit from student-based data collection and analysis.

5. **The nomination has identified committed non-SNPLMA sources of funding or in-kind contributions in the development and/or implementation of the project. Answer all applicable.**
Overhead costs may not be included in determining in-kind contributions.
Labor funded from an appropriation is not considered an in-kind contribution

A. In-kind Contributions. *The following are examples of in-kind contributions this nomination will support: Volunteer Labor – valuation to be computed at the rate used by the Department of the Interior, which is currently $28.54 per hour; Salaried Employees – actual hourly rate plus the value of any fringe benefits received. Nomination must confirm this is from non-appropriated funding to be awarded points; Material, Equipment, and/or Supplies - actual costs should be used.*

Answer: In kind support is being provided by NDOW, SNWA, academia, and ENLRP for a total of $51,368 in contributed funds. Volunteer time is also substantial.

- Volunteers apps 200 hours
- NDOW- 160 hours for predator specialist @$38.22/hour= $6,116
- Academia- 160 hours 2 pay periods for predator specialist @$38.22/hour= $6,116
- ENLC 160 hours 2 pay periods for predator specialist @38.22/hour= $6,116
- SNWA- Lodging and camping- 300 nights @ $50/night=$15,000
- NPS-GBNP can contribute 5 Iridium collars for this project for a match of $13,750.

The project builds on continuing efforts to understand the factors influencing bighorn sheep populations. Since 2002, GBNP and NDOW have conducted a habitat evaluation, collared 22

sheep, examined genetic variability, tested 22 sheep for disease, and worked closely with other partners in bighorn management. The park and NDOW have collectively expended over $50,000 on collars, subscription, and capture costs. GBNP can contribute 5 Iridium collars for this project for a match of $12,500.00. Park staff have received training in wildlife capture, anesthesia and disease sampling and will assist with mountain lion captures. The project will utilize base funded staff and partner with NDOW and academia to assist with captures and collaring.

L. ORDERS AND PRIORITIES

Respond to the Executive Orders, Secretarial Orders, Department of the Interior Priorities, and USDA Forest Service Priorities as they apply to the purpose of the nomination.

A. Executive Orders (EO):

- ***EO No. 13855: Promoting Active Management of America's Forests, Range Lands to Improve Conditions and Reduce Wildfire Risk***

Answer: NA

- ***EO No. 14004: Ensuring the Future is Made in All of America by All of America's Workers***

Answer: This project seeks to increase diversity and inclusiveness in management and research. Connecting underserved minorities in urban areas is a primary deliverable.

B. Secretarial Orders

- ***SO No. 3347: Conservation Stewardship and Outdoor Recreation.***

Answer: The project goal is to increase conservation stewardship through more inclusive connected conservation, outreach and education.

- ***SO No. 3356: Hunting, Fishing, Recreational Shooting, and Wildlife Conservation Opportunities and Coordination with States, Tribes and Territories.***

Answer: This project will coordinate with stage wildlife agencies and tribes.

- ***SO No. 3362: Improving Habitat Quality in Western Big-Game Winter Range and Migration Corridors.***

Answer: Information from the will be used to improve habitat quality and migration corridors in western big game winter range.

- ***SO No. 3366: Increasing Recreational Opportunities on Lands and Waters Managed by the U.S. Department of the Interior***

Answer: Although not a recreation project, this project will connect people with the natural world through outreach, education and community science.

- ***SO No. 3370: Conservation Stewardship and Increasing Public Access to Urban National Wildlife Refuges.***

Answer: This is a conservation stewardship project.

- ***SO No. 3372: Reducing Wildfire Risks on Department of the Interior Land Through Active Management.***

Answer: NA

- ***SO No. 3373: Evaluating Public Access in Bureau of land Management Public Land Disposal and Exchanges (focus is on Sec. 4.b.(3) Potential increased public recreational access to existing public lands resulting from the proposed land acquired through an exchange (acquisition).***

Answer: NA

- ***SO No. 3374: Implementation of the John D. Dingell, Jr. Conservation, Management and Recreation Act.***

Answer: This project will use volunteers for wildlife management in a national park (SEC. 2410. WILDLIFE MANAGEMENT IN PARKS)

- ***SO No. 3376: Increasing Recreational Opportunities through the use of Electric Bikes.***

Answer: NA

C. <u>Department of the Interior Priorities:</u>

1. ***Identifying steps to accelerate responsible development of renewable energy on public lands and waters.*** *We are investing in climate research and environmental innovation to incentivize the rapid deployment of clean energy solutions, while reviewing existing programs to restore balance on America's public lands and waters to benefit current and future generations.*

Answer: NA

2. ***Strengthening the government-to-government relationship with sovereign Tribal nations.*** *We understand that tribal sovereignty and self-governance, as well as honoring the federal trust responsibility to Tribal Nations, must be the cornerstones of federal Indian policy.*

Answer: This project will involve tribes and tribal consultation

3. ***Making investments to support the Administration's goal of creating millions of family-supporting and union jobs.*** *This includes establishing a new Climate Conservation Corps Initiative to put a new generation of Americans to work conserving and restoring public lands and waters, increasing reforestation, increasing carbon sequestration in the agricultural sector, protecting biodiversity, improving access to recreation, and addressing the changing climate.*

Answer: NA

4. ***Working to conserve at least 30% each of our lands and waters by the year 2030.*** *We will work to protect biodiversity, slow extinction rates, and help leverage natural climate solutions by conserving 30% of America's lands and waters by 2030. This relies on support for local, state, private, and tribally led conservation and restoration efforts that are underway across America.*

Answer: this project is focused on biodiversity protection through outreach and education. It is consistent with the 30% conservation goal.

5. ***Centering equity and environmental justice.*** *The impacts of the multiple crises in the United States are not evenly distributed in our society. Communities of color, low-income families, and rural and indigenous communities have long suffered disproportionate and cumulative harm from air pollution, water pollution, and toxic sites. At every step of the way, Interior will engage diverse stakeholders across the country, as well as conduct formal consultation with Tribes in recognition of the U.S. government's trust responsibilities.*

Answer: This project will provide opportunities to underserved communities of color in urban and rural areas and will conduct consultation with Tribes.

D. USDA Forest Service Priorities:

1. ***Controlling the COVID-19 pandemic***

   Answer: NA

2. ***Providing economic relief***

   Answer: NA

3. ***Tackling climate change***

   Answer: NA

4. ***Advancing racial equity***

   Answer: NA

5. ***Improving our workforce and work environment***

   Answer: NA

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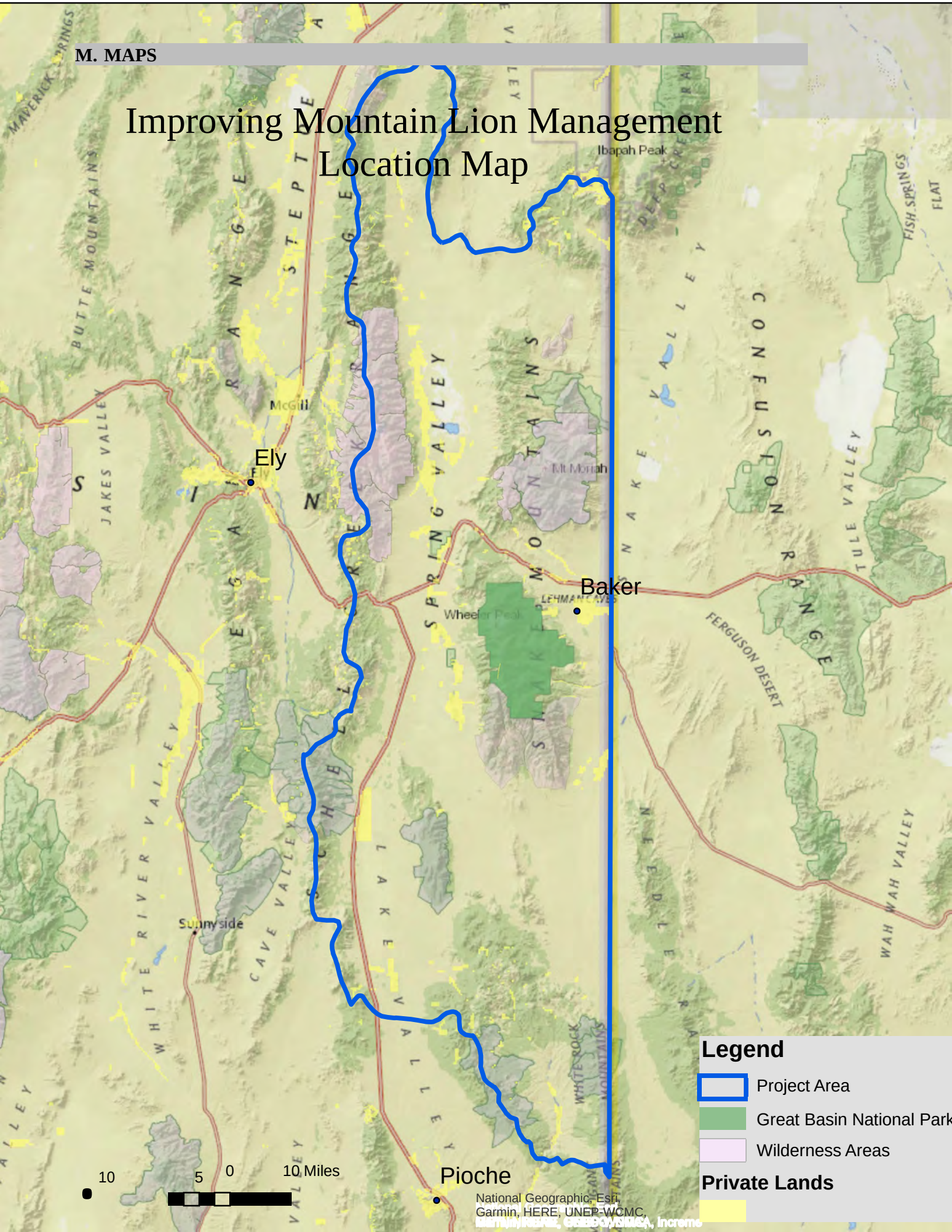
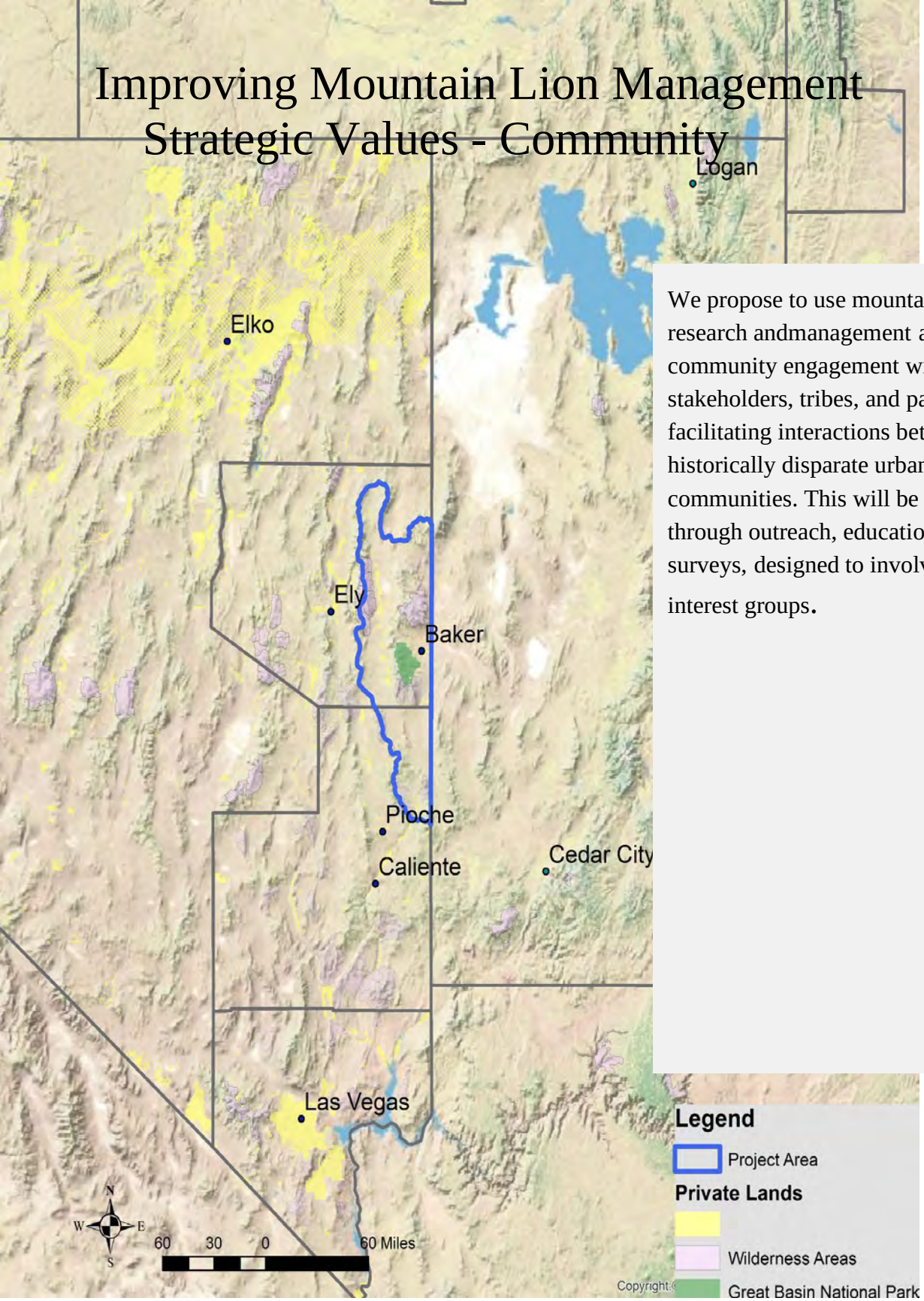
Improving Mountain Lion Management
Location Map



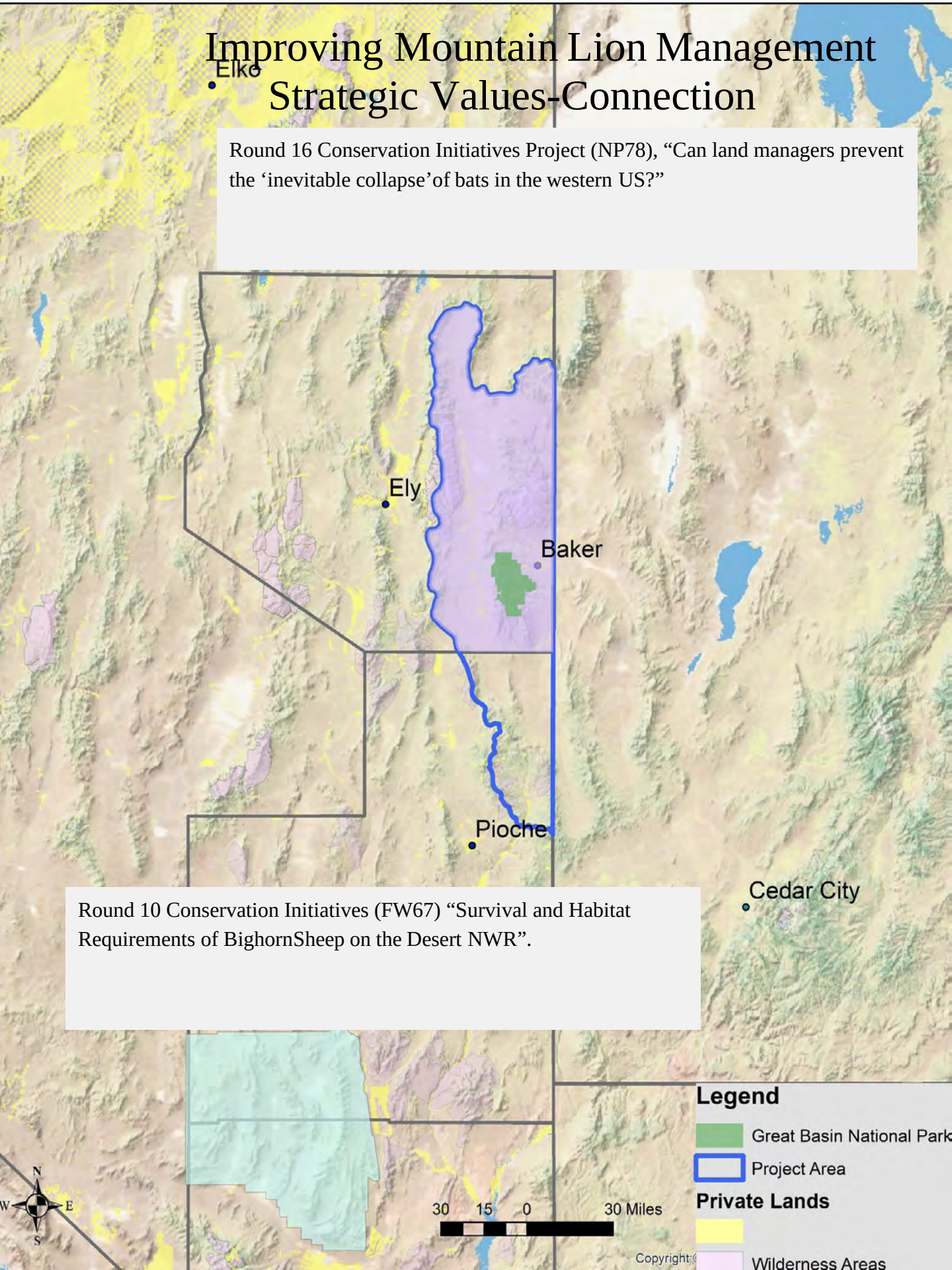
Improving Mountain Lion Management
Strategic Values - Community



We propose to use mountain lion research andmanagement as tools for community engagement with stakeholders, tribes, and partners, while facilitating interactions between historically disparate urban and rural communities. This will be accomplished through outreach, education, and surveys, designed to involve multiple interest groups.

Improving Mountain Lion Management
Strategic Values-Connection

Round 16 Conservation Initiatives Project (NP78), “Can land managers prevent the ‘inevitable collapse’of bats in the western US?”



Round 10 Conservation Initiatives (FW67) “Survival and Habitat Requirements of BighornSheep on the Desert NWR”.

Improving Mountain Lion Management
Strategic Values-Sustainability

Large, apex predators sustain healthy ecosystems. For example, mountain lions create trophic cascades with far reaching effects on plant productivity, nutrient cycling, disease transmission, and biodiversity through interactionswith prey species. However, predator management requires community support and engagement. This project will use outreach, education, and community science, proven tools in conservation, to achieve sustainable management of mountain lions across administrative boundaries.

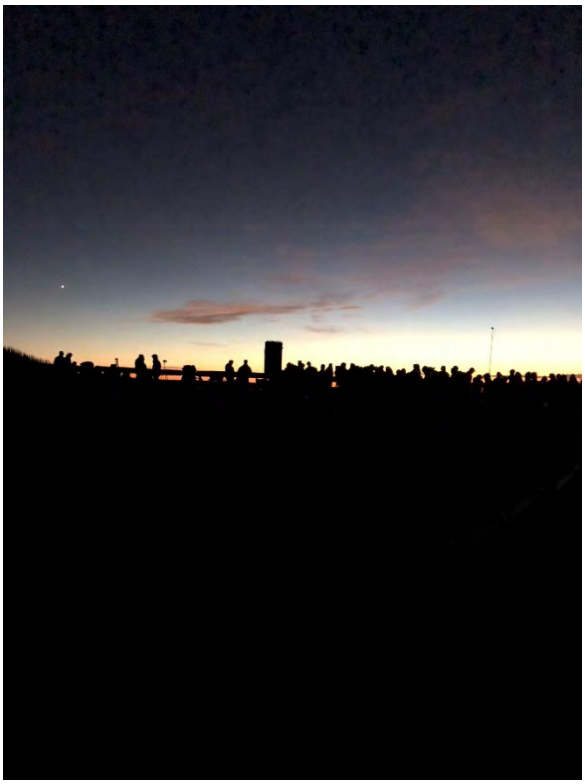
N. PERFORMANACE MEASURES

SNPLMA STRATEGIC PLAN GOAL 1: Sustain the Quality of the Outdoor Environment by Conserving, Preserving, and Restoring Natural and Cultural Resources		
Performance Measures for Habitat Enhancement	**Definition of Performance Measure**	**Quantity**
H15-Number of Conservation Actions Implemented for Non-Listed Species	Report the number of individual conservation actions for species not listed under the Endangered Species Act. Note: One distinct action repeated 5 times over the course of the project would report as 1 action, not 5. The same conservation action conducted at distinct sites can be counted once for each site (this does not apply to individual plots within one single projectsite). The number of acres over which the actions were taken are reported under either H4 or H6. Report each action as one unit.	3

SNPLMA STRATEGIC PLAN: Other Performance Measures that Also Support the Three Values for SNPLMA Implementation of Sustainability, Connectivity, and Community		
Other Performance Measures	**Definition of Performance Measures**	**Quantity**
O4 - Number of Scientific / Technical Reports Produced	Report the number of scientific technical reports produced. Report each report as one unit.	5
O5 - Number of Outreach Contacts Made	Report the number of education and outreach contacts made through interpretation and environmental education, such as number of teachers trained, number of participants in workshops, etc. Report each participant as one unit.	50,000
O6 - Number of New Interpretive or Education Publications/Signs/ Kiosks/Displays/etc. Produced	Report the number of new interpretive or education publications produced, signs produced and installed, public informational websites or other electronic media presentations designed and implemented, and informational or interpretive kiosk displays produced and installed. Report each item produced as one unit.	5
O7 - Number of Interpretive or Education Presentations Given and/or Community Events Participated in or hosted	Report the number of interpretive or educational presentations given. Report each presentation as one unit.	50
O9 – Number of GIS Databases Generated and/or Map Layers Produced	Report the number of GIS databases created and/or the number of map layers produced to identify the location of natural resources within the environment and provide mapping for use in educational programs. Report each database or map layer as one unit.	3

O10 – Number of Volunteers Used	Report the number of volunteers used in educational or interpretive programs and for surveying, monitoring, or restoration activities. Report each volunteer as one unit.	100
O11 – Number of Databases, Reports, and Other Electronic Means of Documenting Activities	Report the number of new databases, electronic reporting tools, mathematical/statistical models, websites, or reports developed and implemented to document project and/or program work. Report each electronic document or method developed as one unit.	3

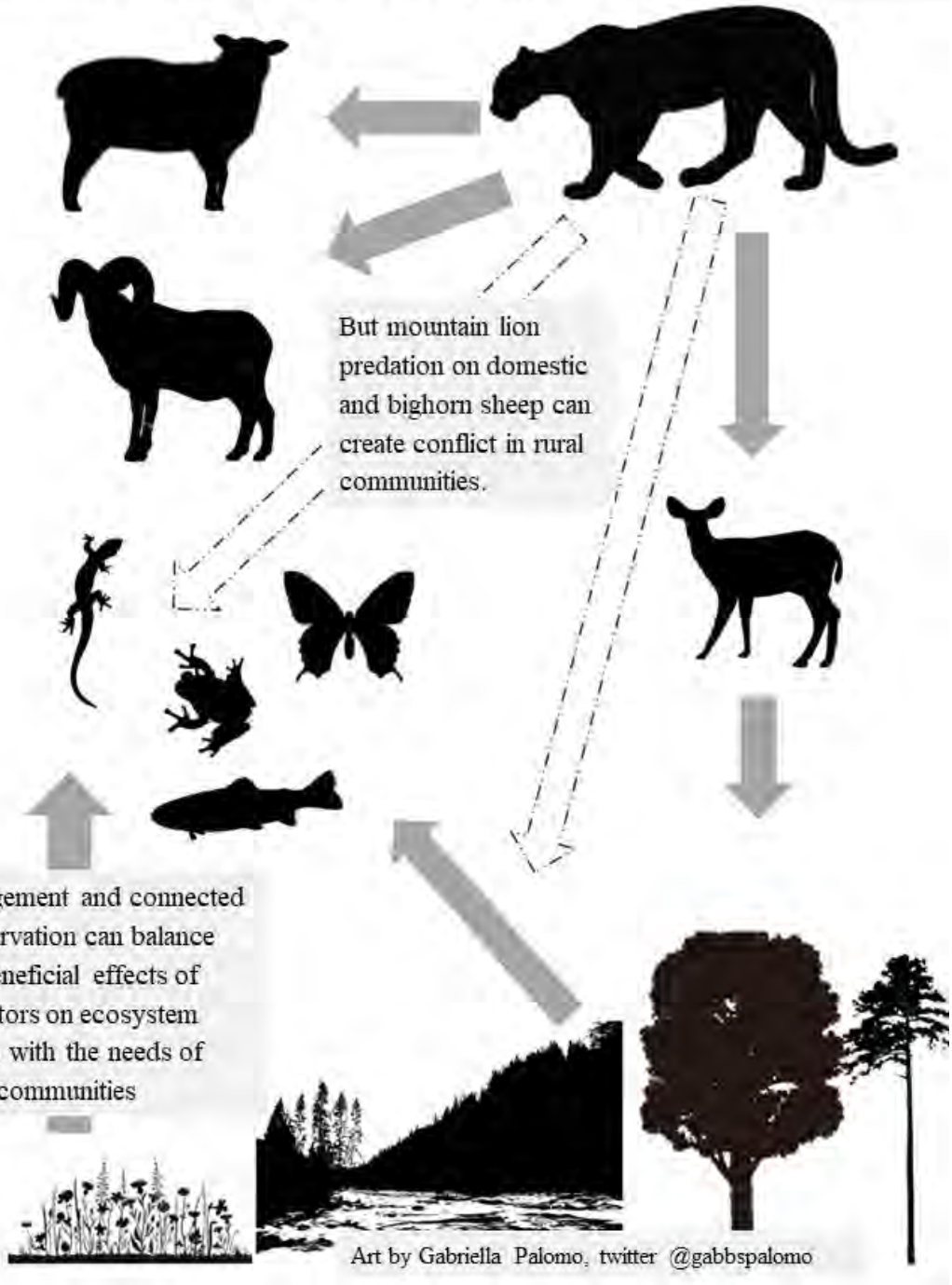
O. PHOTOS



Citizen science and outreach are powerful tools to connect communities with the natural world.

Mountain lions are apex predators than control ecosystem function through predation and trophic cascades. This project will use mountain lion research and management as tools for outreach and community engagement. Mountain lions will be captured and fitted with satellite linked GPS collars. When the GPS locations become tightly clustered, this often means the lion is feeding on prey. After the lion leaves the kill, citizen scientists and school groups will investigate those kills and collect information about patterns of mountain lion predation.

Mountain lions are apex predators that cause trophic cascades. The direct effect (solid arrows) of mountain lions on prey create a cascade of indirect effects (dashed arrows), such as reduced herbivory, increased biodiversity, and improved stream health.



P. SUPPORT LETTERS

1. Eastern Nevada Landscape Coalition
2. Nevada Department of Wildlife, P.Jackson, Predator Specialist
3. University Nevada, Las Vegas, Dr. David Choate
4. Utah State University, Dr. David Stoner
5. Nevada Department of Wildlife, Game Division Administrator

[EXTERNAL] RE: SNPLMA in kind contribution

execdir@envlc.org <execdir@envlc.org>
Tue 11/16/2021 8:50 AM
To: Hamilton, Bryan T <Bryan_Hamilton@nps.gov>

Hi Bryan, yes, this in-kind support is correct. Thanks, Eric

Eric Horstman
Executive Director-ENLC

From: Hamilton, Bryan T <Bryan_Hamilton@nps.gov>
Sent: Monday, November 15, 2021 10:45 AM
To: execdir@envlc.org
Subject: SNPLMA in kind contribution

Hi Eric,

SNPLMA is asking for confirmation of your in kind support. Can you confirm the following via responding to this email?

ENLC 160 hours 2 pay periods for predator specialist @38.22/hour= $6,116

Thank you.

Bryan Hamilton - PhD Wildlife Biologist
pronouns- he, him
Science and Natural Resource Management
100 Great Basin National Park
357 N. HWY 487
Baker, Nevada 89311
Adjunct Faculty
Dept. of Natural Resources & Environmental Science
University of Nevada, Reno
(775) 234-7563-office
(775)235-3666-mobile
bryan_hamilton@nps.gov

[EXTERNAL] RE: NDOW In kind Contribution to SNPLMA project

Pat Jackson <pjackson@ndow.org>

Mon 11/15/2021 10:46 AM

To: Hamilton, Bryan T <Bryan_Hamilton@nps.gov>

Yes I confirm.

From: Hamilton, Bryan T <Bryan_Hamilton@nps.gov>
Sent: Monday, November 15, 2021 10:40 AM
To: Pat Jackson <pjackson@ndow.org>
Subject: NDOW In kind Contribution to SNPLMA project

Hi Pat,

SNPLMA is asking for confirmation on NDOWs in-kind contribution.

This is what I included in the nomination:

- NDOW- 160 hours for predator specialist @$38.22/hour= $6,116

This is from the support letter.

- Our expectation will be for NDOW personnel to attend captures, provide expertise on capture

contractors, capture techniques, animal handling, aging, collaring, or marking.

Can you confirm this contribution via responding to this e-mail?

Thanks.

Bryan Hamilton - PhD Wildlife Biologist
pronouns- he, him
Science and Natural Resource Management

100 Great Basin National Park
357 N. HWY 487
Baker, Nevada 89311
Adjunct Faculty
Dept. of Natural Resources & Environmental Science
University of Nevada, Reno
(775) 234-7563-office
(775)235-3666-mobile
bryan_hamilton@nps.gov

[EXTERNAL] Re: SNPLMA In kind contribution

David Choate <choate.davidm@gmail.com>

Mon 11/15/2021 8:14 PM

To: Hamilton, Bryan T <Bryan_Hamilton@nps.gov>

Hi Bryan,

Yes, I confirm that UNLV will contribute 80 hours to this project, as in-kind support.

Best regards,
-Dave

David M. Choate, Ph.D.
Ecologist, Assistant Professor
University of Nevada, Las Vegas
Office (UNLV):702-895-2970

On Mon, Nov 15, 2021 at 10:41 AM Hamilton, Bryan T <Bryan_Hamilton@nps.gov> wrote:

> Hi Dave,
>
> SNPLMA needs confirmation about your in-kind support.
>
> Can you confirm, via responding to this email that UNLV will contribute 80 hours to this project? (I'm asking Dave Stoner for the same contribution).
>
> - Academia- 160 hours 2 pay periods for predator specialist @$38.22/hour= $6,116
>
> Thanks.
>
> ---
> Bryan Hamilton - PhD Wildlife Biologist
> pronouns- he, him
> Science and Natural Resource Management
> 100 Great Basin National Park
> 357 N. HWY 487
> Baker, Nevada 89311
> Adjunct Faculty
> Dept. of Natural Resources & Environmental Science

University of Nevada, Reno
(775) 234-7563-office
(775)235-3666-mobile
bryan_hamilton@nps.gov

[EXTERNAL] Re: [EXT] SNPLMA in kind contribution

David Stoner <david.stoner@usu.edu>

Mon 11/15/2021 2:03 PM

To: Hamilton, Bryan T <Bryan_Hamilton@nps.gov>

Bryan,

Yes, your calculations are correct. I can donate approximately 1-month of my time, or 160 hours to this project. This equates to $42.00/hr, or $6,720.

Best,

Dave

David Stoner
Utah State University
Dept. of Wildland Resources
5230 Old Main Hill
Logan, UT 84322-5230
(435) 797-9147
david.stoner@usu.edu

From: Hamilton, Bryan T <Bryan_Hamilton@nps.gov>
Sent: Monday, November 15, 2021 11:42 AM
To: David Stoner <david.stoner@usu.edu>
Subject: [EXT] SNPLMA in kind contribution

Hi Dave,

SNPLMA needs confirmation about your in-kind support.

Can you confirm, via responding to this email that USU will contribute 80 hours to this project? (I'm asking Dave Choate for the same contribution).

- Academia- 160 hours 2 pay periods for predator specialist @$38.22/hour= $6,116

Thanks.

Bryan Hamilton - PhD Wildlife Biologist
pronouns- he, him
Science and Natural Resource Management
100 Great Basin National Park

357 N. HWY 487
Baker, Nevada 89311
Adjunct Faculty
Dept. of Natural Resources & Environmental Science
University of Nevada, Reno
(775) 234-7563-office
(775)235-3666-mobile
bryan_hamilton@nps.gov

STATE OF NEVADA

DEPARTMENT OF WILDLIFE

6980 Sierra Center Parkway
Suite 120
Reno, Nevada 89511
Phone (775) 688-1500 • Fax (775) 688-1495

STEVE SISOLAK
Governor

TONY WASLEY
Director

BONNIE LONG
Deputy Director

JACK ROBB
Deputy Director

November 1, 2021

Bryan Hamilton – PhD Wildlife Biologist
Science and Natural Resource Management
100 Great Basin National Park
357 N. Hwy 487
Baker, NV 89311

Re: SNPLMA Round 19 – Improving Mountain Lion Management with Outreach, Inclusiveness, and Community Science Project

Dear Dr. Hamilton,

The Nevada Department of Wildlife would like to extend our support for the *SNPLMA Round 19 – Improving Mountain Lion Management with Outreach, Inclusiveness, and Community Science Project.*

NDOW and Great Basin National Park have a long history of partnerships throughout the Park's history. NDOW fully supports the concept of this project. We feel that this project has potential to increase knowledge of predators and prey species both inside and outside of the Park boundaries. Clearly, knowledge gained from this project can be applied across other parts of Nevada, particularly in the face of increasingly complex predator-prey relationships and the increasing public interest in them.

Our expectation will be for NDOW personnel to attend captures, provide expertise on capture contractors, capture techniques, animal handling, aging, collaring, or marking. We would also request a data sharing agreement to allow NDOW personnel to monitor the locations or movements of all collared animals associated with the Project.

We believe our collaborative efforts are important in learning about ungulate habitat use, home range, and seasonal movements, mountain lion kill site investigations and diet profiles, and population estimates.

Please feel free to contact me should you have any questions or require additional information.

Sincerely,

Mike Scott
Game Division Administrator

UNLV | School *of*
LIFE SCIENCES

UNIVERSITY OF NEVADA, LAS VEGAS

29 October 2021
Dear Reviewer,

I am writing this letter in strong support for the Great Basin National Park Services' proposal "Improving Mountain Lion Management with Outreach, Inclusiveness, and Community Science" submitted to the SNPLMA Round 19 Conservation Initiatives program. The proposed work has great potential to inform some of the most pressing land management issues in the Great Basin while providing an exemplar for integrating research and education with inclusive management broadly applicable to all parks and reserves. A central mission for national parks is to protect resources and ecosystem processes in which large predators play a pivotal role. By reducing prey abundance and altering prey behavior, mountain lions affect ecosystem function. However, mountain lion populations extend beyond the boundaries of national parks and reserves, complicating predator management. Based on my greater than 20 years of experience with research on mountain lions in numerous western states, the key elements needed for successfully conserving mountain lions in their functional role as a top predator include: collecting basic local information on lion ecology, effective communication of this information to all stakeholders, and integration of this information with conservation management based on cooperative exchange among stakeholders. This proposal is exciting in addressing all of these components in a single project in a clear and effective manner.

The collaborators involved in this proposal have considerable expertise in research and management of mountain lions and their prey, ensuring a rigorous design to data collection and analysis. Equally valued is their ability to work together creatively to address conservation issues. The proposal further builds a sense of inclusivity by involving diverse groups *(e.g.,* local, undergraduate and graduate students, community volunteers) directly in research activities. Finally, engaging local private landholders, stakeholders and agency personnel in discussion of this information will lead to developing the relationships necessary for successful implementation of conservation plans.

As a collaborator involved with research and education, I also look forward to leading the design and implementation of a new field course to be integrated with these activities, that will also address important, polarizing disparities in conservation efforts. The University of Nevada, Las Vegas, is recognized as one of the most diverse campuses in the nation, with approximately 67% of students identifying with a racial or ethnic minority. Most of these students are urban-based and have had limited access to outdoor experiences or opportunities to pursue natural resource-based careers. Through this proposal, these students will be provided an opportunity to not only gain essential hands-on field training in wildlife management techniques, but also likely their first exposure to many outdoor experiences. In addition, by conducting field trips to meet with both agency personnel and local land-owners, students will be exposed to diverse perspectives on conservation issues and have the opportunity to make new connections through these meetings. These new connections are an essential component of bridging the urban-rural divide to forge cooperative efforts at managing species within complex ecosystems. Such interactions are often beneficial not only to the students, but also to local communities. They can also pave the path for individuals with diverse backgrounds to become interested in pursuing a career with the National Park Service or in other natural resource fields. In my prior experiences teaching similar field courses either in Australia or as an interim assistant director at the University of Notre Dame's Environmental Research Center, I have found this type of experiential learning to be life-changing for the students involved. This proposal will enable a similar outcome for UNLV students, adding tremendous value in addition to the research and the building of an inclusive community for management of park resources.

I am committed to the success of this project and look forward to working with the agencies and parties involved. Please feel free to contact me if you have any questions,

Sincerely,

David M. Choate, Ph.Assistant Professor, Wildlife Ecologist

Office: 702-895-2970
Email: david.choate@unlv.edu

U. S. Department of the Interior
U. S. GEOLOGICAL SURVEY
BIOLOGICAL RESOURCES DIVISION
WESTERN ECOLOGICAL RESEARCH CENTER
Boulder Field Station
500 N. Stephanie St.
Boulder City, NV 89074

4 November 2021

Bureau of Land Management
SNPLMA Division
4701 N Torrey Pines Dr.
Las Vegas, NV 89130

Attention: Terri Halbardier - Program Manager Conservation Initiatives

RE: SNPLMA Round 19 Project
Desert National Wildlife Refuge - "Improving Mountain Lion Management with Outreach, Inclusiveness, and Community Science".

To Whom It May Concern:

The National Park Service, Great Basin National Park (NP), is requesting funding through the Southern Nevada Public Land Management Act Conservation Initiatives Round 19, for a project designed to sustain, enhance, and improve resilient ecosystems through community engagement. The project will use mountain lion research and management as tools for community based, inclusive conservation. Conservation issues concerning mountain lions are extremely complex. Great Basin NP highly values its apex predators, but it is not known whether the park is large enough to protect intact predator populations such as mountain lions. Additionally, prey species such as mule deer and bighorn sheep migrate seasonally in and out of the park. These movements often include agricultural areas, resulting in conflicts between humans and mountain lions.

Effective conservation of mountain lions and their prey requires connection of ecosystem processes and habitats through partnerships across administrative boundaries. To accomplish this goal, the proposed project incorporates an approach that is extraordinary. Where most agencies and conservation strategies fail to acknowledge the importance of social differences and human behavior in wildlife management. The proposed project seeks to incorporate communities for the gathering and interpretation of wildlife management data. In doing so, it shifts conservation towards social engagement, outreach, and education with the goal of improving management outcomes and ecosystem health.

As a wildlife biologist who has conducted research on mountain lions and their prey in the Desert National Wildlife Refuge ("An Assessment of Desert Bighorn Sheep in the Desert National Wildlife Refuge " SNPLMA Round 9 Conservation Initiatives: Project Number FW 67) and the Nevada National Security Site (Radio Tracking of Mountain Lions on the Nevada National Security Site), I understand the difficulty and importance of gathering data to

understand mountain lion ecology in desert ecosystems and the issues associated with management of this predator. Not only will information gathered from this project fill important gaps in mountain lion ecology for this region of Nevada, but I believe that the novel approach used to incorporate community involvement will greatly contribute to successful management and conservation of this species. Moreover, I have a great deal of respect for the personnel involved in this proposal and have complete confidence that they can successfully complete this project. They have the experience and expertise working with mountain lions, and the ability and skill to successfully work collaboratively with the community.

Sincerely,

Kathleen Longshore, PhD

Kathleen Longshore, PhD
Research Wildlife Biologist
USGS Western Ecological Research Center
P.O. Box 60640
Boulder City, NV 89005

EASTERN NEVADA LANDSCAPE COALITION

P.O. BOX 150266 • ELY, NEVADA 89315
775-289-7974 • enlc@sbcglobal.net • www.envlc.org

November 1, 2021

Bryan Hamilton - PhD Wildlife Biologist
Science and Natural Resource Management
Great Basin National Park
357 N. HWY 487
Baker, Nevada 89311

Re: SNPLMA Round 19 Proposal - Improving Mountain Lion Management with Outreach, Inclusiveness, and Community Science

Dear Mr. Hamilton,

Eastern Nevada Landscape Coalition (ENLC) would like to extend our support for the SNPLMA Round 19 proposal "Improving Mountain Lion Management with Outreach, Inclusiveness, and Community Service, and look forward to collaborating on the effort.

A focus of ENLC's work is the restoration of dynamic, diverse and resilient landscapes of the arid West. In the past, we have worked on projects with various stakeholders that include environmental education and landowner education and outreach. We look forward to working with the Great Basin National Park on this important project, which will help support better land management that will not only benefit mountain lions, but also many other species of plants and animals as well.

If you have any questions, or need any additional information, please feel free to reach out to us.

Sincerely,

Eric Horstman
Executive Director

UtahStateUniversity

Wildland Resources Department

David C. Stoner, PhD
Dept. of Wildland Resources
Utah State University
5230 Old Main Hill
Logan, UT 84322
E-mail david.stoner@usu.edu
Phone: (435) 797-9147

25 October 2021

To Whom It May Concern,

I am writing in support of the proposal, "*Improving Mountain Lion Management with Outreach, Inclusiveness, and Community Science*" submitted to the Southern Nevada Public Land Management Act Conservation Initiatives Round 19 by Dr. Bryan Hamilton of the National Park Service. The proposal addresses the implications of federal wildlife management policies on state wildlife agencies and agricultural interests in rural Nevada. I have been working on natural resource management problems in the Mountain West for > 25 years. I am convinced that the ideas put forth in this proposal are the only workable way of addressing some of socio-ecological problems that stem from land ownership patterns in western states with predominantly public lands. The proposal outlines the following approaches to dealing with wildlife-agricultural conflicts: (1) outreach involving the communities directly affected by federal land use polices, (2) integration of rural land-use concerns with natural resource curriculum development in land-grant universities, and 3) a field study that uses citizen participation to collect, summarize, and distribute scientific results to the communities most affected by these problems. The project is an innovative means of integrating science with policy, education, and outreach. I urge the selection committee to give this proposal its full consideration.

Best Regards,

David Stoner

David C. Stoner, PhD
Research Assistant Professor
Quinney College of Natural Resources

United States Department of the Interior

BUREAU OF **LAND MANAGEMENT**
Bristlecone Field **Office**
702 **North** Industrial Way
Ely, **Nevada 89301**
https://www.blm.gov/nevada

In **Reply ReferTo:**

NOV 0 Q 2021

Bryan Hamilton
National Park Service
100 Great Basin National Park
357 N. Hwy 487
Baker Nevada 89311

Dear Mr. Hamilton:

The Ely District Bureau of Land Management (BLM), Bristlecone Field Office, supports the project titled "Improving Mountain Lion Management with Outreach, Inclusiveness, and Community Science" which includes implementation of the Connected Conservation model using mountain lion research and management as tools to shift conservation towards social engagement and education while incorporating communities into interpretation of data to improve management outcomes and ecosystem health. The BLM feels the National Park Service should be a recipient of Southern Nevada Public Land Management Act (SNPLMA) Round 19 funds. This project will sustain the quality of the outdoor environment by conserving, preserving,and restoring natural and cultural resources along with improving the quality of life for all public communities by enhancing recreational opportunities that connect people with the outdoor environment. The BLM is committed to provide personnel time as a match to work with the agencies and cooperators to assist where possible.

If you have any questions, please contact our wildlife biologist(s) Nancy Herms (775) 289-1838 or Elizabeth Donaldson Nohr (775) 289-1917.

Sincere

Jared Bybee
Field Manager
Bristlecone Field Office

Southern Nevada Public Land Management Act
Conservation Initiatives
Round 19

U.S.D.A. Forest Service
Humboldt-Toiyabe National Forest
Ely Ranger District

Youth Engagement in Natural Resource Management

Amount Requested: $1,124,075

A. BACKGROUND INFORMATION

For the past 5 years the Ely Ranger District has hired summer Youth Conservation Corps (YCC) Crews (3-5 youth per year). These crews were between 15 and 18 years of age with an older Crew Leader. In past years YCC crews worked on the following types of projects:

- Riparian exclosure fence construction – Past crews were integral in the construction of numerous wildlife friendly pipe rail exclosure fences.
- Fence repair – YCC crews have completed fence repairs on numerous allotment, pasture, and administrative site fences. This work was important in the management of National Forest System Lands.
- Wildlife habitat improvement projects which included installation of sage grouse fence markers, seeding, and riparian habitat restoration.
- Campground maintenance including painting, cleaning, trash pickup, table restoration, vegetation work, and other activities.
- Trail maintenance including vegetation clearing and installation of signs.
- Facilities maintenance including vegetation clearing, painting, and basic maintenance.
- Heritage surveys and monitoring of key heritage assets.
- Noxious weed inventory and treatments
- Sign repair and installation
- Trash pickup.
- Watershed restoration activities including willow planting and seeding of native vegetation.

We have used the YCC Program to engage youth in Public Lands and Resource Management. This has helped us educate youth and also develop youth for future employment opportunities in Natural Resources Management. The YCC program is crucial to assisting the U.S. Forest Service mission "to sustain the health, diversity, and productivity of the Nation's forests and grasslands to meet the needs of present and future generations."

a. Describe Relationship to prior Approved Phases or Related SNPLMA Projects and Anticipated Future Phases

- There are no prior phases of this project, however, numerous YCC Crews have worked on various SNPLMA projects.
- There could potentially be future phases, if this project is successful.

b. Acknowledgement of Stand-Alone Project and no Guarantee of Funding for Future Phases

This is a stand-alone project and no expectation that future phases would receive funding.

B. SNPLMA STRATEGIC PLAN VALUES

Conservation Initiative projects have two goals identified in the Strategic Plan:

- Goal 1: Sustain the quality of the outdoor environment by conserving, preserving, and restoring natural and cultural resources.

- Goal 2: Improve the quality of life for all publics in urban and rural communities by enhancing recreational opportunities that connect people with the outdoor environment.

Nominated projects should meet these goals by focusing on the three SNPLMA core values, connectivity, sustainability, and community. Every nomination must explain how the three values are promoted by the project.

1. Sustainability:

   - This Project will hire and host multiple Youth Conservation Corps (YCC) Crews.
   - YCC Crews will be involved in various natural and cultural resource related projects and programs.
   - YCC Crews will be educated about natural and cultural resource conservation and preservation.
   - YCC Crews will be involved with campground and trail maintenance, which will improve public access and satisfaction with recreational opportunities on the Ely Ranger District.
   - Provide employment opportunities to youth in a rural community and teach work ethic among those youth.
   - Support interpretive and educational opportunities and programs in schools, events like the county fair, public lands day, and other appropriate venues.

2. Connectivity:

   - YCC Crews will be involved in various natural and cultural resource related projects and programs. This project will introduce youth to these programs in an outdoor environment.
   - YCC Crews will be involved with campground and trail maintenance, which will improve public access and satisfaction with recreational opportunities on the Ely Ranger District.
   - This project will support interpretive and educational opportunities and programs in schools, events like the county fair, public lands day, and other appropriate venues. These events will educate the public about natural and cultural resources and public lands and will provide information about opportunities to visit and recreate responsibly on our public lands.
   - YCC Crews will complete maintenance and repairs at historic Guard Stations where they will learn about the history of the Forest Service in the area.

3. Community:

   - YCC Crews will be involved with campground and trail maintenance which will improve public access and satisfaction with recreational opportunities on the Ely Ranger District.
   - YCC Crews will be involved in a wide range of conservation activities including riparian and watershed restoration, wildlife habitat improvement, noxious weed work, range management activities, native vegetation restoration and others.

- Programs and displays will provide educational and interpretive opportunities to both youth and adults within rural communities.
- Hosting YCC crews in the community builds strong partnerships within the rural communities and provide youth employment opportunities and builds work experience.

C. PURPOSE STATEMENT

The purpose of this project is to engage youth in the management of Public Lands as well as natural and cultural resources. The project will also provide youth employment opportunities in public lands management with an additional educational and interpretive component. This project will implement a variety of projects on National Forest System Lands in White Pine and Lincoln Counties.

D. PROJECT DELIVERABLES

1. Primary Deliverables:
   - Hire and host 2 YCC Crews annually including YCC Crew Leaders and an Educational/Project Coordinator.
   - Attend or host between 4 and 6 Interpretive or educational events annually.
   - Provide interpretive, educational, and fire prevention related information and items at all events.
   - Assist with and/or implement riparian restoration projects and activities on over 6 miles of streams.
   - Assist with and/or implement recreation and trails projects and activities at 6 campgrounds and over 10 miles of trails.
   - Assist with and/or implement wildlife habitat conservation projects and activities on approximately 2,500 acres and 5 water developments.
   - Assist with and/or implement heritage resource projects and activities at approximately 10 sites and over 50 acres.
   - Assist with and/or implement facilities projects and activities at 3 administrative sites.

2. Anticipated Deliverables:
   - Attend or host an additional 2 to 4 Interpretive or educational events annually.

3. Standard Deliverables:
   - Coordination with the SNPLMA Program Managers.
   - Development of the project workplan, site inspection and project initiation.
   - SMART quarterly status updates
   - SMART quarterly expenditures/obligations updates
   - SMART annual and final accomplishment reports.
   - Preparation of the close out package is a required standard deliverable

E. PROJECT LOCATION

Latitude and Longitude:
39.25549 – 114.87195

Identify Congressional District(s): NV-4

F. PROJECT TIMEFRAME

The project timeframe will be 5 years. Two YCC Crews and associated Team Leader will be hired annually. Educational and interpretive programs and displays will be implemented each year.

G. LEVEL OF PROJECT READINESS FOR IMPLEMENTATION

Is this a shovel-ready project? ☒Yes ☐No

This Project is shovel ready. Hiring of crews will begin as soon as possible, if the project is approved. All projects assigned to YCC Crews will be approved and shovel ready.

H. FUTURE OPERATING AND MAINTENANCE

This project will have no future operations and maintenance costs or responsibilities. This project will reduce long term operations and maintenance costs through implementation of various projects and activities. Program areas that will see a decrease in operations and maintenance costs include, but not limited to recreation, trails, facilities, range, and watershed.

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I. PROJECT BUDGET

Instructions: Put project cost estimates in Tabs 1-8. The values from those tabs will roll-up to this summary worksheet. The Non-Federal Contribution can be entered in Tabs 1-8 as a whole amount, it does not need to be broken out by unit cost. Non-Federal entities must use the standard form for an assistance agreement SF- 424A Budget Non-Construction (PDF) and Budget Detail (Word document).

PROJECT BUDGET			
Project Name:	Youth Engagement in Natural Resource Manage	**Date:**	10/29/2021
Project Manager:	Jose Noriega	**Agency:**	USFS

Cost Categories	**SNPLMA**	**Non-Federal Contribution**
1. Personnel (labor plus benefits)	$ 772,250.00	$ -
2. Travel	$ 10,000.00	$ -
3. Training	$ -	$ -
4. Equipment	$ 12,500.00	$ -
5. Supplies/Materials	$ 240,000.00	$ -
6. Contracts and/or Agreements	$ -	$ -
7. Vehicle Use	$ 84,525.00	$ -
8. Other Necessary Expenses	$ 4,800.00	$ -
9. TOTAL PROJECT BUDGET	**$ 1,124,075.00**	**$ -**

Notes:

Partnership and/or Contributed Funds

There are no formally committed partnership or contributed funds.

J. KEY CONTACTS

Authorized Officer: Jose Noriega, District Ranger Email:
jose.noriega@usda.gov
Phone Number: 775-289-0176

Project Manager: Jose Noriega, District Ranger
Email: jose.noriega@usda.gov
Phone Number: 775-289-0176

Budget Officer: Petersam (Sam) Le, Forest Budget Officer
Email: petersam.le@usda.gov
Phone Number: 775-300-1739

K. RANKING CRITERIA

The Ranking Criteria are used to evaluate the nomination against the goals for the Conservation Initiatives category. Nominating entities are not to include either the total point value or the point values by criteria in their responses. Nominations will be reviewed and scored by the Conservation Initiatives subgroup.

1. **The nomination supports habitat enhancement, cultural resources, and/or public health and safety through connectivity and sustainability.** Include as many project subtypes as applicable to your nomination. Points will be awarded by the subgroup based on the level of support the nomination shows toward a variety of subtypes, the more variety, the more points. The subtypes below are not all inclusive.

   A. Habitat Enhancement. *The following are examples of project subtypes for habitat enhancement goals, objectives or actions this nomination will support/accomplish: enhances or connects habitats, migratory corridors, or protected areas; endangered species; proactive steps to prevent listing; invasive species treatment and/or control (plant or animal); restoration of habitat for sensitive species at the watershed or landscape level; climate change; water quality and quantity monitoring; cave management; restoration of springs, streams, and rivers; road decommissioning and rehabilitation; reintroduction of extirpated species to restore overall ecosystem.*

   Answer: This project involves the engagement of Youth in Public Lands and Natural and Cultural Resource Management. The following are some key aspects of this project proposal:

   - Riparian exclosure fence construction to improve and restore riparian areas including springs, meadows, and streams.
   - Noxious weed inventory and treatments
   - Watershed restoration activities including willow planting, seeding of native vegetation and other activities.
   - Installation of sage grouse fence markers to improve sage grouse habitats.

- This project proposal also includes an interpretive and education component to inform and educate youth and adults about Public Lands and Natural and Cultural Resource Management.

B. Cultural Resources. *The following are examples of project subtypes for cultural resources goals, objectives or actions this nomination will support/accomplish: surveys; National Register (eligible or currently approved); protection/site stewards; restoration/stabilization; and tribal involvement and/or consultation.*

Answer: This project involves the engagement of Youth in Public Lands and Natural and Cultural Resource Management. The following are some key aspects of this project proposal:

- Crews will complete facilities maintenance at historic sites like admin facilities and Guard Stations.
- Crews will assist with heritage resource surveys and monitoring of heritage sites.
- This project proposal also includes an interpretive and education component to inform and educate youth and adults about Public Lands and Natural and Cultural Resource Management.

C. Public Health and Safety. *The following are examples of project subtypes for public health and safety goals, objectives, or action this nomination will support/accomplish: litter/dumping cleanup; information kiosks and signs; addresses and mitigates adverse impacts to resources caused by the volume of people using the resource; resolving trespass/encroachment/illegal use of public lands (i.e. marijuana grow sites)/boundary surveys; and abandoned mine land (AML) with habitat restoration component.*

Answer: This project involves the engagement of Youth in Public Lands and Natural and Cultural Resource Management. The following are some key aspects of this project proposal:

- Crews will implement campground improvements and maintenance.
- Crews will implement trail improvements and maintenance.
- Crews will install and repair signs and kiosks to provide information to the public.
- Crews will pick up trash and assist with cleanup of dump sites when identified.

2. **The nomination promotes sustainability by providing benefits in the near and long term by implementing actions to conserve and sustain healthy and resilient landscapes and providing durability, relevancy, and shared support. Answer all applicable.**

A. Conserves resources to ensure availability to future generations through management of natural and/or cultural resources for current public benefit and sustainable social and economic utilization.

Answer: This project involves the engagement of Youth in Public Lands and Natural and Cultural Resource Management. The following are some key aspects of this project proposal:

- This project will hire and host multiple Youth Conservation Corps (YCC) Crews.

- YCC Crews will be involved in a wide variety of natural and cultural resource related projects and programs.
- YCC Crews will be educated about natural and cultural resource conservation and preservation.
- YCC Crews will be involved with campground and trail maintenance which will improve public access and satisfaction with recreational opportunities on the Ely Ranger District.
- This project will provide employment opportunities to youth in a rural community and teach work ethic among those youth.
- This project will support interpretive and educational opportunities and programs in schools, events like the county fair, public lands days, and other appropriate venues.

B. Conserves or restores the functionality, resilience, and integrity of biological communities and/or cultural resources through prudent management and prevention of injury, decay, waste, or loss.

Answer: This project involves the engagement of Youth in Public Lands and Natural and Cultural Resource Management. The following are some key aspects of this project proposal:

- This Project will hire and host multiple Youth Conservation Corps (YCC) Crews.
- YCC Crews will be involved in the implementation of a wide variety of natural and cultural resource related projects and programs.
- YCC Crews will be educated about natural and cultural resource conservation and preservation.
- YCC Crews will be involved with improvements and maintenance of Historic Facilities on the Ely Ranger District.
- This project will support interpretive and educational programs about natural and cultural resources in schools, events like the county fair, public lands days, and other appropriate venues.

C. Will remain relevant and continue to provide a benefit beyond the existence of SNPLMA.

Answer: This project will hire and host multiple YCC Crews that will work on numerous natural and cultural resources projects and programs. Many of these projects and facilities will exist far into the future. Furthermore, the educational and interpretive portions of this project will reach out to area youth and adults about natural and cultural resources and the management of our public lands. The opportunities provided to YCC Crews over the past 8 years have demonstrated the knowledge and experiences are lasting and some life changing. A number of these youth have gone on to seasonal and even permanent employment in natural and cultural resource positions to advocate land management principles and values. These programs have developed an appreciation within the community that will persist for many years to come.

3. **The nomination promotes community by improving the quality of life for humans by protecting the integrity of biological communities or cultural sites. Answer all applicable.**

A. Encourages people to meaningfully connect with their natural environment and helps them appreciate and care for the environment by providing information and resources to educate and engage people in understanding their role in protection and maintaining the natural environment by providing opportunities for them to connect to the natural resources directly or virtually or provides education of the environment.

Answer: This project involves the engagement of Youth in Public Lands and Natural and Cultural Resource Management. The following are some key aspects of this project proposal:

- This Project will hire and host multiple Youth Conservation Corps (YCC) Crews. These actions will provide youth a direct and active opportunity to connect with Natural resources and the environment.
- YCC Crews will be involved in a wide variety of natural and cultural resource related projects and programs.
- YCC Crews will be educated about natural and cultural resource conservation and preservation.
- This project will provide employment opportunities to youth in a rural community and teach work ethic among those youth.
- This project will support interpretive and educational opportunities and programs in schools, events like the county fair, public lands days, and other appropriate venues.

B. Project has identified committed non-SNPLMA sources of funding or in-kind contribution for the planning, design, and development of the project.

Answer: NA

C. Preserves the past (cultural or historic sites) for present or future generations.

Answer: This project involves the engagement of Youth in Public Lands and Natural and Cultural Resource Management. The following are some key aspects of this project proposal:

- This Project will hire and host multiple Youth Conservation Corps (YCC) Crews.
- YCC Crews will be involved in the implementation of a wide variety of natural and cultural resource related projects and programs.
- YCC Crews will assist with and implement projects that maintain and repair historic structures such as National Forest Guard Stations and other sites.
- YCC crews may also be involved with projects to preserve important archeological and cultural sites.
- YCC Crews will be educated about natural and cultural resource conservation and preservation.
- This project will support interpretive and educational programs about natural and cultural resources in schools, events like the county fair, public lands days, and other appropriate venues.

4. **The nomination enhances partnerships to promote cooperation and collaboration. The nomination also promotes sustainability, connectivity, and community by linking people to nature and recreational opportunities by uniting communities with important places across the landscape. Answer all applicable.**

A. The nomination addresses and meets the needs of more than one agency (federal or state).

Answer: YCC Crews will work on a wide range of natural and cultural resource projects that will benefit resources to other agencies including the Nevada Department of Wildlife, the Nevada State Historic Preservation Office and other State and Federal Agencies.

B. The nomination involves non-federal, public partners, citizen groups or organizations in the development and accomplishment of resource management goals and other activities to prevent waste, damage, or neglect.

Answer: The Ely Ranger District coordinates with a wide range of partners to plan and implement the various public lands projects utilizing YCC Crews. Partners include High Desert Trailblazers, Trails Alliance, Public Lands Use Advisory Committee, White Pine County, Nevada Department of Wildlife, and Livestock Permittees.

C. The nomination clearly defines and includes a stewardship component (Federal or non-Federal) to broaden support and reduce long-term costs by minimizing the human impact on the environment through an education plan with clear curricula and achievable goals and objectives.

Answer: This project proposal involves a significant educational component for YCC Crews. YCC Crews will learn about management of natural and cultural resources as well as learn work ethic. This proposal will also involve a strong educational and interpretive program within schools and at other events like county fairs, public lands day events and other appropriate venues.

5. **The nomination has identified committed non-SNPLMA sources of funding or in-kind contributions in the development and/or implementation of the project. Answer all applicable.**
Overhead costs may not be included in determining in-kind contributions. Labor funded from an appropriation is not considered an in-kind contribution

A. In-kind Contributions. *The following are examples of in-kind contributions this nomination will support: Volunteer Labor – valuation to be computed at the rate used by the Department of the Interior, which is currently $28.54 per hour; Salaried Employees – actual hourly rate plus the value of any fringe benefits received. Nomination must confirm this is from non-appropriated funding to be awarded points; Material, Equipment, and/or Supplies - actual costs should be used.*

Answer: NA

L. ORDERS AND PRIORITIES

Respond to the Executive Orders, Secretarial Orders, Department of the Interior Priorities, and USDA Forest Service Priorities as they apply to the purpose of the nomination.

A. Executive Orders (EO):

- ***EO No. 13855: Promoting Active Management of America's Forests, Range Lands to Improve Conditions and Reduce Wildfire Risk***

  Answer: This project will involve youth in the active management of our National Forests. Educational and interpretive programs will provide information about the active management of Forests and Rangelands as well as provide fire prevention information and materials.

- ***EO No. 14004: Ensuring the Future is Made in All of America by All of America's Workers***

  Answer: This project will provide educational and employment opportunities for youth in rural Nevada.

B. Secretarial Orders

- ***SO No. 3347: Conservation Stewardship and Outdoor Recreation.***

  Answer: This project will implement natural resource, cultural resource, and recreation related projects using Youth Conservation Corps Crews. Educational and interpretive programs will provide conservation stewardship and recreation related opportunities to both youth and adults in a wide variety of venues.

- ***SO No. 3356: Hunting, Fishing, Recreational Shooting, and Wildlife Conservation Opportunities and Coordination with States, Tribes and Territories.***

  Answer: YCC Crews will implement conservation projects that will benefit fisheries and wildlife habitats. Many of these projects are coordinated with the Nevada Department of Wildlife.

- ***SO No. 3362: Improving Habitat Quality in Western Big-Game Winter Range and Migration Corridors.***

  Answer: YCC Crews will implement conservation projects that will benefit wildlife habitats, including big game species. Many of these projects are coordinated with the Nevada Department of Wildlife.

- ***SO No. 3366: Increasing Recreational Opportunities on Lands and Waters Managed by the U.S. Department of the Interior***

  Answer: ***NA***

- ***SO No. 3370: Conservation Stewardship and Increasing Public Access to Urban National Wildlife Refuges.***

  Answer: ***NA***

- ***SO No. 3372: Reducing Wildfire Risks on Department of the Interior Land Through Active Management.***

  Answer: ***NA***

- ***SO No. 3373: Evaluating Public Access in Bureau of land Management Public Land Disposal and Exchanges (focus is on Sec. 4.b.(3) Potential increased public recreational access to existing public lands resulting from the proposed land acquired through an exchange (acquisition).***

  Answer: ***NA***

- ***SO No. 3374: Implementation of the John D. Dingell, Jr. Conservation, Management and Recreation Act.***

  Answer: ***NA***

- ***SO No. 3376: Increasing Recreational Opportunities through the use of Electric Bikes.***
  Answer: ***NA***

C. Department of the Interior Priorities:

1. ***Identifying steps to accelerate responsible development of renewable energy on public lands and waters.*** *We are investing in climate research and environmental innovation to incentivize the rapid deployment of clean energy solutions, while reviewing existing programs to restore balance on America's public lands and waters to benefit current and future generations.*

   Answer: NA

2. ***Strengthening the government-to-government relationship with sovereign Tribal nations.*** *We understand that tribal sovereignty and self-governance, as well as honoring the federal trust responsibility to Tribal Nations, must be the cornerstones of federal Indian policy.*

   Answer: NA

3. ***Making investments to support the Administration's goal of creating millions of family-supporting and union jobs.*** *This includes establishing a new Climate Conservation Corps Initiative to put a new generation of Americans to work conserving and restoring public lands and waters, increasing reforestation, increasing carbon sequestration in the agricultural sector, protecting biodiversity, improving access to recreation, and addressing the changing climate.*

   Answer: This project will hire multiple Youth Conservation Corps Crews to implement natural and cultural resource protection and restoration projects and programs. This project will provide youth employment opportunities in rural Nevada while building work ethic and teaching work related skills.

4. ***Working to conserve at least 30% each of our lands and waters by the year 2030.*** *We will work to protect biodiversity, slow extinction rates, and help leverage natural climate solutions by conserving 30% of America's lands and waters by 2030. This relies on support for local, state, private, and tribally led conservation and restoration efforts that are underway across America.*

   Answer: This project will hire multiple Youth Conservation Corps Crews to implement natural and cultural resource protection and restoration projects and programs.

5. ***Centering equity and environmental justice.*** *The impacts of the multiple crises in the United States are not evenly distributed in our society. Communities of color, low-income families, and rural and indigenous communities have long suffered disproportionate and cumulative harm from air pollution, water pollution, and toxic sites. At every step of the way, Interior will engage diverse stakeholders across the country, as well as conduct formal consultation with Tribes in recognition of the U.S. government's trust responsibilities.*

   Answer: NA

D. USDA Forest Service Priorities:

1. ***Controlling the COVID-19 pandemic***

   Answer: This project will implement all recommended Covid-19 mitigation measures.

2. ***Providing economic relief***

   Answer: This project will provide youth employment opportunities in rural Nevada while building work ethic and teaching work related skills.

3. ***Tackling climate change***

   Answer: **NA**

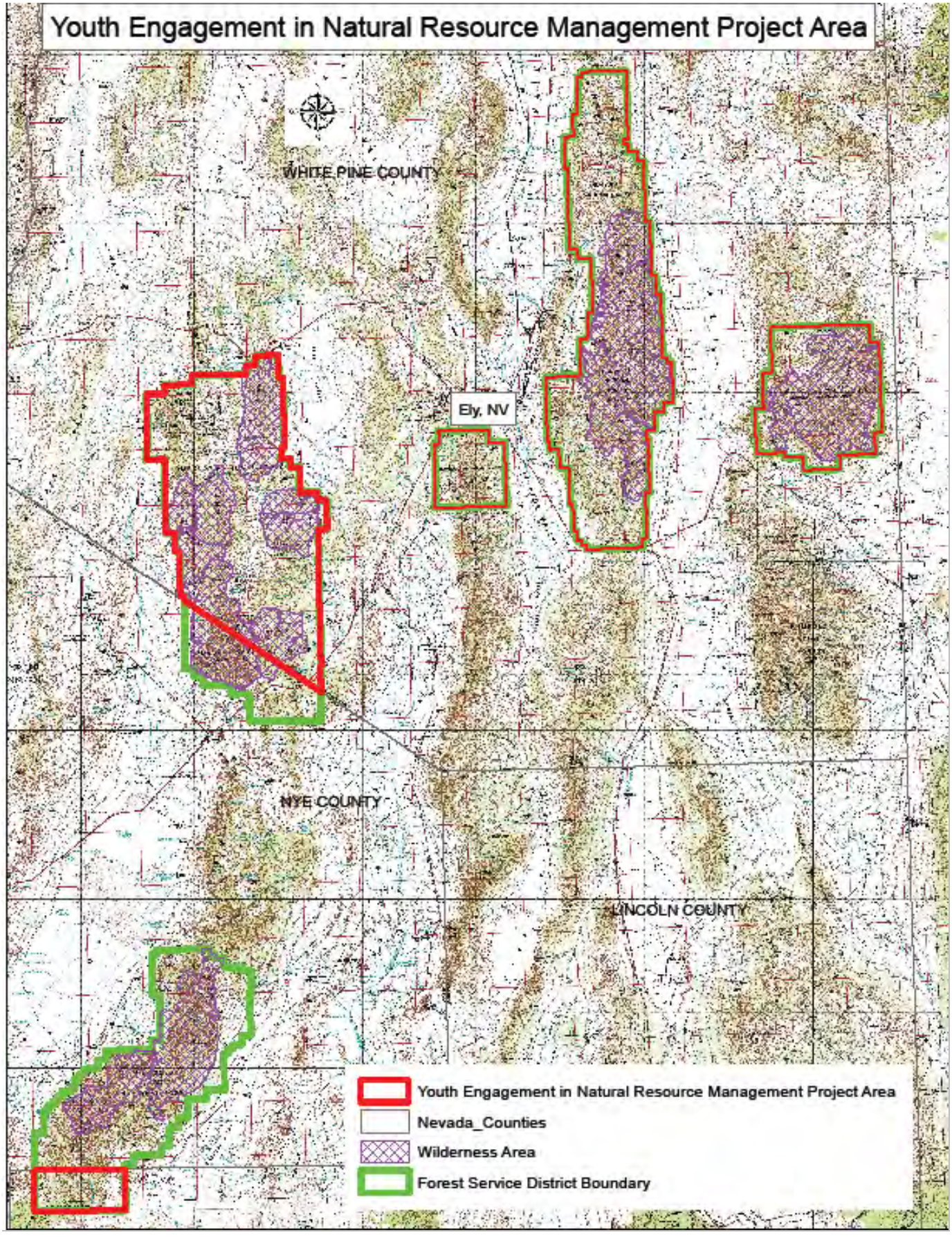
4. ***Advancing racial equity***

   Answer: NA

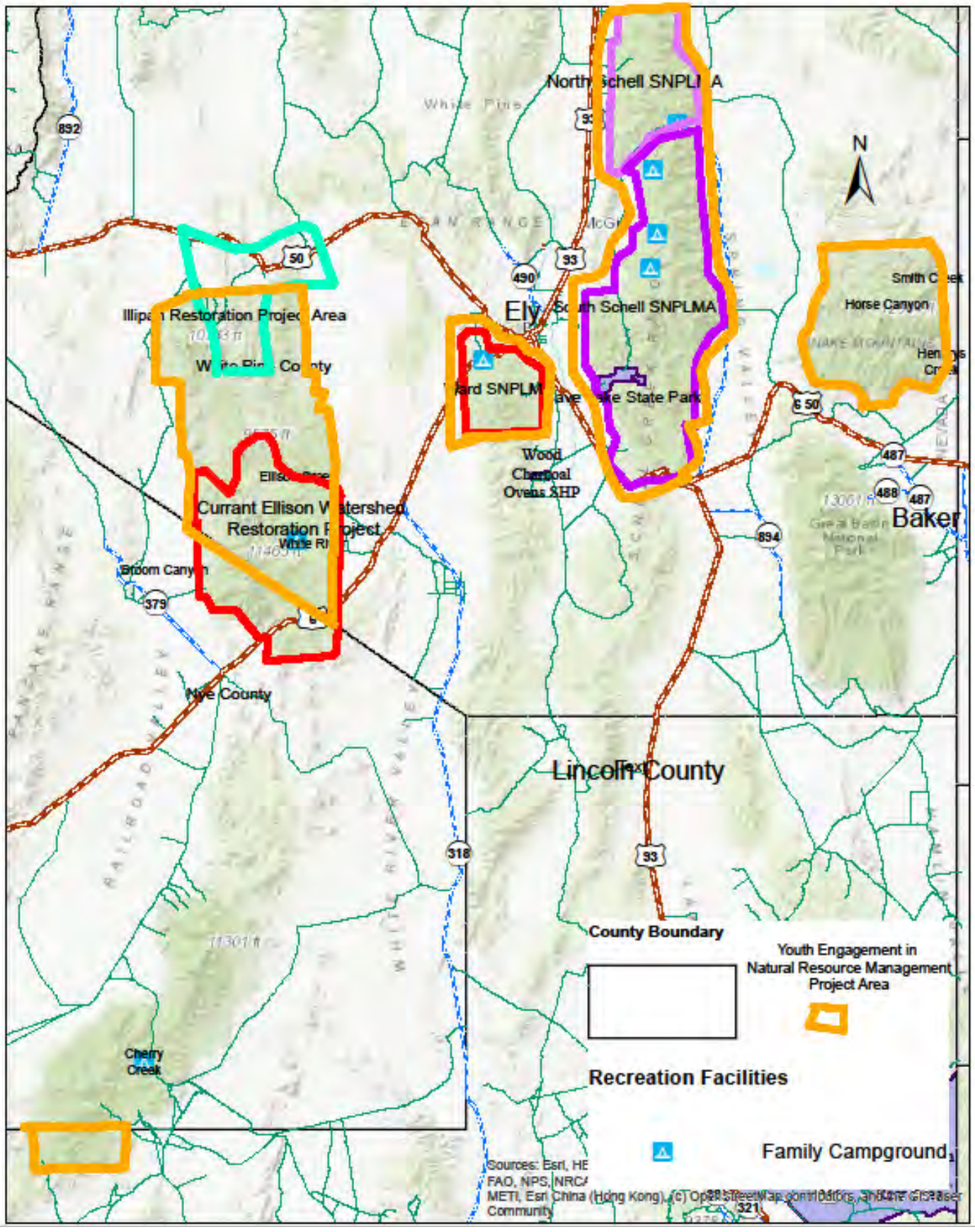
5. ***Improving our workforce and work environment***

   Answer: This project will provide youth employment opportunities in rural Nevada while building work ethic and teaching work related skills. This project will prepare youth for possible future careers managing public lands.

M. MAPS


Youth Engagement in Natural Resource Management Project Area
WHITE PINE COUNTY
Ely, NV
NYE COUNTY
LINCOLN COUNTY
Youth Engagement in Natural Resource Management Project Area
Nevada_Counties
Wilderness Area
Forest Service District Boundary

EC Strategic Plan Values Map
Youth Engagement in Natural Resource Management



N. PERFORMANCE MEASURES

SNPLMA STRATEGIC PLAN GOAL 1: Sustain the Quality of the Outdoor Environment by Conserving, Preserving, and Restoring Natural and Cultural Resources		
Performance Measures for Habitat Enhancement	**Definition of Performance Measure**	**Quantity**
H2 - Miles of Riparian Stream or Shoreline Habitat Treated, Enhanced, or Restored	Report the number of miles of riparian stream and/or shoreline vegetation and/or wildlife habitat treated, enhanced, or restored. This can include retreatment and/or maintenance treatments only if the initial treatment was not funded through SNPLMA and the miles have not been accounted for in the performance measures for another SNPLMA project. Include acres treated by fire for resource benefits, but not other types of wildland fire. Do not report treatments targeting invasive vegetation, as those should be reported under the H9 performance measure. Do not report hazardous fuels reduction projects, as those should be reported under either the F1 or F2 performance measures. Report to the nearest whole mile.	**6**
H4 - Acres of Upland Habitat Treated, Enhanced, or Restored	Report the number of acres of upland vegetation and/or wildlife habitat treated, enhanced, or restored. This can include retreatment and/or maintenance treatments only if the initial treatment was not funded through SNPLMA and the acres have not been accounted for in the performance measures for another SNPLMA project. Include acres treated by fire rehabilitation projects or by fire for resource benefits, but not other types of wildland fire. Do not report treatments targeting invasive vegetation, as these should be reported under the H9 performance measure. Do not report hazardous fuels reduction projects, as these should be reported under either the F1 or F2 performance measures. Report to the nearest whole acre.	**2,500**
H8 - Number of Water Developments Constructed or Improved for Wildlife	Report the number of water developments for use by wildlife constructed or improved/repaired within all habitat types. Existing projects may be counted under this performance measure if functional improvements/repairs are made as defined in the project nomination. Report each development constructed or improved as one unit (e.g., one project may have three water developments).	**5**

H9 - Acres of Invasive Plant Species Treated or Restored	Report the number of acres of weed infestation treated with chemical, mechanical, physical, or biological control agents for the purpose of weed control. Include acres treated by fire when fire is used as a physical control agent for weed control rather than as a hazardous fuels treatment. Each acre treated is counted only once during the life of the project, no matter how many re-treatments occurred during the project. Report to the nearest whole acre.	**25**
H10 - Acres of Invasive Plant Species Surveyed, Inventoried, or Monitored	Report the number of acres of weed infestation inventoried or monitored. Include monitoring of weed treatment projects reported under performance measure H9. Report to the nearest whole acre.	**500**
H16 - Miles of Roads or Trails Decommissioned and/or Rehabilitated	Report the number of miles of roads and/or trails decommissioned and/or rehabilitated within all habitats (urban, upland, riparian, stream, trails in caves, etc.). Closure may include designation, signing, blockage by physical means, obliteration, etc. Report to the nearest whole mile.	**10**
H17 – Miles of Roads or Trails Surveyed, Inventoried, or Monitored	Report the number of miles of roads and/or trails inventoried or monitored. Report to the nearest whole mile or linear foot. Report to the nearest whole mile.	**20**

Performance Measures for Cultural / Paleontological Resources	**Definition of Performance Measures**	**Quantity**
C1 - Number of Cultural or Historic Sites or Structures Stabilized or Protected	Report the number (one unit for each site or each structure) where work is completed to protect, stabilize, restore, excavate, and/or manage cultural features. For sites receiving multiple treatments, count each site only once, but if multiple structures are on a site, count each structure separately. For example, an archeological dig site would be counted as one although multiple excavations may take place on the site, whereas a site having remnants of three separate dwellings would be counted as three. Report installation of interpretive signs and structures (e.g., kiosk displays) under O6. Report administrative actions such as mineral withdrawals, closures, or special designations under H1. Report each site or structure as one unit.	**10**
C3 - Acres of Cultural / Paleontological Resources Surveyed, Inventoried or Monitored	Report the number of acres of land surveyed, inventoried, or monitored for cultural and/or paleontological resources. Include acres surveyed using Class I study of existing information inventory, Class II probabilistic field survey, or Class III intensive field survey and resultant inventory as required by Section 14 of the Archaeological Resources Protection Act (ARPA) or Section 110 of the National Historic Preservation Act (NHPA). Report to the nearest whole acre.	**50**

SNPLMA STRATEGIC PLAN: Other Performance Measures that Also Support the Three Values for SNPLMA Implementation of Sustainability, Connectivity, and Community		
Other Performance Measures	**Definition of Performance Measures**	**Quantity**
O5 - Number of Outreach Contacts Made	Report the number of education and outreach contacts made through interpretation and environmental education, such as number of teachers trained, number of participants in workshops, etc. Report each participant as one unit.	**1000**
O6 - Number of New Interpretive or Education Publications/Signs/ Kiosks/Displays/etc. Produced	Report the number of new interpretive or education publications produced, signs produced and installed, public informational websites or other electronic media presentations designed and implemented, and informational or interpretive kiosk displays produced and installed. Report each item produced as one unit.	**5**
O7 - Number of Interpretive or Education Presentations Given and/or Community Events Participated in or hosted	Report the number of interpretive or educational presentations given. Report each presentation as one unit.	**30**

O. PHOTOS

2017 Ely YCC Crew

YCC Crew Members Working on a Fence in 2019

OHV Cattleguard Constructed By the 2019 YCC Crew

Pipe Rail Riparian Exclosure Fence Constructed by a YCCCrew

P. SUPPORT LETTERS

1. White Pine County Board of Commissioners
2. White Pine County Tourism and Recreation Board

White Pine County
Board of County Commissioners

801 Clark Street, Suite 4
Ely, Nevada 89301
(775) 293-6509
Fax (775) 289-2544

WPClerk@whitepinecountynv.gov

October 27, 2021

Erin Rajala, District Ranger (Acting)
Ely Ranger District, US Forest Service
825 Avenue E.
Ely, Nevada 89301

Via Email: erin.rajala@usda.gov

RE: White Pine County Support for the Ely Ranger District's Round 19 Project Proposals for funding from the Southern Nevada Public Lands Management Act (SNPLMA)

Mrs. Rajala,

White Pine County, Nevada (County) has reviewed the Ely Ranger District's Summary of SNPLMA Round 19 Projects and wishes to convey its strong support for all of them. If funded and implemented, these projects would be of great benefit to the County's customs, culture and economy as well as serving to improve ecological health, enhance outdoor recreation and benefit the County's citizens and visitors.

The below listed projects are all consistent with advancing the goals and objectives the County's Public Lands Policy Plan within both critical geographic and key socioeconomic areas:

- South Schells Restoration Project
- Illipah Watershed Restoration Project
- Ranger OHV Trails Reconstruction Project
- Mount Moriah Trails Reconstruction Project
- Kalamazoo Campground Reconstruction Project
- Youth Engagement in Natural Resource Management
- Phase II: Ely District Noxious and Invasive Weeds: Inventory, Treatment, Restoration & Education

The County appreciates the hard work that you and your staff have put forward in development of these projects. The County also appreciates the open coordination and communications you have had with the County and key stakeholders in doing so. Once again, the County enthusiastically supports the above listed projects, offers its continued partnership and whishes you the best in terms of funding and implementation.

Respectfully,

Richard Howe

Richard Howe, Chair
White Pine County Board of Commissioners

RH/jd/nb

CC: Jose Noriega, District Ranger

WHITE PINE COUNTY TOURISM AND RECREATION BOARD

Bristlecone Convention Center & Visitors Bureau

Erin Rajala
Acting District Ranger
Ely Ranger District
825 Ave E
Ely, NV 89301

Mrs. Rajala,

My name is Kyle Horvath. I am the Director of Tourism for White Pine County Nevada. I am writing in support of the Forest Service Ely Ranger Districts Round 19 SNPLMA Proposals. The citizens and communities in White Pine County rely on outdoor recreation as a staple quality of life asset as well as a main economic driver in the county. White Pine County Tourism and Recreation has set outdoor recreation as central to its branding and marketing of tourism. The relationships with our land managers have been integral to past success in expanding the outdoor recreation industry and assets. The Forest Service Ely Ranger District has been a steadfast partner of tourism and has proven success in all of their past projects. After reviewing the proposals set forth by the NFS for the Round 19 SNPLMA Grant Program, I am writing in support of the multiple conservation and recreation projects proposed by NFS Ely District.

We have all seen the devastating effects of wildfires in the west. Preserving the natural environment to benefit native vegetation and wildlife while protecting those environments from the effects of wildfires should be a top priority. Because of that I support full funding of the conservation-based projects: The South Schells Restoration Projects, The Illipah Watershed Restoration Project, and The Ely District Noxious and Invasive Weed Inventory, Treatment, and Restoration Project.

Outdoor Recreation is a major economic driver of the state and has offered an economic security net around communities traditionally based in resource extraction. Outdoor recreation is also a cultural element to what makes us Nevadans. White Pine County has seen major economic returns since defining itself as one of the best outdoor destinations in the state by developing its trail-based recreation opportunities. The recreation-based projects proposed by NFS Ely District will be integral in expanding access to recreation for local citizens and visitors. I support fully funding: The Kalamazoo Campground Reconstruction Project, The Mount Moriah Trails Reconstruction Project, The Ranger OHV Trail Reconstruction Project, and The Youth Engagement in Natural Resource Management Project.

Our rural communities rely heavily on the work that our land managers do. The SNPLMA Grant Program has been integral to so many necessary and impactful projects in the past. I am excited about the potential return on these proposals. Thank you for your past support and your consideration in fully funding these important upcoming projects.

Sincerely,

Kyle Horvath, Director

150 6th Street • Ely, Nevada 89301
775 289-3720 • 800 496-9350 • Fax 775 289-6757

Southern Nevada Public Land Management Act
Conservation Initiatives
Round 19

Bureau of Land Management

Condor Canyon Habitat Restoration and Evaluation

Amount Requested: $934,253

A. BACKGROUND INFORMATION

Three native fish species are found in Condor Canyon, including the federally threatened Big Spring spinedace (*Lepidomeda mollispinis pratensis*) as well as the sensitive species Meadow Valley Wash desert sucker (*Catostomus clarkii ssp. 2*) and Meadow Valley speckled dace (*Rhinichthys osculus ssp. 2*). This project is proposing to conduct riparian restoration in Condor Canyon and evaluate its effectiveness on the above species in alignment with the Bureau of Land Management's (BLM) duty to protect and restore special status species and their habitats on public lands in conformance with the August 2008 Ely District Approved Resource Management Plan and BLM Manual Section 6840. The proposal is also designed to meet goals laid out in the Big Spring Spinedace Recovery Plan (USFWS, 1994), as coordinated through the Recovery Implementation Team (RIT) to improve habitat in Condor Canyon.

Many disturbances have been documented over the past century in Condor Canyon. Most notably, a railroad was built through the canyon in the early 20th Century. This drastically altered the hydrology of the stream, Meadow Valley Wash, and many sections of channel were realigned to allow for the build-up of the railroad grade in the narrow canyon and to mitigate water damage in high flow events. This is believed to be the reason why the channel has become notably incised. While the railroad no longer operates through the canyon, the original railroad grade remains in place and serves as a multi-use trail through the canyon. Additionally, a wildfire burned through a large portion of the canyon in 1999, removing much of the cottonwood (*Populus sp.*) and willow (*Salix sp.*) components in the riparian area. This reduction in canopy cover and stabilizing woody vegetation caused an increase in sediment input into the system. It also allowed for cattail (*Typha sp.*) and bulrush (*Scirpus sp.*) to take hold in the channel, providing habitat for non-native crayfish which prey on spinedace. Cattail and bulrush also slow the flow of water and capture the already elevated levels of sediment in the channel. This causes a buildup of silt on the originally gravelly streambed, creating unfavorable conditions for the native fish species. Other activities that have occurred in the canyon that have likely impacted the riparian area include historic mining operations and livestock grazing.

Meadow Valley Wash is a semi-perennial stream that begins in Northeastern Lincoln County, Nevada and is a tributary to the Muddy River with the confluence near Moapa, Nevada. The 4 miles of Meadow Valley Wash within Condor Canyon, including the 50-foot riparian corridor on each side of the stream, was designated as critical habitat for Big Spring spinedace when the species was listed. This critical habitat represents the majority of the currently known range for Big Spring spinedace and is essential for the conservation of the species. The BLM is proposing to implement habitat restoration along multiple reaches of Meadow Valley Wash within and adjacent to Condor Canyon, totaling between 1 and 1.5 miles of both critical and non-critical habitat for Big Spring spinedace and the other native fish species. Additionally, the project proposes to conduct an evaluation of restoration effectiveness on the native species and potential non-native predators in Condor Canyon. While this is not proposed as an interagency project, it will be conducted in close coordination with the Nevada Department of Wildlife (NDOW) and U.S. Fish and Wildlife Service (USFWS), who each have representatives on the RIT. Implementation of the project will begin with completing National Environmental Policy Act (NEPA) compliance on the proposed actions, consultation with federal, state, and tribal governments (e.g, Endangered Species Act, Section 106 (cultural), and tribal, etc.), and

initiating permitting requirements during the first year. The first year will also include contracting for geotechnical/civil engineering support and the restoration evaluation study. The second year will include baseline monitoring of habitat and populations and implementing habitat restoration in the form of channel realignment and vegetation treatments. The installation of signage will occur during the third year. Vegetation treatments will continue during years three through five, along with the habitat and population monitoring to evaluate the effectiveness of restoration for the native fish species. Project completion will be determined when the identified areas have undergone treatment, been evaluated, and a final report on the evaluations is submitted to the BLM by the end of the fifth year when the project closeout process begins (see sections D and F for a detailed description of deliverables and project timeline). The final report will be shared with the RIT to help inform biologists and managers of potential management actions to be considered for the target species, as well as other species of spinedace in the region. This project will contribute to resource protection and visitor experience not only through restoration of special status species habitat, but by enhancing the health and resiliency of the ecosystem as a whole for all its users, including recreators who will be able to enjoy one of Nevada's rare riparian resources.

Describe Relationship to prior Approved Phases or Related SNPLMA Projects and Anticipated Future Phases

Although this nomination is not proposing a phased project, it is related to a prior phased project initiated in Round 6 titled: *Meadow Valley Wash T&E Habitat Restoration/Noxious Weed Control, Phase I*. Habitat restoration in that project focused in part on Big Spring spinedace habitat in Condor Canyon, similar to this proposed project. The second phase to that original project was initiated in Round 9 titled: *Meadow Valley Noxious Weed Control, Phase II*. The Phase II was not related to Condor Canyon and Big Spring spinedace, rather it focused on salt cedar (*Tamarix sp*.) and other noxious weed treatments in other portions of the Meadow Valley Wash system in southern Lincoln County.

a. Acknowledgement of Stand-Alone Project and no Guarantee of Funding for Future Phases

The BLM acknowledges that the proposed Condor Canyon Habitat Restoration and Evaluation project is designed and intended to be a stand-alone project, and there is no guarantee of funding for future phases.

B. SNPLMA STRATEGIC PLAN VALUES

Conservation Initiative projects have two goals identified in the Strategic Plan:

- Goal 1: Sustain the quality of the outdoor environment by conserving, preserving, and restoring natural and cultural resources.
- Goal 2: Improve the quality of life for all publics in urban and rural communities by enhancing recreational opportunities that connect people with the outdoor environment.

Nominated projects should meet these goals by focusing on the three SNPLMA core values, connectivity, sustainability, and community. Every nomination must explain how the three values are promoted by the project.

1. Sustainability:
   This project proposes to conduct treatments throughout Condor Canyon to address the impacts from historical disturbances. This will include channel realignment and stabilization, removal of cattail and bulrush, and reestablishment of a woody overstory. These treatments will not only increase the quality of habitat for the native fish, but they will also improve function of the overall ecosystem by reducing sediment input and channel incision. They will also make the system more resilient to future events, such as severe high or low flow years that may become more extreme because of climate change. The riparian ecosystem in Condor Canyon is expected to improve overall function and increase its' capacity to sustain the native fish populations as a result of these treatments.

   In addition to the BLM, both NDOW and USFWS are active members on the Big Spring spinedace RIT and plan to participate in project development, implementation, and monitoring. The project is also proposing involvement from the scientific community during the process of evaluating the effectiveness of the restoration project and the responses of the native fish species.

2. Connectivity:
   This project will build of off a previous SNPLMA project from Round 6 titled *Meadow Valley Wash T&E Habitat Restoration/Noxious Weed Control, Phase I* (see relationship to previous phases above). The proposed project in this nomination has been informed by the successes of the Round 6 project and plans to expand similar efforts into new sections of Condor Canyon. The approximately 30-foot high Delmue Falls in Condor Canyon is a barrier to upstream movement of fish. Generally, the upper reaches of the canyon above Delmue Falls have higher numbers of spinedace, while the reaches below the falls have lower numbers that continue to decrease the further you move downstream. This is in part due to the poor-quality habitat in this part of the canyon. It is believed that the population above the falls helps augment the population below the falls. The project from Round 6 realigned a section of stream downstream of the falls and surveys indicate that spinedace numbers have increased in this treatment area. The proposed project plans to continue this channel realignment further downstream into an area that continues to degrade from high flow events. Vegetation treatments to remove cattails and bulrush, and restore the woody canopy are planned throughout the canyon to improve areas of lower quality habitat and ensure quality habitat connects restoration areas to the reaches that have higher numbers of spinedace. One such area is between the Round 6 channel realignment and a private parcel immediately below the falls owned by The Nature Conservancy where restoration activities have also occurred. Populations of speckled dace and desert sucker are more consistent throughout the canyon, however, they follow a similar trend of having higher numbers above the falls than below, with notable declines in desert sucker numbers in recent years. Both species will benefit from improvements in habitat suitability and connectivity.

3. Community:
   Condor Canyon attracts a small, yet increasing, number of visitors each year due to the natural, cultural, and geologic features found within. Visitors usually travel into the canyon by vehicle (OHV, 4x4, etc.) or on foot and comprise both locals and those traveling from outside of the community. This project will improve visitor experiences by restoring the riparian system and providing a healthier and balanced ecosystem for all to enjoy. Additionally, this project plans to incorporate interpretive signage within the canyon to increase visitor awareness of restoration work and other points of interest, as well as informing them of sensitive areas and private property to be avoided.

C. PURPOSE STATEMENT

The BLM Ely District is proposing to conduct restoration along 1 to 1.5 miles of riparian habitat on public lands within Condor Canyon in Lincoln County, Nevada and evaluate the response of Big Spring spinedace and associated native fish to the restoration. The purpose is to fulfill the BLM's duty to protect and restore habitat of federally listed and special status species on public lands while also supporting the overall health of this unique riparian ecosystem.

D. PROJECT DELIVERABLES

1. Primary Deliverables:

The following will be completed by the project:

- Stream channel design outlining potential locations and alignment options for channel restoration in the target area.
- Realignment and restoration of 300-500 feet of channel in Meadow Valley Wash within Condor Canyon. Exact location and alignment will be determined upon completion of final design.
- Conducting 1 to 1.5 miles of vegetation treatments (removal of cattail and bulrush and/or planting of woody riparian species) throughout the Condor Canyon section of Meadow Valley Wash to connect restoration areas and high-quality habitat.
- Final report detailing the response of native fish to habitat treatments and effectiveness of treatments.
- Installation of 2 interpretive signs.

2. Anticipated Deliverables:

The following should be completed by the project:

- Final report presented or published as thesis, dissertation, peer-reviewed journal, open-file report, etc. dependent on the entity to receive contract or agreement.

3. Standard Deliverables:

The following would be used to measure project deliverables:

- Environmental documentation (e.g., NEPA, ESA, Section 106, permitting).
- Contract/agreement preparation and management.
- Baseline evaluation of habitat conditions and native fish populations.
- Measurement of areas treated.
- Post-treatment evaluations of habitat conditions and native fish populations.

- SNPLMA close-out package.

E. PROJECT LOCATION

Latitude and Longitude:
(37.841061º, -114.34801º)

Identify Congressional District(s):
Lincoln County, NV District 4

F. PROJECT TIMEFRAME

Once funding is approved this project would take up to 5 years to complete.

Year 1

- Complete NEPA analyses (Determination of NEPA Adequacy is anticipated).
- Review and conduct consultations:
    - Review existing section 7 consultation to determine if reinitiating is warranted.
    - Review project area to determine if prior section 106 consultation is still current.
    - Coordinate with tribal liaison to determine the appropriate level of consultation with tribes.
- Acquire permits from the State of Nevada and the Army Corp of Engineers for working in waterways.
- Initiate contract or agreement for study of native fish, potential predators, and habitat restoration.
- Initiate contract for geomorphic/engineering support for floodplain and channel restoration.

Year 2

- Complete baseline evaluations of populations and habitat conditions in Condor Canyon.
- Implement channel restoration (contingent on permitting and final design).
- Procure materials for vegetation treatments.
- Initiate vegetation treatments (cattail and bulrush removal, tree planting).

Year 3

- Begin evaluation of treatment areas to determine effectiveness of initial treatments.
- Continue vegetation treatments.
- Purchase and install interpretive signage.

Year 4

- Continue evaluation of treatment areas to determine effectiveness of initial and ongoing treatments.
- Continue vegetation treatments.

Year 5

- Complete vegetation treatments where needed.
- Complete evaluation of treatment areas and determine effectiveness of treatments, deliver final report.
- Project closeout.

G. LEVEL OF PROJECT READINESS FOR IMPLEMENTATION

Is this a shovel-ready project? ☐Yes ☒No

Current staff on the Ely District should be able to complete the initial preparations for this proposed project. A review of existing NEPA documentation and associated consultations will need to be completed prior to project implementation. A Determination of NEPA Adequacy is anticipated for this project based on the 2012 Condor Canyon Restoration Project Environmental Assessment (DOI-BLM-NV-L030-2012-0029-EA). Re-initiation of the associated Section 7 and Section 106 consultations may be required. Permits from the State of Nevada and U.S. Army Corp of Engineers will need to be obtained prior to starting restoration work within the channel. Contract and/or agreement preparation and award will also need to be completed for channel design and project evaluation efforts.

H. FUTURE OPERATING AND MAINTENANCE

This project is designed to need little to no operation and maintenance support. Restoration efforts should become self-sufficient once fully established. Long-term monitoring of habitat conditions and the installed signage will be folded into the current duties of Ely District staff.

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I. PROJECT BUDGET

PROJECT BUDGET			
Project Name:	Condor Canyon Habitat Restoration and Evaluation	**Date:**	9/30/2021
Project Manager:	Andre Delcalzo - Wildlife Biologist	**Agency:**	Bureau of Land Management
Cost Categories		**SNPLMA**	**Non-Federal Contribution**
1. Personnel (labor plus benefits)		$ 550,400.00	$ -
2. Travel		$ -	$ -
3. Training		$ 3,000.00	$ -
4. Equipment		$ 5,800.00	$ -
5. Supplies/Materials		$ 11,205.00	$ -
6. Contracts and/or Agreements		$ 330,000.00	$ -
7. Vehicle Use		$ 21,600.00	$ -
8. Other Necessary Expenses		$ 12,248.00	$ -
9. TOTAL PROJECT BUDGET		**$ 934,253.00**	**$ -**
Notes:			

Partnership and/or Contributed Funds

Our partnership portfolio includes state and federal agencies. Both NDOW and USFWS are active participants on the RIT and are committed to the recovery of the threatened Big Spring spinedace. Additionally, because Meadow Valley Wash desert sucker and Meadow Valley speckled dace are considered sensitive species and share similar habitat with Big Spring spinedace, these agencies contribute to planning and developing conservation efforts. Both

agencies have already played a role in project design by providing their input on past restoration, survey results, and identifying areas currently in need of restoration. NDOW plans to provide support for this project through their annual population trend monitoring efforts that are conducted throughout the project area. USFWS plans to provide support through consultation efforts and assist in the development of evaluation efforts. Support provided by project partners is not being considered as in-kind contributions. Please see the accompanying letters of support from both agencies.

J. KEY CONTACTS

Authorized Officer: Robbie McAboy
Email: rmcaboy@blm.gov
Phone Number: (775) 289-1840

Project Manager: Andre Delcalzo
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Budget Officer: Bruce Tebbs
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K. RANKING CRITERIA

The Ranking Criteria are used to evaluate the nomination against the goals for the Conservation Initiatives category. Nominating entities are not to include either the total point value or the point values by criteria in their responses. Nominations will be reviewed and scored by the Conservation Initiatives subgroup.

1. **The nomination supports habitat enhancement, cultural resources, and/or public health and safety through connectivity and sustainability.** Include as many project subtypes as applicable to your nomination. Points will be awarded by the subgroup based on the level of support the nomination shows toward a variety of subtypes, the more variety, the more points. The subtypes below are not all inclusive.

   A. Habitat Enhancement. *The following are examples of project subtypes for habitat enhancement goals, objectives or actions this nomination will support/accomplish: enhances or connects habitats, migratory corridors, or protected areas; endangered species; proactive steps to prevent listing; invasive species treatment and/or control (plant or animal); restoration of habitat for sensitive species at the watershed or landscape level; climate change; water quality and quantity monitoring; cave management; restoration of springs, streams, and rivers; road decommissioning and rehabilitation; reintroduction of extirpated species to restore overall ecosystem.*

   Answer:

   This project will enhance habitat for the federally listed Big Spring spinedace as well as the sensitive Meadow Valley Wash desert sucker and Meadow Valley speckled dace by removing cattail and bulrush that clogs the channel causing a build-up of fine sediment and creates unfavorable conditions for all three species. This undesired vegetation also provides habitat for a potential predator of the spinedace, the invasive signal crayfish

(*Pacifastacus leniusculus*). By replacing cattail and bulrush with a woody canopy comprised of species such as willow and cottonwood, it reduces the ability for them to re-establish and allows for higher velocity flows that reduce the amount of fine sediment. This treatment will be conducted throughout the canyon to connect previously restored areas, as well as areas that have traditionally had higher densities of spinedace, to areasthat have the potential to host higher numbers with the improvement of habitat. Restoration efforts to realign the stream channel will achieve similar results as vegetation treatments as cattail and bulrush will be replaced with woody species, however, realigning the channel will go a step further to create a more concentrated flow along a natural gradient that is both beneficial for spinedace and more resilient to impacts from high flow events. Overall, treatments should result in improved water quality conditions for the native fish in the canyon. Monitoring efforts in place will help us understand how these conditions change over the course of the restoration efforts and better inform the conservation efforts for these species.

B. Cultural Resources. *The following are examples of project subtypes for cultural resources goals, objectives or actions this nomination will support/accomplish: surveys; National Register (eligible or currently approved); protection/site stewards; restoration/stabilization; and tribal involvement and/or consultation.*

Answer:

A review of past cultural surveys will be conducted to determine if new surveys and consultation are required prior to initiating restoration activities.

C. Public Health and Safety. *The following are examples of project subtypes for public health and safety goals, objectives, or action this nomination will support/accomplish: litter/dumping cleanup; information kiosks and signs; addresses and mitigates adverse impacts to resources caused by the volume of people using the resource; resolving trespass/encroachment/illegal use of public lands (i.e. marijuana grow sites)/boundary surveys; and abandoned mine land (AML) with habitat restoration component.*

Answer:

This project will include interpretive signage within the canyon that will help users better understand the resources found there and will complement the existing kiosk found at the entrance of the canyon.

2. **The nomination promotes sustainability by providing benefits in the near and long term by implementing actions to conserve and sustain healthy and resilient landscapes and providing durability, relevancy, and shared support. Answer all applicable.**

A. Conserves resources to ensure availability to future generations through management of natural and/or cultural resources for current public benefit and sustainable social and economic utilization.

Answer:

This project will ensure that Condor Canyon remains a healthy riparian ecosystem for

current and future generations. In addition to supporting native fish unique to this region, Condor Canyon is utilized by the public for activities such as hiking, hunting, OHVriding, and livestock grazing. Restoration efforts in Condor Canyon will not just improvethe habitat for the fish but will ensure that all these activities will continue to benefit andbe supported by a healthy riparian ecosystem for years to come.

B. Conserves or restores the functionality, resilience, and integrity of biological communities and/or cultural resources through prudent management and prevention of injury, decay, waste, or loss.

Answer:

Restoration efforts in Condor Canyon will restore functionality that was lost from past disturbances and create resiliency by removing species that are actively degrading the system and then armoring the riparian zone with species that can withstand future impacts, all while enhancing the necessary habitat components needed for our target species.

C. Will remain relevant and continue to provide a benefit beyond the existence of SNPLMA.

Answer:

Condor Canyon is a unique geologic feature in eastern Nevada that will remain on the landscape for the foreseeable future. While the geology of the canyon has been slowly morphed over millions of years by natural process, the riparian ecosystem within has been dramatically altered and destabilized over the course of a single century by human influence. This project will help repair the riparian ecosystem's foundation so it may sustain itself and enhance the system's ability to carry out the critical functions that serve the needs of its diverse plant, animal, and human users.

3. **The nomination promotes community by improving the quality of life for humans by protecting the integrity of biological communities or cultural sites. Answer all applicable.**

A. Encourages people to meaningfully connect with their natural environment and helps them appreciate and care for the environment by providing information and resources to educate and engage people in understanding their role in protection and maintaining the natural environment by providing opportunities for them to connect to the natural resources directly or virtually or provides education of the environment.

Answer:

This project will encourage people to meaningfully connect with their natural environment using interpretive signage that informs visitors to the canyon of the sensitive resources found there and how they may respectfully enjoy those resources. This may include materials on proper OHV etiquette in riparian areas, cultural resource and endangered species protections, ecological diversity of riparian areas and the importance of these areas to indigenous people and early settlers.

B. Project has identified committed non-SNPLMA sources of funding or in-kind contribution for the planning, design, and development of the project.

Answer:

This project has identified assistance from partners and RIT members USFWS and NDOW. Both partners have already contributed to the development of this nomination by providing expertise in fisheries and threatened and endangered species conservation. Anticipated support from both agencies, while not considered in-kind contributions, will aid project planning and development. Additionally, NDOW conducts annual surveys for all three native fish species in Condor Canyon. Surveys NDOW conducts during the term of this project will provide valuable information on population trends while complementing the additional evaluations into habitat restoration effects included with the project. Please see the included letters of support from both agencies.

C. Preserves the past (cultural or historic sites) for present or future generations.

Answer:

A review of past cultural surveys will be conducted to determine if new surveys and consultation are required prior to initiating restoration activities. Known cultural sites within the canyon and any new sites discovered during surveys would be avoided to preserve their integrity for future generations. Both historic and pre-historic activity in the area is likely to have been closely associated with riparian communities like Condor Canyon as they served as important resources for these groups. By maintaining the health of the riparian ecosystem, it will showcase to present and future visitors the attraction and necessity that these areas had on past cultures that utilized these unique systems.

4. **The nomination enhances partnerships to promote cooperation and collaboration. The nomination also promotes sustainability, connectivity, and community by linking people to nature and recreational opportunities by uniting communities with important places across the landscape. Answer all applicable.**

A. The nomination addresses and meets the needs of more than one agency (federal or state).

Answer:

This project will meet the needs of two additional agencies, NDOW and USFWS. Both agencies, as well as the BLM have worked together as RIT members to meet their responsibilities to the conservation of Nevada's public lands, fisheries, and threatened and endangered species. This collaboration has already resulted in the development and implementation of goals outlined in species recovery planning, habitat management planning, prior restoration projects, and land use planning. This project will continue utilizing this collective effort to achieve more of these shared goals while combining the skills and resources unique to each partner.

B. The nomination involves non-federal, public partners, citizen groups or organizations in the development and accomplishment of resource management goals and other activities to prevent waste, damage, or neglect.

Answer:

This project will engage with non-federal stakeholders, including the adjacent landowners and livestock grazing permittees, to ensure that resource objectives are being met and any concerns are addressed regarding restoration activities.

C. The nomination clearly defines and includes a stewardship component (Federal or non-Federal) to broaden support and reduce long-term costs by minimizing the human impact on the environment through an education plan with clear curricula and achievable goals and objectives.

Answer:

Upon project completion, stewardship of the area will primarily remain the responsibility of federal and state agencies. BLM will be responsible for a majority of the site through routine riparian, weed, and rangeland monitoring protocols. NDOW, with assistance from USFWS and BLM, conducts surveys to monitor the native fish population trends.

5. **The nomination has identified committed non-SNPLMA sources of funding or in-kind contributions in the development and/or implementation of the project. Answer all applicable.**
Overhead costs may not be included in determining in-kind contributions.
Labor funded from an appropriation is not considered an in-kind contribution

A. In-kind Contributions. *The following are examples of in-kind contributions this nomination will support: Volunteer Labor – valuation to be computed at the rate used by the Department of the Interior, which is currently $28.54 per hour; Salaried Employees – actual hourly rate plus the value of any fringe benefits received. Nomination must confirm this is from non-appropriated funding to be awarded*
points; Material, Equipment, and/or Supplies - actual costs should be used.

Answer:

This project has identified assistance from partners and RIT members USFWS and NDOW. Both partners have already contributed to the development of this nomination by providing expertise in fisheries and T&E species conservation. Anticipated support from both agencies, while not considered in-kind contributions, will aid project planning and development. Additionally, NDOW conducts annual surveys for all three native fish species in Condor Canyon. Surveys NDOW conducts during the term of this project will provide valuable information on population trends while complementing the additional evaluations into habitat restoration effects included with the project. Please see the included letters of support from both agencies.

L. ORDERS AND PRIORITIES

Respond to the Executive Orders, Secretarial Orders, Department of the Interior Priorities, and USDA Forest Service Priorities as they apply to the purpose of the nomination.

A. Executive Orders (EO):

- ***EO No. 13855: Promoting Active Management of America's Forests, Range Lands to Improve Conditions and Reduce Wildfire Risk***

  Answer:

  This project will aid in achieving the goals laid out in Section 2. i. (B) of this executive order which states: "Treating 500,000 acres of DOI-administered lands to protect water quality and mitigate severe flooding and erosion risks arising from forest fires." This project will contribute to the long-term recovery of the riparian area in Condor Canyon that was severely burned during a wildfire in 1999. While many of the areas in the canyon have recovered to some extent, many areas are still struggling with the lack of a resilient woody overstory and excessive sediment input which is then captured by cattail and bulrush, degrading the water quality for Big Spring spinedace and the associated native fish.

- ***EO No. 14004: Ensuring the Future is Made in All of America by All of America's Workers***

  Answer:

  This project will comply with Section 1 of this executive order which states: "The United States Government should, whenever possible, procure goods, products, materials, and services from sources that will help American businesses compete in strategic industries and help America's workers thrive." Agreements and/or contracts required for the completion of the project will seek the services of entities of the United States in compliance with this EO. Procurement of materials and equipment required for completion of restoration activities will also follow the guidelines laid out in this EO.

B. Secretarial Orders

- ***SO No. 3347: Conservation Stewardship and Outdoor Recreation.***

  Answer:

  This project will contribute to the action identified in Section 4. c. (4) of this secretarial order which states: "Identify specific actions to improve habitat for fish

and wildlife." The primary goal of this project is to improve habitat for three native fish species in Condor Canyon through riparian restoration.

- ***SO No. 3356: Hunting, Fishing, Recreational Shooting, and Wildlife Conservation Opportunities and Coordination with States, Tribes and Territories.***

  Answer:

  This project is in support of Section 4. d. (3) of this secretarial order which states: "Collaborate with state, tribal, and territorial fish and wildlife agencies to attain or sustain wildlife population goals during Department land-management planning and implementation, including prioritizing active habitat-management projects and funding that contribute to achieving wildlife population objectives, particularly for wildlife that is hunted or fished, and identifying additional ways to include or delegate to states habitat management work on Federal lands" While the primary goal of this project is not directed at game species, this project does involve close collaboration with the state wildlife agency and will indirectly benefit several game species that utilize Condor Canyon through improvement to the health of the riparian ecosystem and its ability to support healthy populations.

- ***SO No. 3362: Improving Habitat Quality in Western Big-Game Winter Range and Migration Corridors.***

  Answer:

  This project is in support of Section 4. b. (5) (i) of this secretarial order which instructs agencies: "restoring degraded winter range and migration corridors by removing encroaching trees from sagebrush ecosystems, rehabilitating areas damaged by fire, or treating exotic/invasive vegetation to improve the quality and value of these areas to big game and other wildlife." This project focuses on restoring the health of a riparian corridor that has been degraded by historic wildfire, which will improve habitat for both game and non-game species. The project area falls within crucial winter habitat and a seasonal migration corridor for mule deer.

- ***SO No. 3366: Increasing Recreational Opportunities on Lands and Waters Managed by the U.S. Department of the Interior***

  Answer:

  This project supports existing recreational opportunities in Condor Canyon but is limited in its capacity to expand opportunities as outlined in this secretarial order.

- ***SO No. 3370: Conservation Stewardship and Increasing Public Access to Urban National Wildlife Refuges.***

  Answer:

  This project is not within or adjacent to any Urban National Wildlife Refuge nor is the project applicable to the Urban Wildlife Conservation Program as outlined in this secretarial order.

- ***SO No. 3372: Reducing Wildfire Risks on Department of the Interior Land Through Active Management.***

  Answer:

  This project addresses long-term impacts caused by a historic wildfire. The proposed restoration activities will also make the riparian corridor in Condor Canyon more resilient to future impacts from wildfires. Healthy riparian corridors are known to act as natural firebreaks and buffer aquatic ecosystems from wildfire related impacts, depending on wildfire intensity.

- ***SO No. 3373: Evaluating Public Access in Bureau of land Management Public Land Disposal and Exchanges (focus is on Sec. 4.b.(3) Potential increased public recreational access to existing public lands resulting from the proposed land acquired through an exchange (acquisition).***

  Answer:

  This project does not include any proposals for land disposal, exchange, or acquisition and should therefore have no impacts to recreation and public access as addressed in this secretarial order.

- ***SO No. 3374: Implementation of the John D. Dingell, Jr. Conservation, Management and Recreation Act.***

  Answer:

  This project is not involved in the roles and responsibilities of the John D. Dingell Conservation, Management, and Recreation Act Task Force as designated by this secretarial order, nor should it be impacted by the activities delegated to the task force in the order.

- ***SO No. 3376: Increasing Recreational Opportunities through the use of Electric Bikes.***

  Answer:

  This project is not impacted by the policy and the implementation of said policy outlined in this secretarial order. The route most frequently used to access Condor Canyon by visitors follows the decommissioned railroad grade through the canyon. This route is unofficially a multi-use trail that has no documented restrictions on the allowable mode of transportation.

C. Department of the Interior Priorities:

1. ***Identifying steps to accelerate responsible development of renewable energy on public lands and waters.*** *We are investing in climate research and environmental innovation to incentivize the rapid deployment of clean energy solutions, while reviewing existing programs to restore balance on America's public lands and waters to benefit current and future generations.*

   Answer:

   While this project does not involve renewable energy development, it does aim to restore balance on America's public lands and waters to benefit current and future generations. Through restoration, this project will help correct the historic impacts to the riparian system in Condor Canyon so that it may regain some of its lost function in providing for the ecological community and be sustained for future users.

2. ***Strengthening the government-to-government relationship with sovereign Tribal nations.*** *We understand that tribal sovereignty and self-governance, as well as honoring the federal trust responsibility to Tribal Nations, must be the cornerstones of federal Indian policy.*

   Answer:

   During the project planning phase, a thorough review of the project and existing documentation will be conducted to determine the necessary and appropriate level of consultation with Tribal Nations to gather their highly valued input and ensure resources of concern are addressed during planning and implementation.

3. ***Making investments to support the Administration's goal of creating millions of family-supporting and union jobs.*** *This includes establishing a new Climate Conservation Corps Initiative to put a new generation of Americans to work conserving and restoring public lands and waters, increasing reforestation, increasing carbon sequestration in the agricultural sector, protecting biodiversity, improving access to recreation, and addressing the changing climate.*

Answer:

This project plans to support working professionals and entities by reaching outside of the agency through the use of contracts/agreements to acquire specialized services to support the restoration and evaluation efforts.

4. ***Working to conserve at least 30% each of our lands and waters by the year 2030.*** *We will work to protect biodiversity, slow extinction rates, and help leverage natural climate solutions by conserving 30% of America's lands and waters by 2030. This relies on support for local, state, private, and tribally led conservation and restoration efforts that are underway across America.*

   Answer:

   This project will contribute to the goal of conserving at least 30 percent each of our lands and waters by the year 2030. By restoring critical habitat for a federally threatened species and two sensitive endemic fish, this project will reduce the chance that these species will continue to creep towards extinction. Additionally, by bolstering the health of the system, this project will work towards protecting the biodiversity found in these unique riparian areas which are few and far between in this desert region. The project will rely on support from existing state and federal-led conservation and restoration efforts and build off their past successes.

5. ***Centering equity and environmental justice.*** *The impacts of the multiple crises in the United States are not evenly distributed in our society. Communities of color, low-income families, and rural and indigenous communities have long suffered disproportionate and cumulative harm from air pollution, water pollution, and toxic sites. At every step of the way, Interior will engage diverse stakeholders across the country, as well as conduct formal consultation with Tribes in recognition of the U.S. government's trust responsibilities.*

   Answer:

   During the project planning phase, a thorough review of the project and existing documentation will be conducted to determine if the proper environmental justice analysis has been conducted. Additionally, there will be a review to determine the necessary and appropriate level of consultation with Tribal Nations to gather their highly valued input and ensure resources of concern are addressed during planning and implementation.

D. USDA Forest Service Priorities:

1. ***Controlling the COVID-19 pandemic***

   Answer: N/A

2. ***Providing economic relief***

   Answer: N/A

3. ***Tackling climate change***

   Answer: **N/A**

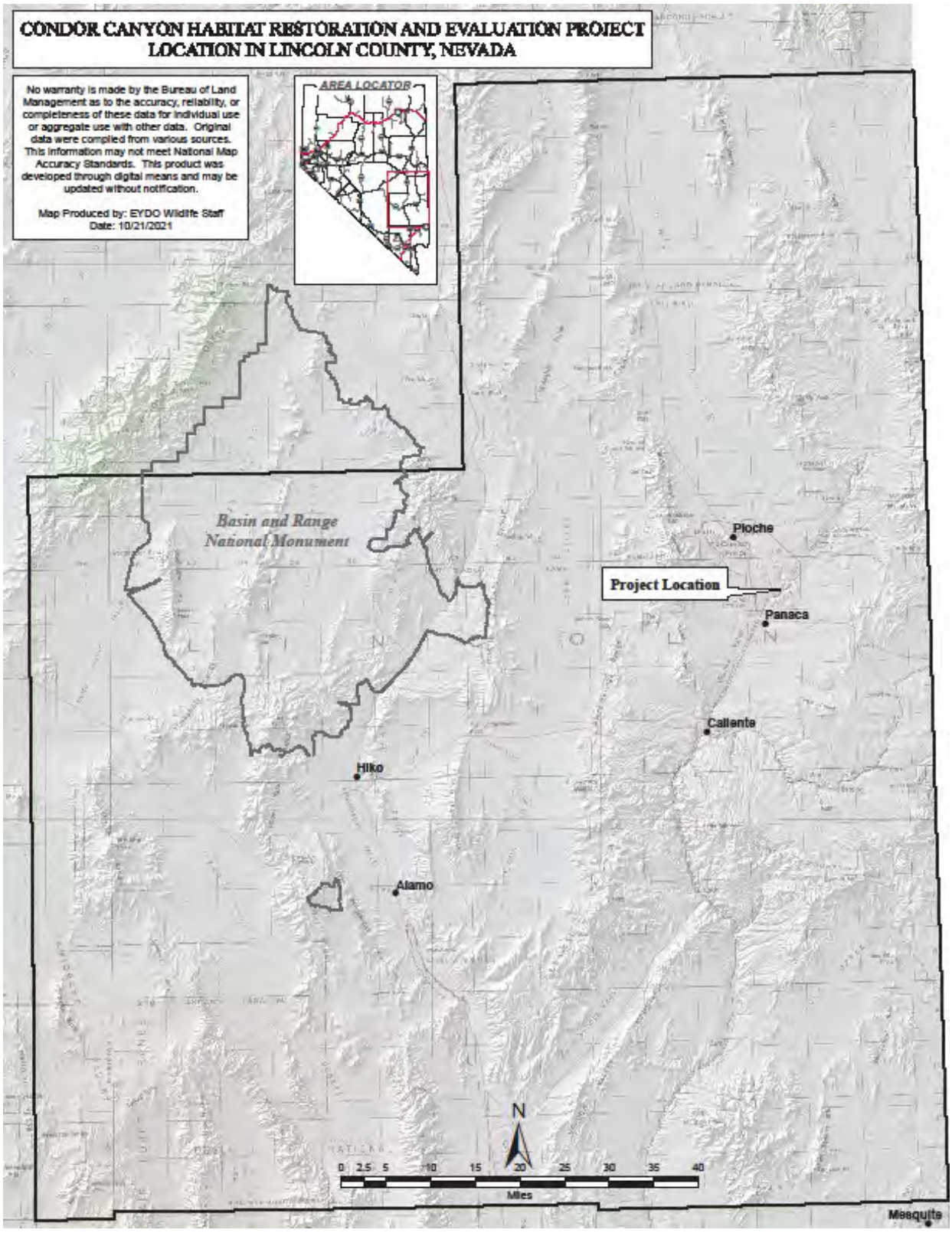
4. ***Advancing racial equity***

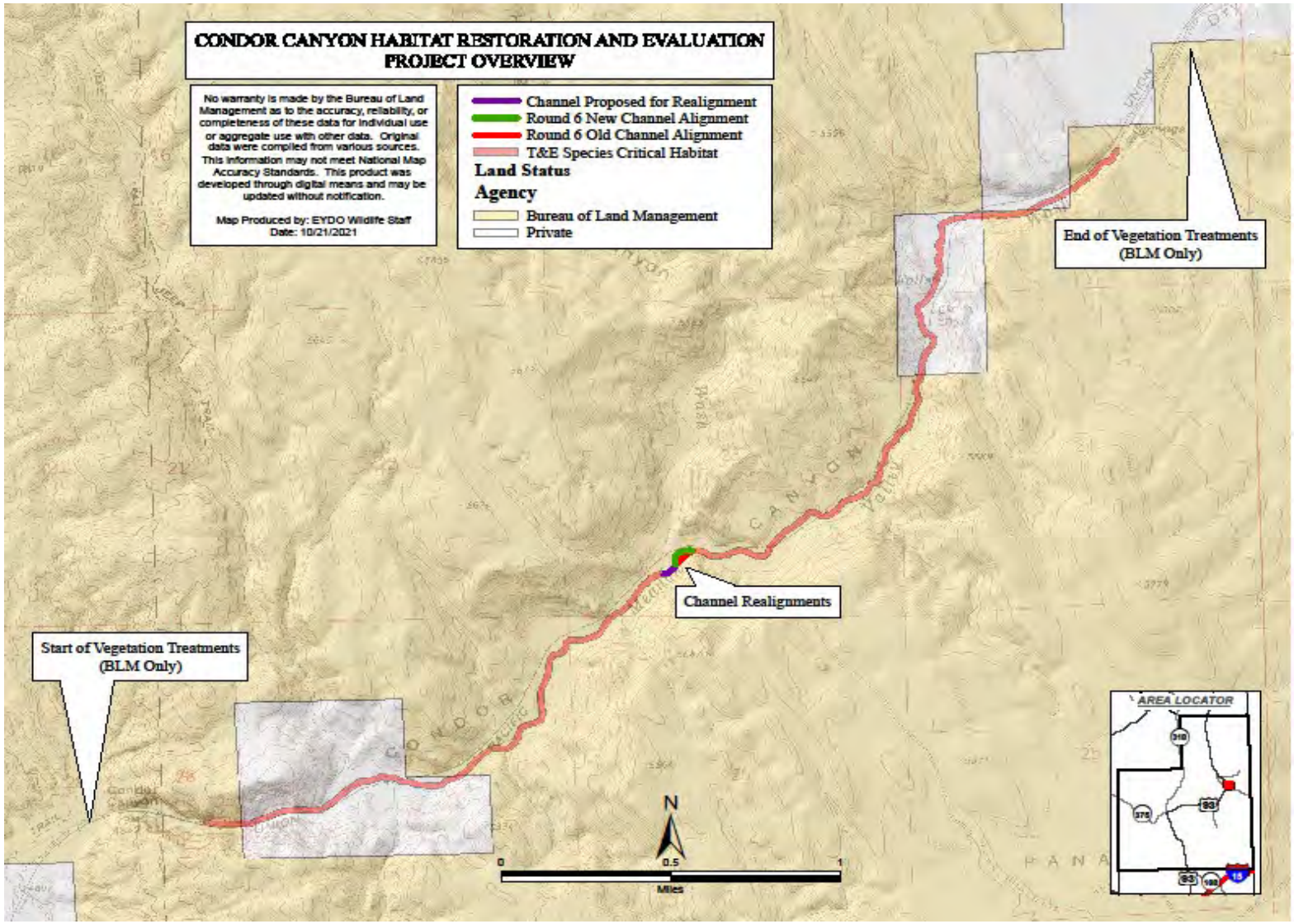
   Answer: N/A

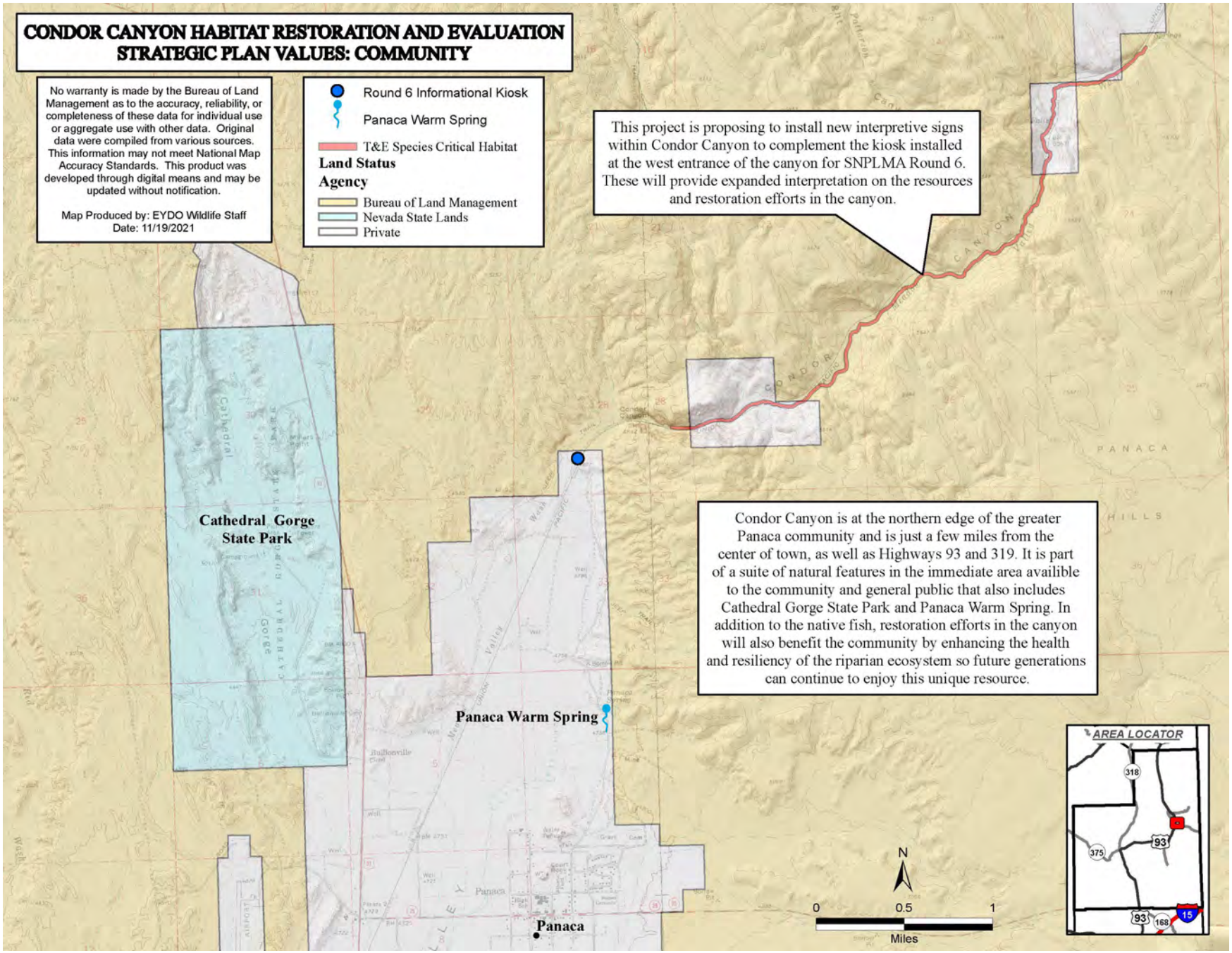
5. ***Improving our workforce and work environment***

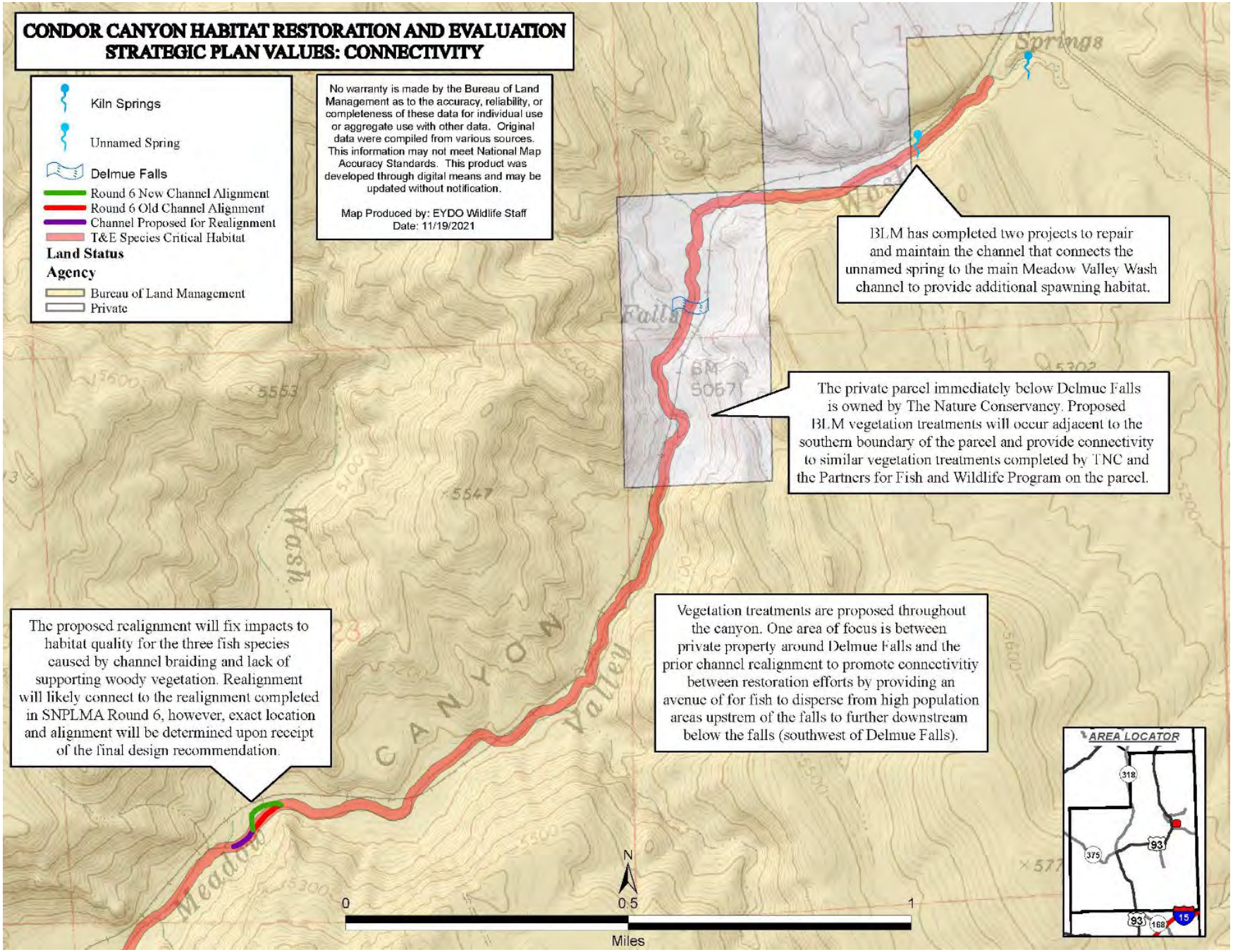
   Answer: N/A

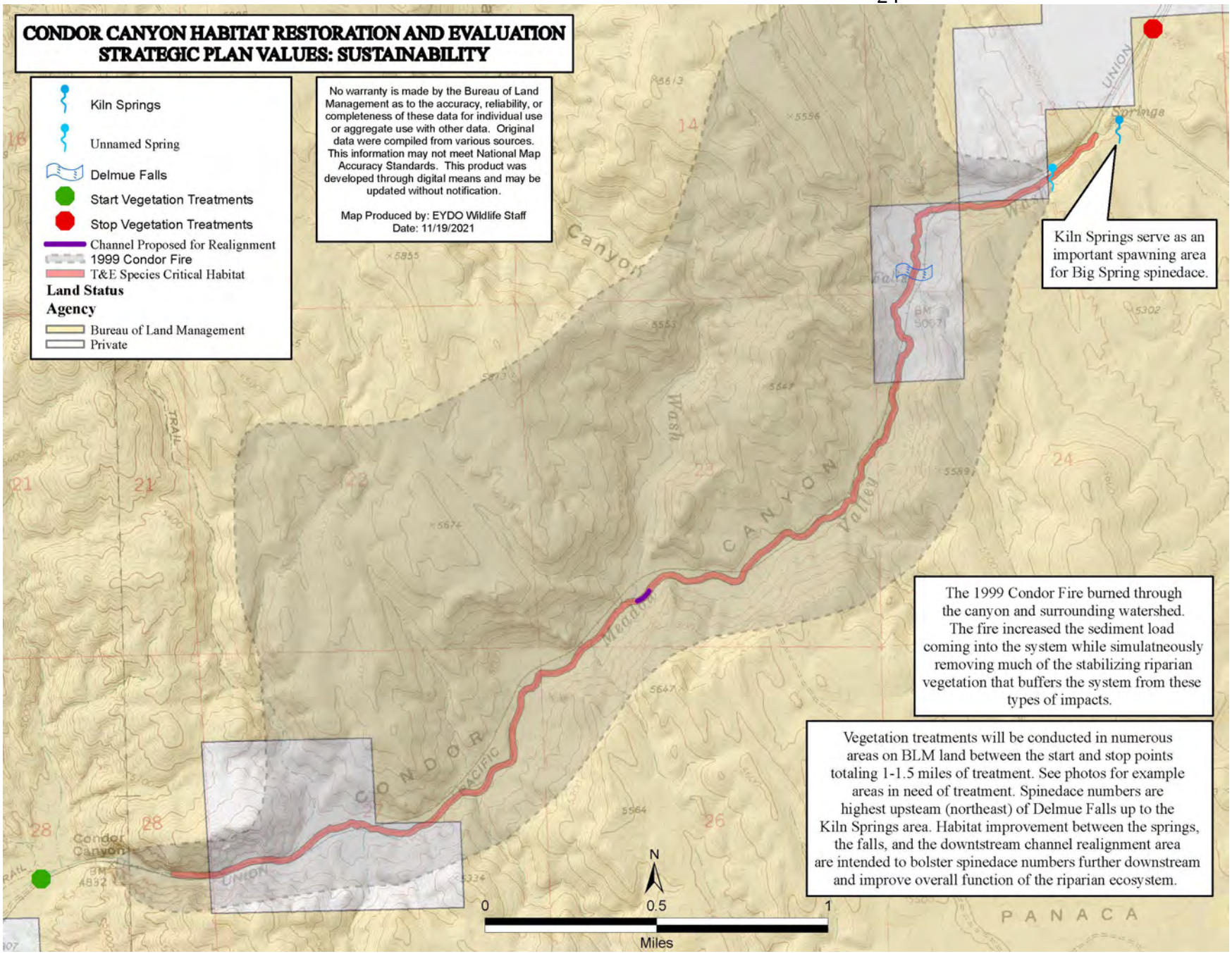
M. MAPS


CONDOR CANYON HABITAT RESTORATION AND EVALUATION PROJECT
LOCATION IN LINCOLN COUNTY, NEVADA
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.
Map Produced by: EYDO Wildlife Staff
Date: 10/21/2021
AREA LOCATOR
Basin and Range National Monument
Project Location
Pioche
Panaca
Caliente
Hiko
Alamo
Mesquite
LINCOLN
N
0 2.5 5 10 15 20 25 30 35 40
Miles


CONDOR CANYON HABITAT RESTORATION AND EVALUATION PROJECT OVERVIEW
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.
Map Produced by: EYDO Wildlife Staff
Date: 10/21/2021
Channel Proposed for Realignment
Round 6 New Channel Alignment
Round 6 Old Channel Alignment
T&E Species Critical Habitat
Land Status
Agency
Bureau of Land Management
Private
End of Vegetation Treatments (BLM Only)
Channel Realignments
Start of Vegetation Treatments (BLM Only)
AREA LOCATOR
N
0
0.5
1
Miles


CONDOR CANYON HABITAT RESTORATION AND EVALUATION
STRATEGIC PLAN VALUES: COMMUNITY
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.
Map Produced by: EYDO Wildlife Staff
Date: 11/19/2021
Round 6 Informational Kiosk
Panaca Warm Spring
T&E Species Critical Habitat
Land Status
Agency
Bureau of Land Management
Nevada State Lands
Private
This project is proposing to install new interpretive signs within Condor Canyon to complement the kiosk installed at the west entrance of the canyon for SNPLMA Round 6. These will provide expanded interpretation on the resources and restoration efforts in the canyon.
Cathedral Gorge State Park
Panaca Warm Spring
Panaca
Condor Canyon is at the northern edge of the greater Panaca community and is just a few miles from the center of town, as well as Highways 93 and 319. It is part of a suite of natural features in the immediate area availible to the community and general public that also includes Cathedral Gorge State Park and Panaca Warm Spring. In addition to the native fish, restoration efforts in the canyon will also benefit the community by enhancing the health and resiliency of the riparian ecosystem so future generations can continue to enjoy this unique resource.
N
0
0.5
1
Miles
AREA LOCATOR
318
93
375
93
168
15


CONDOR CANYON HABITAT RESTORATION AND EVALUATION
STRATEGIC PLAN VALUES: CONNECTIVITY
Kiln Springs
Unnamed Spring
Delmue Falls
Round 6 New Channel Alignment
Round 6 Old Channel Alignment
Channel Proposed for Realignment
T&E Species Critical Habitat
Land Status
Agency
Bureau of Land Management
Private
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.
Map Produced by: EYDO Wildlife Staff
Date: 11/19/2021
BLM has completed two projects to repair and maintain the channel that connects the unnamed spring to the main Meadow Valley Wash channel to provide additional spawning habitat.
The private parcel immediately below Delmue Falls is owned by The Nature Conservancy. Proposed BLM vegetation treatments will occur adjacent to the southern boundary of the parcel and provide connectivity to similar vegetation treatments completed by TNC and the Partners for Fish and Wildlife Program on the parcel.
The proposed realignment will fix impacts to habitat quality for the three fish species caused by channel braiding and lack of supporting woody vegetation. Realignment will likely connect to the realignment completed in SNPLMA Round 6, however, exact location and alignment will be determined upon receipt of the final design recommendation.
Vegetation treatments are proposed throughout the canyon. One area of focus is between private property around Delmue Falls and the prior channel realignment to promote connectivitiy between restoration efforts by providing an avenue of for fish to disperse from high population areas upstrem of the falls to further downstream below the falls (southwest of Delmue Falls).
Springs
Falls
BM 5067
5553
5547
Wash
CANYON
Valley
Meadow
N
0
0.5
1
Miles
AREA LOCATOR
318
93
375
93
168
15


CONDOR CANYON HABITAT RESTORATION AND EVALUATION
STRATEGIC PLAN VALUES: SUSTAINABILITY
Kiln Springs
Unnamed Spring
Delmue Falls
Start Vegetation Treatments
Stop Vegetation Treatments
Channel Proposed for Realignment
1999 Condor Fire
T&E Species Critical Habitat
Land Status
Agency
Bureau of Land Management
Private
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.
Map Produced by: EYDO Wildlife Staff
Date: 11/19/2021
Kiln Springs serve as an important spawning area for Big Spring spinedace.
The 1999 Condor Fire burned through the canyon and surrounding watershed. The fire increased the sediment load coming into the system while simulatneously removing much of the stabilizing riparian vegetation that buffers the system from these types of impacts.
Vegetation treatments will be conducted in numerous areas on BLM land between the start and stop points totaling 1-1.5 miles of treatment. See photos for example areas in need of treatment. Spinedace numbers are highest upsteam (northeast) of Delmue Falls up to the Kiln Springs area. Habitat improvement between the springs, the falls, and the downtstream channel realignment area are intended to bolster spinedace numbers further downstream and improve overall function of the riparian ecosystem.
N
0
0.5
1
Miles
CONDOR CANYON
Meadow Valley Wash
PANACA

N. PERFORMANCE MEASURES

SNPLMA ROUND 19 NOMINATION
Conservation Initiatives

Performance Measures

SNPLMA STRATEGIC PLAN GOAL 1: Sustain the Quality of the Outdoor Environment by Conserving, Preserving, and Restoring Natural and Cultural Resources		
Performance Measures for Habitat Enhancement	**Definition of Performance Measure**	**Quantity**
H2 - Miles of Riparian Stream or Shoreline Habitat Treated, Enhanced, or Restored	Report the number of miles of riparian stream and/or shoreline vegetation and/or wildlife habitat treated, enhanced, or restored. This can include retreatment and/or maintenance treatments only if the initial treatment was not funded through SNPLMA and the miles have not been accounted for in the performance measures for another SNPLMA project. Include acres treated by fire for resource benefits, but not other types of wildland fire. Do not report treatments targeting invasive vegetation, as those should be reported under the H9 performance measure. Do not report hazardous fuels reduction projects, as those should be reported under either the F1 or F2 performance measures. Report to the nearest whole mile.	1
H3 - Miles of Riparian Stream or Shoreline Habitat Surveyed, Inventoried, or Monitored	Report the number of miles of riparian stream and/or shoreline vegetation and/or wildlife habitat surveyed, inventoried, or monitored. Report to the nearest whole mile.	2
H14 - Number of Threatened and Endangered Species Recovery Actions Implemented	Report the number of individual recovery actions performed for threatened or endangered species recovery as identified in recovery plans, conservation management plans, or land use planning documents. Include surveys, inventories, and monitoring as recovery actions. Note: One distinct action repeated 5 times over the course of the project would report as 1 action, not 5. The same recovery action conducted at distinct sites can be counted once for each site (this does not apply to individual plots within one single project site). The number of acres over which the actions were taken are reported under either H4 or H6. Report each action as one unit.	1

H15- Number of Conservation Actions Implemented for Non-Listed Species	Report the number of individual conservation actions for species not listed under the Endangered Species Act. Note: One distinct action repeated 5 times over the course of the project would report as 1 action, not 5. The same conservation action conducted at distinct sites can be counted once for each site (this does not apply to individual plots within one single project site). The number of acres over which the actions were taken are reported under either H4 or H6. Report each action as one unit.	1

SNPLMA STRATEGIC PLAN: Other Performance Measures that Also Support the Three Values for SNPLMA Implementation of Sustainability, Connectivity, and Community		
Other Performance Measures	**Definition of Performance Measures**	**Quantity**
O4 - Number of Scientific / Technical Reports Produced	Report the number of scientific technical reports produced. Report each report as one unit.	1
O6 - Number of New Interpretive or Education Publications/Signs/ Kiosks/Displays/etc. Produced	Report the number of new interpretive or education publications produced, signs produced and installed, public informational websites or other electronic media presentations designed and implemented, and informational or interpretive kiosk displays produced and installed. Report each item produced as one unit.	2

O. PHOTOS

Photo 1: Channel section proposed for realignment. Original channel is on photo left. Channel braiding starts at bottom left and goes through center towards photo right. This braiding deconcentrates the water flow through this area which allows for silt to build-up in the channel and it becomes clogged with vegetation. Realignment proposesto reconcentrate the flow along the best gradient and to plant woody species to stabilize and shade the channel.

Photo 2: Close-up of the start of channel braiding in photo center. Realignment work is proposed to start in this areaand continue downstream (towards photo right). SNPLMA Round 6 realignment stopped immediately upstream of this area just off photo left.

Photo 3: Example of an area in need of vegetation treatment to remove cattail and bulrush in the channel. Vegetation removal will be followed up with tree planting to shade the channel which reduces the amount of cattail and bulrush that can grow back and helps stabilize water temperatures.

Photo 4: Another example area in need of vegetation treatments. Note the stagnant water flow and siltation causedby channel clogging.

Photo 5: Another example area in need of vegetation treatments. Areas such as the one depicted here occur sporadically throughout the entirety of Condor Canyon and collectively add up to 1-1.5 miles of treatment areas. BigSpring spinedace grow up to a maximum of four inches long. Their small size makes it difficult to navigate sections of poor-quality habitat such as this due to the heavy siltation and the presence of non-native cray fish that prefer thistype of habitat and predate on spinedace. Improving the habitat quality in these sections is intended to bolster connectivity for spinedace between restoration sights and improve their numbers downstream of the falls.

P. SUPPORT LETTERS

1. Fish & Wildlife Service
2. Nevada Department of Wildlife

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Southern Nevada Fish and Wildlife Office
4701 North Torrey Pines Drive
Las Vegas, Nevada 89130

October 5, 2021
Sent by email only

Memorandum

To: Assistant District Manager – SNPLMA Division
Southern Nevada District Office
Bureau of Land Management
Las Vegas, Nevada

From: Field Supervisor GLEN KNOWLES
Southern Nevada Fish and Wildlife Office
Las Vegas, Nevada

Subject: SNPLMA Round 19 Nominations – Conservation Initiatives: Condor Canyon Habitat Restoration and Evaluation Project, Lincoln County, Nevada

We are writing to inform you that the U.S. Fish and Wildlife Service (Service) supports and will provide services for the conservation activities in the Condor Canyon Habitat Restoration and Evaluation Project (Project) proposed by the Bureau of Land Management (BLM) in their SNPLMA round 19 nomination. The proposed Project will implement recovery actions for the Big Spring spinedace (*Lepidomeda mollispinis pratensis*) outlined in the Service's 1994 Big Spring Spinedace Recovery Plan, in particular, by restoring spinedace habitat through a channel realignment, and vegetation treatments, in areas with poor spinedace habitat. Additionally, effectiveness monitoring will be conducted to track the response of spinedace, as well as nonnative species, to treatments. We anticipate that the proposed project will result in an increase in the number and distribution of Big Spring spinedace in Condor Canyon.

The Service would provide the following scope of services to support the proposed Project: 1) Endangered Species Act section 7 consultation; 2) Big Spring spinedace population monitoring and habitat restoration effectiveness monitoring, and 3) technical assistance regarding the species and its habitat. Our contributions would not be considered in-kind as staff are funded through appropriations.

We appreciate BLM's continuing efforts to recover the Big Spring spinedace. If you have any questions or need additional information, please contact James Harter at (702) 515-5252 or james_harter@fws.gov.

cc: Supervising Fisheries Biologist, Nevada Department of Wildlife, Las Vegas, Nevada

STATE OF NEVADA
DEPARTMENT OF WILDLIFE
6980 Sierra Center Parkway, Suite 120
Reno, Nevada 89511
Phone (775) 688-1500 • Fax (775) 688-1595

JONY WASLEY
Director
BONNIE LONG
Deputy Director
JACK ROSE
Deputy Director

October 6, 2021

SNPLMA Executive Committee
BLM Southern Nevada District Office
4701 N. Torrey Pines Dr.
Las Vegas, Nevada 89130

RE: Letter of Support for SNPLMA Round 19 Nominations – Condor Canyon Habitat Restoration and Evaluation Project, Lincoln County, Nevada

Dear Executive Committee:

It is our understanding that the Bureau of Land Management (BLM) will be submitting a request for Conservation Initiative funding through Round 19 of the Southern Nevada Public Lands Management Act (SNPLMA) to perform habitat restoration actions in Condor Canyon. This project will improve fish habitat, stream function, and enhance riparian vegetation. These actions will directly benefit Big Spring Spinedace, an endemic species to Nevada and a species protected by the State.

The Nevada Department of Wildlife (NDOW) strongly supports the BLM's Round 19 SNPLMA proposal to restore habitats within Condor Canyon. The BLM and NDOW have worked collaboratively over the years to implement management actions and survey Big Spring Spinedace; NDOW is committed to continuing that collaborative partnership and will provide technical and field assistance for this project in any way can, including conducting population monitoring, project effectiveness monitoring, and technical input for habitat restoration planning and design. If you have any questions or need additional information regarding this letter of support, please contact me at (702) 668-3999 or at bsenger@ndow.org. Thank you for your consideration.

Sincerely,

Brandon Senger, Supervising Fisheries Biologist
Nevada Department of Wildlife

Southern Nevada Public Land Management Act
Conservation Initiatives
Round 19

USDA Forest Service
Humboldt-Toiyabe National Forest
Spring Mountains National Recreation Area

Wild Horse and Burro Herd Monitoring and Resource Enhancement

Amount Requested: $1,379,600

A. BACKGROUND INFORMATION

This project proposes to restore and protect spring and riparian areas, and sensitive and endangered species habitat while providing crucial water resources to sustain herd populations at appropriate management levels established by Joint Herd Management Area Plan, and other wildlife that utilize these water sources. Monitoring of wild horse and burro herd movements and range conditions is a key element of this project because this information will guide management decisions and priority for this project. This project is consistent with the Spring Mountains National Recreation Area (SMNRA) General Management Plan (GMP) 1996, and the Toiyabe National Forest Land and Resource Management Plan (LRMP) 1986. Monitoring of herd trends, including travel, watering, and feeding habits, will help inform proposals to improve overall herd management and assist in the identification of access points to areas excluded from wild horse and burro territories. Herd tracking and monitoring will occur throughout the Joint Management Areas to identify locations where fences should be installed to prevent wild horses and burros from entering sensitive areas, or locations excluded from the Wild Horse and Burro Territories (WHBT). Project locations will be assigned priority based on information gathered from natural resource and cultural surveys, and spring assessments. These surveys will also assist with compliance with the National Environmental Policy Act (NEPA). Education and outreach through public display of information (kiosks, social media posts) and volunteer events will engage the community and promote long term stewardship of the project areas.

a. Describe Relationship to prior Approved Phases or Related SNPLMA Projects and Anticipated Future Phases

This project will continue improvements from the Spring Stewardship project (17-1/FS86) that will restore Buck Springs, Mud Springs, and Horse Springs on the SMNRA. Information recorded during the Spring Stewardship surveys may assist in the development of restoration strategies and implementation priority. Information from Spring Stewardship may be used identify new locations proposed for fencing in other areas warranted for protection, not yet identified in the project. Locations will be prioritized and planned in the first year to determine needs assessment and treatment of priority areas for sensitive species conservation and priority wild horse and burro exclusion areas.

b. Acknowledgement of Stand-Alone Project and no Guarantee of Funding for Future Phases

This is a stand-alone project and has no guarantee of funding for future phases. The Forest Service will continue to monitor the fences yearly as time and budget allow, and to maintain the structures into the future.

B. SNPLMA STRATEGIC PLAN VALUES

Conservation Initiative projects have two goals identified in the Strategic Plan:

- Goal 1: Sustain the quality of the outdoor environment by conserving, preserving, and restoring natural and cultural resources.
- Goal 2: Improve the quality of life for all publics in urban and rural communities by enhancing recreational opportunities that connect people with the outdoor environment.

Nominated projects should meet these goals by focusing on the three SNPLMA core values, connectivity, sustainability, and community. Every nomination must explain how the three values are promoted by the project.

1. Sustainability:

This nomination addresses and meets the needs of more than one agency by protecting species and their habitat that are included on State and County conservation lists. Additionally, adjacent agency lands indirectly benefit from range and herd monitoring and sharing data across agency boundaries. This project will maintain spring conditions into the future and protect sensitive areas while providing improved water resources to wild horses, burros, and other wildlife species. Protection measures implemented during this project will be both durable and long lasting with minimal maintenance into the future to continue protections.

2. Connectivity:

This nomination will provide long term protections for sensitive biological spring communities. This project will incorporate non-Federal groups, public partners, citizen groups or organizations and work with them to engage the community in public events, outreach, and volunteer opportunities.

3. Community:

This nomination will incorporate community members by utilizing volunteer events and involving the public and local non-profit groups. These events will foster continued stewardship with the community by connecting them to the restoration areas and the overall objective of the project.

C. PURPOSE STATEMENT

Who: The Spring Mountains National Recreation Area (SMNRA) of the Humboldt-Toiyabe National Forest proposes the Wild Horse and Burro Herd Monitoring and Resource Enhancement project.

What: This project will monitor wild horse and burro populations and protect and restore riparian areas while providing sustainable access to spring resources for the wild horse and burro herds and other wildlife across the range. This project will engage the project partners and community through educational outreach, volunteer events and partnership collaborations.
Where: The project spans areas utilized by the herds on National Forest System Lands across the SMNRA (Figure 1). Spring locations proposed for protection and restoration include (but are not limited to):

- Big Timber Spring (35.44504, -115.927651)
- Cold Creek Spring and ponds (36.422916, -115.731573)
- Deer Creek Spring (36.30458, -115.629843)
- Edna Grey Spring (36.320427, -115.679927)
- Kyle Canyon (36.264333, -115.602816)
- Lee Canyon (36.340558, -115.652277)
- Fence Spring (36.388637, -115.749887)
- Macks Canyon Spring (36.34947, -115.679738)

- Mike Spring ((36.401582, -115.748107))
- Sawmill Spring (36.399911, -115.75304)
- Trough Spring (36.377338, -115.774883)
- Wheeler Well (36.371307, -115.82874)
- Willow Creek (36.41692, -115.764201)

Why: There is a need to protect riparian areas and sensitive habitats from degradation and overuse from wild horses and burros and other wildlife. There is a need to protect and restore the functionality and resiliency of the spring systems. Springs are critical resources for flora and fauna and support diverse biological communities with sensitive species. Monitoring the movements and dynamics of the wild horse and burro herds the Forest Service can make more informed decisions so project actions may have the most success.

D. PROJECT DELIVERABLES

1. Primary Deliverables:
   - Production of 4 annual monitoring reports and one final report providing information and guidance for priority protection areas that includes monitoring results from wild horse and burro movements, and range conditions to identify areas of overuse and identify priority locations for fence exclusion to maintain desired conditions established within the Forest and District Plans.
   - Protect springs and restore degraded areas while improving herd and wildlife access to water sources in a sustainable manner. Construct fencing in key locations to protect water sources, while providing access to the water resources under a more sustainable condition. Provide protective measures at 10 spring sites.
   - Educational outreach, including bilingual resources, about restoration areas to engage the public and the community and to promote stewardship principles by tabling at 4 events and publication of at least 10 social media posts.
   - Conduct volunteer event resulting in at least 500 volunteer hours.
   - Develop 3 educational/interpretive kiosks at spring sites.

2. Anticipated Deliverables:
   - Survey 10 proposed restoration sites (approximately 30 acres total) for cultural, archeological, and natural resources to prioritize and identify restoration locations.
   - Improve 70 acres of potential suitable habitat and critical habitat for the Mount Charleston blue butterfly and other endemic SMNRA species by restricting access by wild horses and burros to upper Lee Canyon.
   - Treatment of invasive species at spring locations, approximately 30 acres of inventory and potential treatment.
   - Collect native seed and growout at least 5 native species to restore biological conditions to proposed sites depending on report recommendations.
   - Improve wildlife and wild horse and burro habitat connectivity through the removal approximately 3 miles barbed wire allotment fencing from past grazing practices.

- Develop 3 interpretive signs for sites to connect the public to the biological resources.
- Interpretive signage in 4 key locations to reduce human interaction with wild horses and burros that may lead to habituation and/or injury to the animals (including bilingual resources).

3. Standard Deliverables:
   - Biological surveys and data for NEPA
   - Cultural data for SHPO Consultation
   - Tribal Consultation
   - NEPA decision document for restoration actions
   - GIS and database management for Threatened, Endangered, and Sensitive (TES) and invasive species
   - SNPLMA close-out package

E. PROJECT LOCATION

Latitude and Longitude:
Project locations are focused on riparian areas, and exclusion areas that would prevent wild horses and burros from leaving wild horse and burro territories and simultaneously protecting sensitive species. The locations below are those considered for protection and restoration and will be prioritized based on protection need once assessments have been completed. (Listed in alphabetical order, not order of priority).

- Big Timber Spring (35.44504, -115.927651)
- Cold Creek Spring and ponds (36.422916, -115.731573)
- Deer Creek Spring (36.30458, -115.629843)
- Edna Grey Spring (36.320427, -115.679927)
- Kyle Canyon (36.264333, -115.602816)
- Lee Canyon (36.340558, -115.652277)
- Fence Spring (36.388637, -115.749887)
- Macks Canyon Spring (36.34947, -115.679738)
- Mike Spring ((36.401582, -115.748107))
- Sawmill Spring (36.399911, -115.75304)
- Trough Spring (36.377338, -115.774883)
- Wheeler Well (36.371307, -115.82874)
- Willow Creek (36.41692, -115.764201)

Identify Congressional District(s):
Congressional Districts NV-3 & NV-4

F. PROJECT TIMEFRAME

The project would take 5 years for biological and cultural surveys, development of restoration and implementation plans, interdisciplinary analyses as part of the NEPA process, and installation and restoration for the individual spring projects. Monitoring of the wild horse and burro herds throughout the project timeline will provide necessary baseline information for herd dynamic and movements, that will inform and guide the priority restoration areas. This monitoring will assist in the identifying areas of protection and improvement to maintain both

the health of the herds in coordination with healthy ecosystems and aligning with SMNRA and Forest Standards, guidelines, and objectives.

Project Implementation Process

Year One:

- Survey project locations for archeological, botanical, non-native and invasive species and other wildlife species.
- Hire a four-year Term GS 9/11 to support the project
- Prepare a restoration plan for each location including fence designs and other treatments
- Collect native seed and prepare for partnership agreement with interagency cooperation, agreement, or contract for grow out of native seed.
- Design of education and outreach material for interpretive signage.

Year Two:

- Complete environmental analysis, SHPO consultation, and tribal consultation
- Being herd monitoring and assessment (initiate herd tracking program)
- Being planning for additional exclusion fences
- Seed collection and grow out
- Treatment of invasive plants
- Education and outreach through volunteer event, and design and installation of interpretive signage.

Year Three:

- Contracting for fence installation (through partnership agreements, volunteer, or contracts) and install fences.
- Continue herd tracking and range assessments to monitor conditions.
- Native Plant restoration at sites
- Treatment of invasive plants
- Education and outreach through volunteer event, and design and installation of interpretive signage.

Year Four:

- Herd Tracking and range assessments
- Installation of fence for secondary exclusions
- Native Plant installation at sites
- Treatment of invasive plants
- Education and outreach through volunteer event, and design and installation of interpretive signage.

Year Five:

- Herd tracking and range assessments
- Fence monitoring
- Treatment of invasive plants
- Education and outreach through volunteer event, and design and installation of interpretive signage.
- Complete project closeout.

G. LEVEL OF PROJECT READINESS FOR IMPLEMENTATION

Is this a shovel-ready project? ☐Yes ☒No

The SMNRA will begin implementing invasive plant assessments and treatments, and educational outreach/material design since actions are covered under existing NEPA decisions or do not require NEPA. Concurrent with the above actions, the Forest will begin the NEPA analysis for the areas where treatments are proposed.

The first step will be to survey the proposed springs and restoration areas to understand the desired condition for the habitat and how the existing condition is either moving away or toward that condition. With that knowledge, the Forest will further describe the need and prioritize the sites. Then Interdisciplinary NEPA Team will prepare a proposed action for fence construction and water development improvements for wildlife. The Humboldt-Toiyabe National Forest currently has key staff positions filled that are essential to developing the proposed action and carrying NEPA forward. Monitoring of herd movements and use of water sources will also be a key element to understanding the intensity of use, and for determining the best fencing design and location of water sources.

H. FUTURE OPERATING AND MAINTENANCE

The Forest will assume ongoing efforts of restoration and protect infrastructure. The district will monitor and maintain fences, as needed. The monitoring data of both range land, herd condition, and herd movements will be utilized in future management of the wild horse and burro herds.

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I. PROJECT BUDGET

Instructions: Put project cost estimates in Tabs 1-8. The values from those tabs will roll-up to this summary worksheet. The Non-Federal Contribution can be entered in Tabs 1-8 as a whole amount, it does not need to be broken out by unit cost. Non-Federal entities must use the standard form for an assistance agreement SF-424A Budget Non-Construction (PDF) and Budget Detail (Word document).

PROJECT BUDGET			
Project Name:	Wild Horse and Burro Herd Monitoring and Resource Enhancement	**Date:**	9/15/2021
Project Manager:	Katy Gulley	**Agency:**	USFS

Cost Categories	**SNPLMA**	**Non-Federal Contribution**
1. Personnel (labor plus benefits)	$ 740,600.00	$ 14,270.00
2. Travel	$ 3,500.00	$ -
3. Training	$ 3,000.00	$ -
4. Equipment	$ 3,000.00	$ -
5. Supplies/Materials	$ 50,000.00	$ -
6. Contracts and/or Agreements	$ 325,000.00	$ -
7. Vehicle Use	$ 87,000.00	$ -
8. Other Necessary Expenses	$ 167,500.00	$ -
9. TOTAL PROJECT BUDGET	**$ 1,379,600.00**	**$ 14,270.00**

Notes:

Partnership and/or Contributed Funds

Non-SNPLMA Funds Estimated value of in-kind contribution for this project is approximately $18,270. This includes $14,270 (500 hours) from volunteer events where the public will be

engaged in hand pulling invasive plants within the riparian areas (based on the Department of the Interior's volunteer labor valuations of $28.54 per hour). Additionally, 2 large water troughs costing approximately $2,000 each will be contributed to the project from the SMNRA. These troughs will be utilized to supply water outside of the exclusion area to support fauna, while protecting sensitive riparian locations.

J. KEY CONTACTS

Authorized Officer: Deborah J. MacNeill, Area Manager
Email: deborah.macneill@usda.gov
Phone Number: 702-515-5448

Project Manager: Kathryn Gulley, Natural Resource Specialist (Wildlife)
Email: Kathryn.gulley@usda.gov
Phone Number: 702-260-6260

Budget Officer: Peter "Sam" Le
Email: Petersam.le@usda.gov
Phone Number: (775)352-1251

K. RANKING CRITERIA

1. **The nomination supports habitat enhancement, cultural resources, and/or public health and safety through connectivity and sustainability.**

A. Habitat Enhancement.

- Restoration of Springs/Streams/Rivers – the project directly restores springs across the Spring Mountain Range and provides long term protection of the resource and biological communities.

- Enhances or Connects habitats, migratory corridors, or protected areas – This project will protect riparian systems and the species that utilize it as a critical resource, including Forest Sensitive species, migratory birds, game species, and endemic invertebrates.

- Endangered Species – Project will work to identify areas of access and prevent future access of wild horses and burros in Mount Charleston blue butterfly habitat.

- Proactive Steps to Prevent Listing – Species petitioned for listing are found within the springs or utilize them as a resource (i.e., *Pyrgulopsis deacon, Pyrgulopsis turbatrix, Euphilotes ancilla cryptica/purpura*, and other species).

- Invasive Species Treatment and/or Control (Plant or Animal) – Invasive plants will be surveyed and treated within the project area to improve resiliency of plant communities.

- Restoration of Habitat for Sensitive Species at the watershed or landscape level – Information gathered during range and herd monitoring will contribute to management decisions that inform potential gather needs to maintain Appropriate

- Management Levels and maintain desired conditions for sensitive species. Habitat for sensitive species will be directly restored and protected within the watershed for sensitive species.

B. Cultural Resources. *The following are examples of project subtypes for cultural resources goals, objectives or actions this nomination will support/accomplish: surveys; National Register (eligible or currently approved); protection/site stewards; restoration/stabilization; and tribal involvement and/or consultation.*

Answer:

- Surveys – Each project site will be surveyed for historic and cultural resource and SHPO consultation will be conducted. Culturally sensitive areas may be further protected from degradation by preventing entrance into the areas.

- Project includes tribal involvement and/or consultation – Consultation and tribal involvement will coincide with the NEPA process. Tribal information and input may be incorporated in the design of the educational materials and kiosks.

C. Public Health and Safety. *The following are examples of project subtypes for public health and safety goals, objectives, or action this nomination will support/accomplish: litter/dumping cleanup; information kiosks and signs; addresses and mitigates adverse impacts to resources caused by the volume of people using the resource; resolving trespass/encroachment/illegal use of public lands (i.e. marijuana grow sites)/boundary surveys; and abandoned mine land (AML) with habitat restoration component.*

Answer:

- Information Kiosks and Signs – Educational signage will be installed to inform the public of the purpose of the fences and the resources it helps to preserve and protect.

- Educational material will be produced in both English and Spanish to improve outreach to multiple communities.

- Project addresses and mitigates adverse impacts to resources caused by the volume of people using the resource through education and interpretive signage at sites.

- Litter/Dumping Cleanup – Litter will be removed from spring and riparian sites. If enough litter is present volunteer events will be organized for public engagement, specifically in the Cold Creek and Willow Creek areas where there is increased recreational use.

2. **The nomination promotes sustainability by providing benefits in the near and long term by implementing actions to conserve and sustain healthy and resilient landscapes and providing durability, relevancy, and shared support. Answer all applicable.**

A. Conserves resources to ensure availability to future generations through management of natural and/or cultural resources for current public benefit and sustainable social and economic utilization.

Answer: Riparian resources will be protected in the long term of for future generations. Fences will be constructed as a protective measure to conserve the sensitive biological resources and assure they remain available for future public benefit.

B. Conserves or restores the functionality, resilience, and integrity of biological communities and/or cultural resources through prudent management and prevention of injury, decay, waste, or loss.

Answer: This proposal will directly improve the integrity of the biological community of the riparian systems by removing invasive plant species and protecting the area from further degradation from over utilization by wild horses and burros. Resiliency of biological communities will be increased through the removal of invasive plant species.

C. Will remain relevant and continue to provide a benefit beyond the existence of SNPLMA.

Answer: This proposal will continue to provide long term benefit to the wild horses and burros (by assisting in maintaining AML, which will lead to better overall ecological and range land conditions, as well as improving access to water outside sensitive areas), riparian areas, and the other sensitive species that rely on the areas for resources. Fences will be constructed of longer lasting materials that will require less maintenance in the and will have greater longevity and functionality. Educational information will continue to be utilized after the project and will continue to support a community connection and education for the project sites.

3. **The nomination promotes community by improving the quality of life for humans by protecting the integrity of biological communities or cultural sites. Answer all applicable.**

A. Encourages people to meaningfully connect with their natural environment and helps them appreciate and care for the environment by providing information and resources to educate and engage people in understanding their role in protection and maintaining the natural environment by providing opportunities for them to connect to the natural resources directly or virtually or provides education of the environment.

Answer: Educational kiosk will be created to connect the public to the project and the restoration sites (Wheeler Well, Cold Creek, and Willow Creek). Volunteer events will provide opportunity for the public to engage in the project and connect community members to the restoration purpose.

B. Project has identified committed non-SNPLMA sources of funding or in-kind contribution for the planning, design, and development of the project.

Answer: Non-SNPLMA funds with an estimated value of in-kind contribution is approximately $18,270. This includes $14,270 (500 hours) from volunteer events where the public will be engaged in hand pulling invasive plants within the riparian areas (based

on the Department of the Interior's volunteer labor valuations of $28.54 per hour). Additionally, 2 large water troughs costing approximately $2,000 each will be contributed to the project from the SMNRA. These troughs will be utilized to supply water outside of the exclusion areas to support wild horses, burros and native fauna whileprotecting sensitive riparian locations.

C. Preserves the past (cultural or historic sites) for present or future generations.

Answer: All sites will be surveyed for historic and prehistoric resources. Identification of resources in the area will provide guidance for priority protection areas. Identification and protection of these cultural resources will preserve them for future generations.

4. **The nomination enhances partnerships to promote cooperation and collaboration. The nomination also promotes sustainability, connectivity, and community by linking people to nature and recreational opportunities by uniting communities with important places across the landscape. Answer all applicable.**

A. The nomination addresses and meets the needs of more than one agency (federalor state).

Answer: The project will address the needs for the State of Nevada Department of Wildlife (NDOW) in protecting and providing water resources for wildlife across the SMNRA. This project will also provide herd monitoring information that will be shared with the Bureau of Land Management and the Nevada Department of Wildlife that can beutilized for identification of herd movements across the Joint Management Areas.

B. The nomination involves non-Federal, public partners, citizen groups or organizations in the development and accomplishment of resource management goalsand other activities to prevent waste, damage, or neglect.

Answer: This project will involve non-Federal, non-profit, and public partners. TheNevada Department of Wildlife will also be consulted in fence construction and providing input on project priorities.

5. **The nomination has identified committed non-SNPLMA sources of funding or in-kind contributions in the development and/or implementation of the project. Answer all applicable.**

Estimated value of in-kind contribution for this project is approximately $18,270. This includes $14,270 (500 hours) from volunteer events where the public will be engaged in hand pulling invasive plants within the riparian areas (based on the Department of the Interior's volunteer labor valuations of $28.54 per hour).

Additionally, 2 large water troughs costing approximately $2,000 each will be contributed to the project from the SMNRA. These troughs will be utilized to supply water outside of the exclusion area to support fauna while protecting sensitive riparian locations.

L. ORDERS AND PRIORITIES

Respond to the Executive Orders, Secretarial Orders, Department of the Interior Priorities, andUSDA Forest Service Priorities as they apply to the purpose of the nomination.

A. Executive Orders (EO):

- ***EO No. 13855: Promoting Active Management of America's Forests, Range Landsto Improve Conditions and Reduce Wildfire Risk***
  Answer: This proposal promotes the active management of forest and range lands.The outcome of this project will lead to improved conditions, specifically at springsites, and the monitoring and tracking of wild horse and burro herds. The range conditions will provide information for management of range lands

B. Secretarial Orders

- ***SO No. 3347: Conservation Stewardship and Outdoor Recreation.***
  Answer: This project promotes conservation stewardship by committing to engaging volunteers in 500 hours of project work. The project will also actively engage the community through educational outreach on both virtual platforms and educational kiosks.

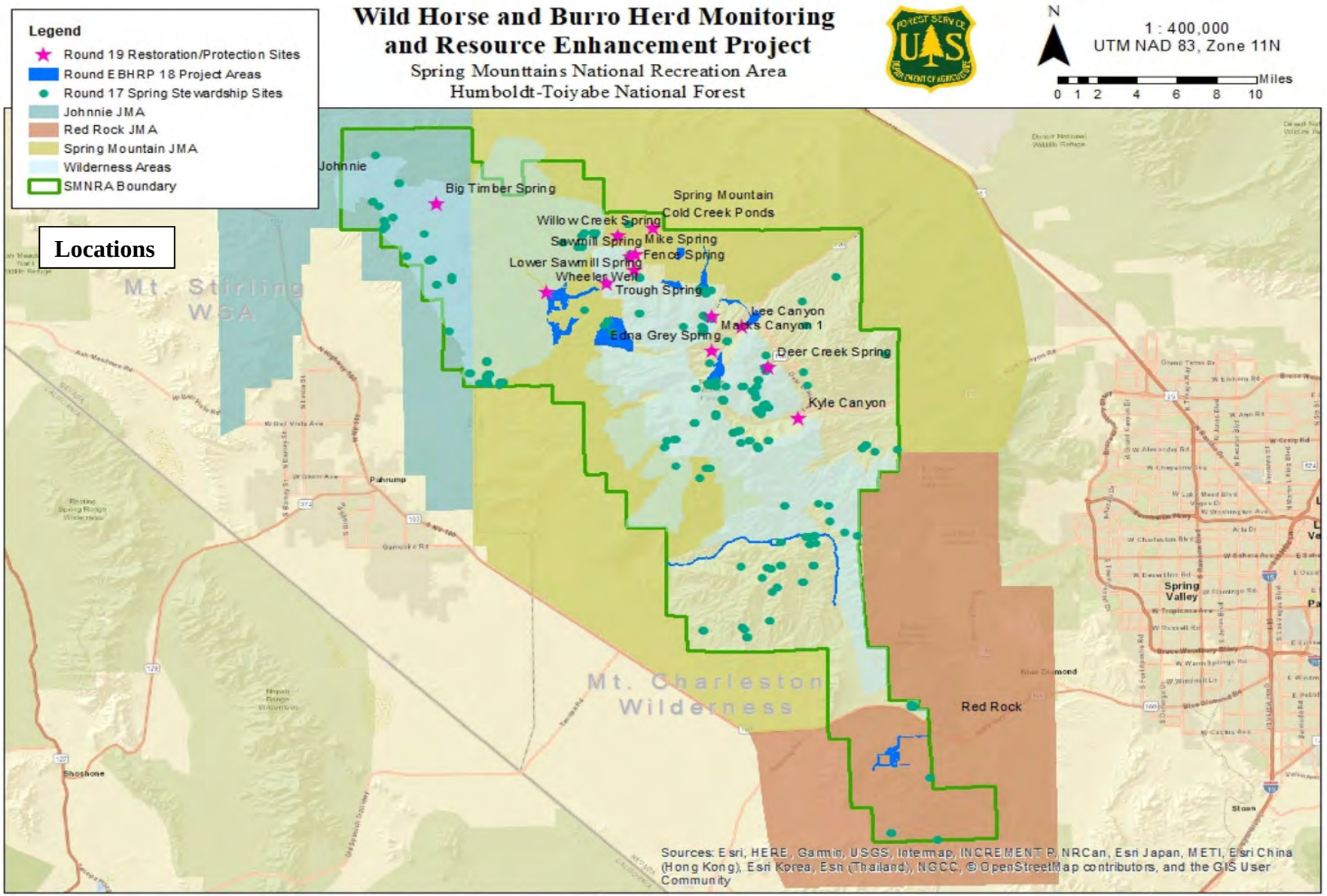
C. USDA Forest Service Priorities:

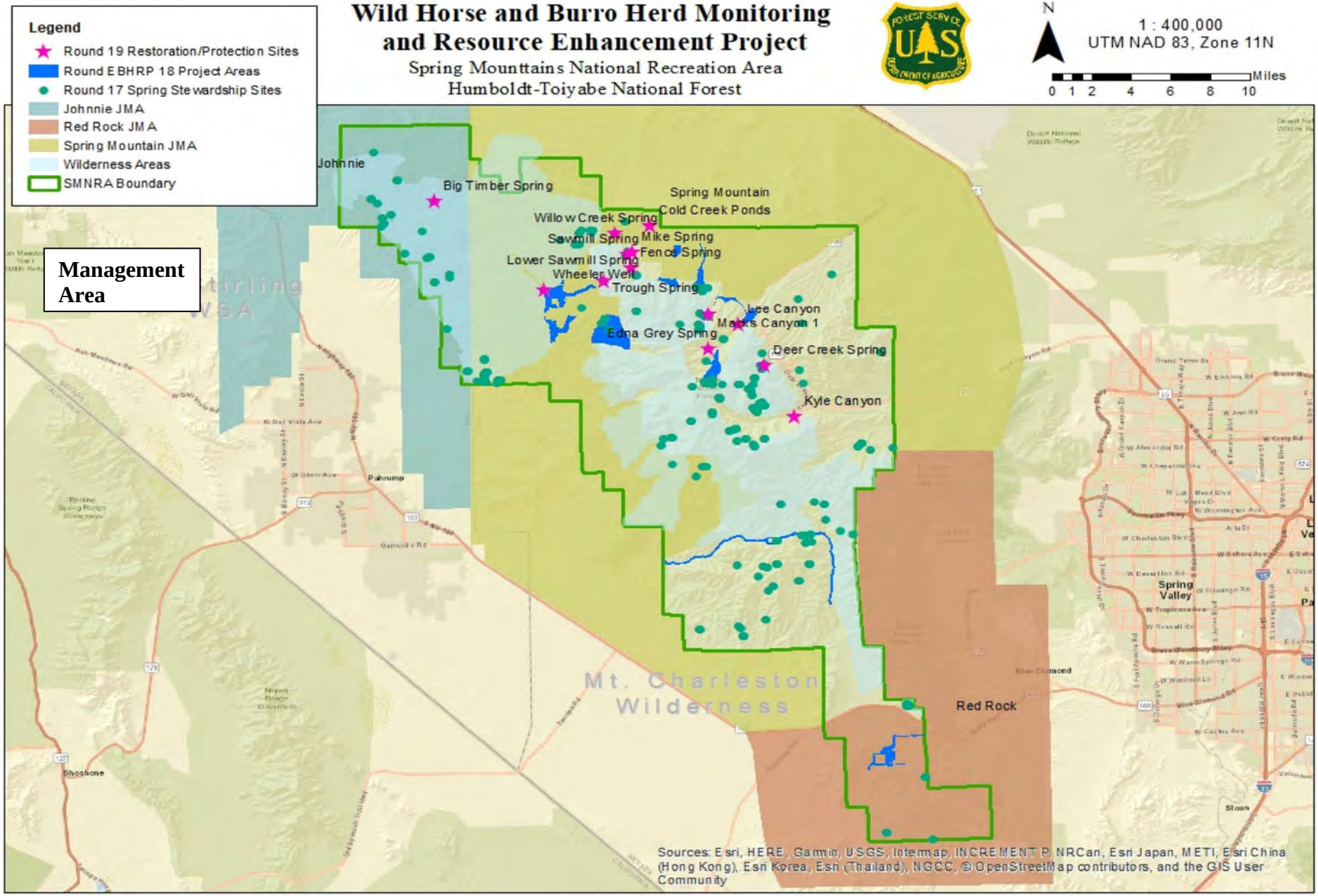
1. ***Controlling the COVID-19 pandemic***
   Answer: This project will remain in adherence to all Forest Service and U.S.Department of Agriculture COVID-19 protocol to prevent further spread.

2. ***Providing economic relief***
   Answer: This project will employ temporary employees through federal positions and partnership agreements.

3. ***Advancing racial equity***
   Answer: The Spring Mountain National Recreational Area works with project partners that support a diverse work force and volunteer base. Additionally, educational resources will be bilingual to provide access to the diverse users of ourdistrict.

M. MAPS


Legend
Round 19 Restoration/Protection Sites
Round EBHRP 18 Project Areas
Round 17 Spring Stewardship Sites
Johnnie JMA
Red Rock JMA
Spring Mountain JMA
Wilderness Areas
SMNRA Boundary
Locations
Wild Horse and Burro Herd Monitoring and Resource Enhancement Project
Spring Mounttains National Recreation Area
Humboldt-Toiyabe National Forest
N
1 : 400,000
UTM NAD 83, Zone 11N
Miles
0 1 2 4 6 8 10
Johnnie
Big Timber Spring
Spring Mountain
Cold Creek Ponds
Willow Creek Spring
Sawmill Spring
Mike Spring
Fence Spring
Lower Sawmill Spring
Wheeler Well
Trough Spring
Lee Canyon
Marks Canyon 1
Edna Grey Spring
Deer Creek Spring
Kyle Canyon
Mt. Stirling WSA
Mt. Charleston Wilderness
Red Rock
Pahrump
Shoshone
Spring Valley
Sloan
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community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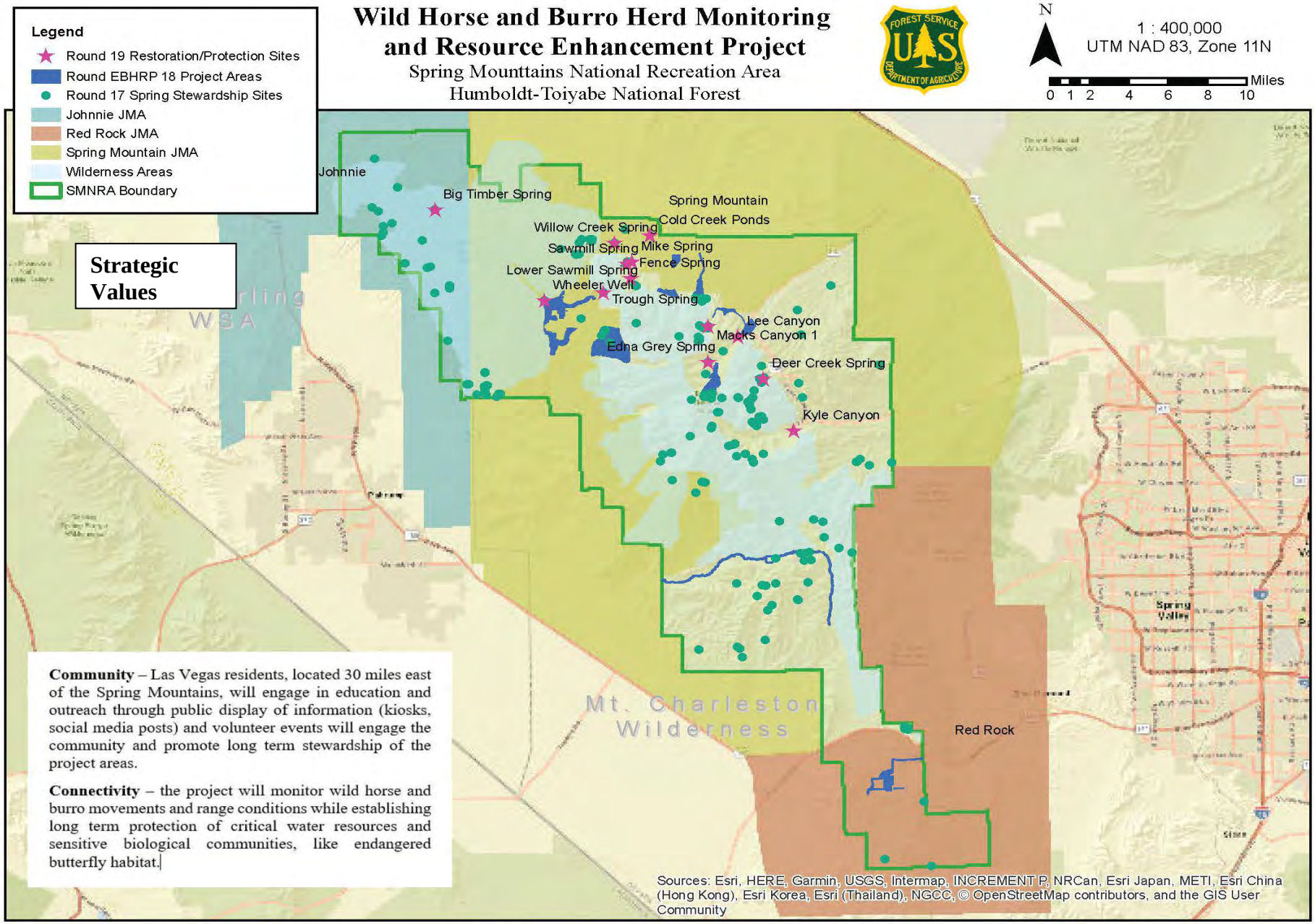
Willow Creek Spring
Sawmill Spring
Mike Spring
Fence Spring
Lower Sawmill Spring
Wheeler Well
Trough Spring
Lee Canyon
Marks Canyon 1
Edna Grey Spring
Deer Creek Spring
Kyle Canyon
Pahrump
Mt. Charleston Wilderness
Red Rock
Spring Valley
Sloan
Shoshone
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

Wild Horse and Burro Herd Monitoring and Resource Enhancement Project

Spring Mounttains National Recreation Area
Humboldt-Toiyabe National Forest



N. PERFORMANCE MEASURES

SNPLMA STRATEGIC PLAN GOAL 1: Sustain the Quality of the Outdoor Environment by Conserving, Preserving, and Restoring Naturaland Cultural Resources		
Performance Measures for Habitat Enhancement	**Definition of Performance Measure**	**Quantity**
H4 - Acres of Upland Habitat Treated, Enhanced, or Restored	Report the number of acres of upland vegetation and/or wildlife habitat treated, enhanced, or restored. This can include retreatment and/or maintenance treatments only ifthe initial treatment was not funded through SNPLMA and the acres have not been accounted for in the performance measures for another SNPLMA project. Include acres treated by fire rehabilitation projects or byfire for resource benefits, but not other types of wildlandfire. Do not report treatments targeting invasive vegetation, as these should be reported under the H9 performance measure. Do not report hazardous fuels reduction projects, as these should be reported under either the F1 or F2 performance measures. Report to the nearest whole acre.	100 acres
H5 - Acres of Upland Habitat Surveyed, Inventoried, or Monitored	Report the number of acres of upland vegetation and/or wildlife habitat surveyed, inventoried, or monitored. Report to the nearest whole acre.	30 acres
H6 - Acres of Wetland / Riparian Habitat Treated, Enhanced, or Restored	Report the number of acres of wetland vegetation and/or wildlife habitat treated, enhanced, or restored. This can include retreatment and/or maintenance treatments only ifthe initial treatment was not funded through SNPLMA and the acres have not been accounted for in the performance measures for another SNPLMA project. Include acres treated by fire rehabilitation projects or byfire for resource benefits, but not other types of wildlandfire. Do not report treatments targeting invasive vegetation, as these should be reported under the H9 performance measure. Do not report hazardous fuels reduction projects, as these should be reported under either the F1 or F2 performance measures. Report to the nearest whole acre.	100 acres
H7 - Acres of Wetland / Riparian Habitat Surveyed, Inventoried, or Monitored	Report the number of acres of wetland vegetation and/or wildlife habitats inventoried or monitored. Report to the nearest whole acre.	30 acres
H8 - Number of Water Developments Constructed orImproved for Wildlife	Report the number of water developments for use by wildlife constructed or improved/repaired within all habitat types. Existing projects may be counted under this performance measure if functional	10 acres

	improvements/repairs are made as defined in the project nomination. Report each development constructed or improved as one unit (e.g., one project may have three water developments).	
H9 - Acres of Invasive Plant Species Treated or Restored	Report the number of acres of weed infestation treated with chemical, mechanical, physical, or biological control agents for the purpose of weed control. Include acres treated by fire when fire is used as a physical control agent for weed control rather than as a hazardous fuels treatment. Each acre treated is counted only once during the life of the project, no matter how many re-treatments occurred during the project. Report to the nearest whole acre.	30 acres
H10 - Acres of Invasive Plant Species Surveyed, Inventoried, or Monitored	Report the number of acres of weed infestation inventoried or monitored. Include monitoring of weed treatment projects reported under performance measure H9. Report to the nearest whole acre.	30 acres
H12 - Acres of Herd Management Areas Surveyed, Inventoried, or Monitored	Report the number of acres of wild horse and burro herd management areas or herd areas surveyed, inventoried, or monitored. Report to the nearest whole acre.	75,000 acres approx.
H13 - Number of Conservation or Protection Actions Taken within a Herd Management Area	Report the number of actions taken within a wild horse and burro herd management area to conserve or protect the area for the benefit of the herd (e.g., fences, water developments, vegetative treatments). Report each action as one unit.	10 fences installed, 1 fence removed
H14 - Number of Threatened and Endangered Species Recovery Actions Implemented	Report the number of individual recovery actions performed for threatened or endangered species recovery as identified in recovery plans, conservation management plans, or land use planning documents. Include surveys, inventories, and monitoring as recovery actions. Note: One distinct action repeated 5 times over the course of the project would report as 1 action, not 5. The same recovery action conducted at distinct sites can be counted once for each site (this does not apply to individual plots within one single project site). The number of acres over which the actions were taken are reported under either H4 or H6. Report each action as one unit.	1
H15- Number of Conservation Actions Implemented for Non-Listed Species	Report the number of individual conservation actions for species not listed under the Endangered Species Act. Note: One distinct action repeated 5 times over the course of the project would report as 1 action, not 5. The same conservation action conducted at distinct sites can be counted once for each site (this does not apply to individual plots within one single project site). The number of acres over which the actions were taken are reported under either H4 or H6. Report each action as one unit.	1

Performance Measures for Cultural / Paleontological Resources	Definition of Performance Measures	Quantity
C3 - Acres of Cultural / Paleontological Resources Surveyed, Inventoried or Monitored	Report the number of acres of land surveyed, inventoried, or monitored for cultural and/or paleontological resources. Include acres surveyed using Class I study of existing information inventory, Class II probabilistic field survey, or Class III intensive field survey and resultant inventory as required by Section 14 of the Archaeological Resources Protection Act (ARPA) or Section 110 of the National Historic Preservation Act (NHPA). Report to the nearest whole acre.	30

SNPLMA STRATEGIC PLAN: Other Performance Measures that Also Support the Three Values for SNPLMA Implementation of Sustainability, Connectivity, and Community		
Other Performance Measures	**Definition of Performance Measures**	**Quantity**
O4 - Number of Scientific / Technical Reports Produced	Report the number of scientific technical reports produced. Report each report as one unit.	5
O5 - Number of Outreach Contacts Made	Report the number of education and outreach contacts made through interpretation and environmental education, such as number of teachers trained, number of participants in workshops, etc. Report each participant as one unit.	500
O6 - Number of New Interpretive or Education Publications/Signs/ Kiosks/Displays/etc. Produced	Report the number of new interpretive or education publications produced, signs produced and installed, public informational websites or other electronic media presentations designed and implemented, and informational or interpretive kiosk displays produced and installed. Report each item produced as one unit.	17
O7 - Number of Interpretive or Education Presentations Given and/or Community Events Participated in or hosted	Report the number of interpretive or educational presentations given. Report each presentation as one unit.	4
O9 – Number of GIS Databases Generated and/or Map Layers Produced	Report the number of GIS databases created and/or the number of map layers produced to identify the location of natural resources within the environment and provide mapping for use in educational programs. Report each database or map layer as one unit.	2
O10 – Number of Volunteers Used	Report the number of volunteers used in educational or interpretive programs and for surveying, monitoring, or restoration activities. Report each volunteer as one unit.	500 hours

O11 – Number of Databases, Reports, and Other Electronic Means of Documenting Activities	Report the number of new databases, electronic reporting tools, mathematical/statistical models, websites, or reports developed and implemented to document project and/or program work. Report each electronic document or method developed as one unit.	3

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O. PHOTOS

Figure 1 Crew members taking plant samples during low elevation surveys to determine utilization.

Figure 2 Enda Grey Spring in Kyle Canyon, evidence of denuded and browsed vegetation by wild horses and other ungulates, vegetation has a mown appearance and has been eaten down to the ground.

Figure 3 Edna Grey, evidence of wild horse scat within the spring area. Also evidence of "pedestals" forming from repeated grazing.

Figure 4 Sawmill Spring, evidence of severe trampling, erosion, and denuded vegetation.

Figure 5 Sawmill Spring – invasive plants growing at the spring source.

Figure 6 Mike Spring – Pedestals and over grazing at the spring site.

Figure 7 Old allotment fencing on the ground in the Cold Creek area, this old fencing is harmful to all wildlife and will be removed during this project to protect wild horse, burros and other wildlife traveling through the area.

Figure 8 Volunteers removing old, barbed wire fencing from defunct grazing allotments. This will protect wildlife and improve habitat corridors.

P. SUPPORT LETTERS

1. Nevada Department of Wildlife

STATE OF NEVADA

DEPARTMENT OF WILDLIFE

6980 Sierra Center Parkway, Suite 120
Reno, Nevada 89511
Phone (775) 688-1500 • Fax (775) 688-1595

STEVE SISOLAK
Governor

TONY WASLEY
Director

BONNIE LONG
Deputy Director

JACK ROBB
Deputy Director

November 5, 2021

NDOW-SR#: 22-048

Deb MacNeill, Area Manager
USFS - Spring Mountains National Recreation Area
4701 North Torrey Pines Drive
Las Vegas, NV 89130-2301

Re: SNPLMA Round 19 Proposal: Wild Horse & Burro Herd Monitoring and Resource Enhancement, Spring Mountains National Recreation Area

Dear Ms. MacNeill:

The Nevada Department of Wildlife appreciates receiving a draft version of this proposal and are supportive of its merit for furthering much needed water sources protections and related habitat rehabilitation and range enhancements. The measures outlined in the proposal should greatly assist in natural spring protections where endemic aquatic species occur and ensure surface water is available for sensitive and special status species, wildlife, and wild horses and burros for moving toward a thriving ecological balance. These measures and proposed efforts for augmenting wild horse and burro monitoring would complement aspects of the Spring Mountains Wild Horse and Burro Complex Herd Management Area Plan now in preparation. We believe the SNPLMA Round 19 proposal is a shovel worthy undertaking and look forward to future coordination with the Forest Service and U.S. Fish and Wildlife Service in prioritizing and refining project proposal elements.

Sincerely,

D. Bradford Hardenbrook
Supervisory Habitat Biologist
Nevada Department of Wildlife, Southern Region
3373 Pepper Lane, Las Vegas, Nevada 89120
702.668.3960 Desk; bhrdnbrk@ndow.org