SNPLMA Round 16 Conservation Initiative Proposal

Butterfly Autecology Phase IV

$1,608,015

Sponsoring Agency – USFS Project Manager – Charles Woodard, District Wildlife Biologist

Spring Mountains National Recreation Area

Humboldt-Toiyabe National Forest

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II. PURPOSE STATEMENT

Who

The Spring Mountains National Recreation Area (SMNRA) of the Humboldt-Toiyabe National Forest proposes to perform NEPA for habitat enhancement, restoration, and augmentation for the endangered Mt. Charleston blue, Early-Late Spring Mountains dark blue, and the Spring Mountains acastus checkerspot butterflies.

Where

The project will take place in Willow Creek watershed (36°24'09.49" N 115°44'43.53" W), Upper Lee canyon (36°18'10.91" N 115°41'07.62" W), and Upper Wheeler Wash (36°18'37.15" N 115°49'22.37" W) of the SMNRA in the 4th Congressional District.

What

Phase IV endeavors to complete environmental analysis in Lee Canyon, Willow Creek Watershed, and Upper Wheeler Wash Watershed to treat approximately 4,000 acres of endangered and sensitive butterfly habitat with a variety of methods. Those methods include but are not limited to mastication, thinning, pile burning, seeding, container pot transplant, and understory burning. Proposed habitat enhancement, restoration, and augmentation treatments come directly from the Butterfly Autecology Phase III (Round 14). Butterfly Autecology Phase III consisted of developing a habitat enhancement, restoration, and augmentation plan for four subspecies of Spring Mountains endemic butterflies, developing small transplant and seeding test plots, and collecting seeds for nectar plant grow outs.

Phase IV also consists of actions that do not require further NEPA and will be implemented throughout the duration of the project. Law Enforcement and Forest Protection Officers will be used in Willow Creek to educate recreationist on the importance of only using authorized routes and the damage caused be the creation and use of unauthorized motorized routes. Volunteer trail host in Lee Canyon will be used to educate hikers and mountain bikers on the importance of Mt. Charleston blue butterfly habitat and the impacts caused by user-created trails and cross country hiking. Additionally, Phase IV will treat noxious and invasive weeds in Willow Creek and collect seed for nectar and host plant grow-outs.

Why

The Spring Mountains ecosystem is a 'sky island' of montane endemism isolated from similar mountain ranges by low elevation deserts that serve as barriers to migrations of cooler and more mesic-adapted plant and animal species. The SMNRA currently hosts 23-25 endemic flora and fauna found nowhere else in the world. Of those endemic fauna, four subspecies [Morand's checkerspot butterfly (*Euphydryas anicia morandi*), Spring Mountains acastus checkerspot butterfly (*Chlosyne acastus robusta*), and Spring Mountains dark blue butterfly (*Euphilotes ancilla purpura* and *E. a. cryptica*)] were petitioned for listing under the Endangered Species Act in 2011, and one, the Mount Charleston blue butterfly (*Plebejus shasta charlestonensis*), was proposed by the US Fish and Wildlife Service (USFWS) as endangered in September 2012 and listed in October 2013. The USFWS also found the Spring Mountains dark blue petition contained sufficient scientific evidence and has placed the species on their docket for 12-month review.

This project, Butterfly Autecology Phase IV, will aid the Forest Service in making the best decision for implementation. Implementation of the decision in a future phase or through appropriated funding will benefit four of the five priority butterfly subspecies by performing landscape scale treatments from the enhancement plan developed during Phase III. Phase IV will afford the opportunity for seamless transition from habitat enhancement plan development to environmental analysis to implementation.

III. Background Information and Need for the Project

Sustainability

Phase IV promotes long-term sustainability by promoting healthy ecosystems for future generations by aiding in the recovery of native butterflies which indirectly restores forest health. The proposed NEPA will provide environmental analysis for treatments that will reduce fire danger through reduction in canopy densities, increase species diversity and species richness, and appeal to the public's bequest and existence values.

Connectivity

Phase III's habitat enhancement plan identifies priority routes for restoration and augmentation to defragment habitat and link key breeding populations. Phase IV promotes connectivity of habitats by completing environmental analysis to further restore routes identified in Phase III, create movement corridors between breeding metapopulations, and plant "stepping stones" of suitable habitat along movement corridors. Routes identified in Phase III were previously closed and minimally restored by Round 6 funded Unauthorized Motorized Routes project.

Community

Completing NEPA in Phase IV promotes community by performing environmental analysis to restore functionality, resiliency, and integrity of biological communities. The project restores functionality by creating connectivity corridors in Upper Lee canyon between Lee Ski Resort and Bonanza trail for the endangered Mt. Charleston blue butterfly. The byproduct of restoring, enhancing, and augmenting Spring Mountains dark blue habitat is reduction in fuels and increased ecosystem resilience to catastrophic wild fire. Proposed treatments in Wheeler Wells and Willow Creek watershed will reduce canopy cover, remove ladder fuels, and redistribute fuel loads. Treatments will also allow more sunlight to the surface promoting understory regeneration and growth.

Furthermore, the project will contain environmental education and an opportunity for partnerships with the public, Non-Government Organizations and state. The environmental education component of the project will consist of OHV group education in Willow Creek to convey the importance of using designated routes and self-policing user-created routes that could be detrimental to endemic species. The education program would enhance the recreationist's stewardship value. Enhancing the public's stewardship values creates a stronger sense of community because the recreationist becomes a land manager. They will regulate, govern, and educate their own recreational groups (hikers, bikers, ohv, etc).

IV. Project Time Frame

The project will occur over a 5-year (60-month) time frame with the following anticipated benchmarks:

Year 1- Treatment Proposal Development

Initiation of NEPA for proposed treatments
Plan implementation for treatments that are covered under previous NEPA or do not require NEPA.

Year 2- Continuation of NEPA
Implementation of actions that did not require NEPA
Begin public education and develop interpretation signs
Pre-implementation monitoring unauthorized motorized route restoration sites

Year 3- Continue implementation of actions that did not require NEPA
Continue NEPA
Pre-implementation monitoring at possible habitat enhancement, restoration, and augmentation sites

Year 4- Complete NEPA, Sign Decisions
Installation of interpretive signs at designated implementation sites
Patrol and monitor restored unauthorized motorized routes
Pre-implementation monitoring at habitat enhancement, restoration, and augmentation sites

Year 5- Patrol and monitor restored unauthorized motorized routes

V. Location of the Project

The project will take place in Willow Creek watershed (36°24'09.49" N 115°44'43.53" W), Upper Lee canyon (36°18'10.91" N 115°41'07.62" W), and Upper Wheeler Wash (36°18'37.15" N 115°49'22.37" W) of the SMNRA in the 4th Congressional District. Project Maps are provided in the "Location and Maps" section at the end of the nomination.

VI. Project Deliverables

Primary Deliverables

Deliverable I: Complete environmental analysis for habitat enhancement and augmentation actions in Mt. Charleston blue butterfly habitat in Upper Lee Canyon.

Anticipated deliverables associated with this activity are:

- Pre-implementation monitoring reports and efficacy evaluation
- Treatment and inventory of invasive species in site area
- Pile burn plan
- Approved seed mix for Lee Ski Resort
- Education program and Interpretive signs at sites

Deliverable II: Complete environmental analysis for enhancement and restoration of Early-Late Spring Mountains dark blue butterfly habitat in Willow Creek watershed.

Anticipated deliverables associated with this activity are:

- Pre-implementation monitoring reports and efficacy evaluation
- Treatment and inventory of invasive species in site area
- Public OHV education and interpretive signs at restoration sites
- Forest protection officer OHV patrols

Deliverable III: Completion of environmental analysis for enhancement and restoration of Early-Late Spring Mountains dark blue butterfly and Spring Mountains acastus checkerspot habitat in Clark Canyon watershed.

Anticipated deliverables associated with this activity are:

- Pre-implementation monitoring reports and efficacy evaluation
- Treatment and inventory of invasive species in site area
- Public OHV education and interpretive signs at restoration sites
- Forest protection officer OHV patrols

Deliverable IV: Reduce impacts from dispersed recreation in Willow Creek and Clark Canyon watersheds through LEO and FPO patrols and OHV education.

Anticipated deliverables associated with this activity are:

- LEO and FPO patrols around treatment sites to increase public awareness
- Educational kiosks at OHV staging areas

Standard Deliverables

Standard deliverables for this project are:

- Biological and Cultural survey data for NEPA
- Silvicultural site prescription
- NEPA decision document
- SNPLMA close-out package

VII. Performance Measures

Mt. Charleston blue butterfly Habitat Restoration

Outcome of Primary Deliverable I: Complete NEPA for enhancement and augmentation actions in Mt. Charleston blue butterfly habitat in Upper Lee Canyon to create connectivity corridors between Lee Ski Resort, Bonanza trail, Camp Lee Canyon, and Foxtail Girl Scout Camp.

Output (Primary Deliverable): Complete a decision document implementation of restoration, enhancement, and augmentation within the 2,572 acres of Mt. Charleston blue butterfly designated critical habitat. The proposed action developed during the NEPA process will further define the treatment areas. The actions address the following performance measures:

Performance Measure H5- Acres of Upland Habitat Surveyed, Inventoried or Monitored
Performance Measure H10- Acres of Invasive Plant Species Surveyed, Inventoried, or Monitored
Performance Measure C3- Acres of Cultural/Paleontological Sites Surveyed, Inventoried, or Monitored

Output (Anticipated Deliverable): Inform recreationists through the use of educated volunteer trail hosts. The action addresses the following performance measures:

Performance Measure O5- Number of Outreach Contacts Made
Performance Measure O10- Number of Volunteers Used

Early-late Spring Mountains dark blue buttery Habitat Restoration

Outcome of Primary Deliverable II: Complete NEPA for the enhancement and augmentation of Early-Late Spring Mountains dark blue butterfly habitat in the Willow Creek Watershed to create connectivity corridors between breeding populations in Willow Creek, Cold Creek, and Mud Springs.

Output (Primary Deliverable): Complete a decision document for the implementation of restoration, enhancement, and augmentation actions within 6,000 acres of the 52,001 acre Willow Creek Watershed. The proposed action developed during the NEPA process will further define the treatment areas. The project addresses the following performance measures:

Performance Measure H5- Acres of Upland Habitat Surveyed, Inventoried or Monitored
Performance Measure H10- Acres of Invasive Plant Species Surveyed, Inventoried, or Monitored
Performance Measure C3- Acres of Cultural/Paleontological Sites Surveyed, Inventoried, or Monitored

Output (Anticipated Deliverable): Treatment and inventory of invasive plant species in the project area. Invasive and noxious weeds will be reported in the FACTS database for public production. This action addresses the following performance measures:

Performance Measure H9- Acres of Invasive Plant Species Treated or Restored
Performance Measure H10- Acres of Invasive Plant Species Surveyed, Inventoried, or Monitored

Spring Mountains acastus checkerspot and Early-Late Spring Mountains dark blue butterfly Habitat Restoration

Outcome of Primary Deliverable III: Complete environmental analysis for the enhancement and augmentation of Spring Mountains acastus checkerspot and Early-Late Spring Mountains dark blue butterfly habitat in Upper Wheeler Wash Watershed to reduce canopy cover and restore host and nectar plant growth.

Output (Primary Deliverable): Complete a decision document for the restoration and enhancement of 5,000 acres along Wheeler Pass Road and near Trough Springs. The proposed action developed during the NEPA process will further define the treatment acreage. The action addresses the following performance measures:

Performance Measure H5- Acres of Upland Habitat Surveyed, Inventoried or Monitored
Performance Measure H10- Acres of Invasive Plant Species Surveyed, Inventoried, or Monitored
Performance Measure C3- Acres of Cultural/Paleontological Sites Surveyed, Inventoried, or Monitored

Output (Anticipated Deliverable): Treatment and inventory of invasive plant species in the project area. Invasive and noxious weeds will be reported in the FACTS database for production. The proposed action developed during the NEPA process will further define the treatment areas. This action addresses the following performance measures:

Performance Measure H9- Acres of Invasive Plant Species Treated or Restored
Performance Measure H10- Acres of Invasive Plant Species Surveyed, Inventoried, or Monitored

Treatment Protection and Patrols (Ongoing, do not require NEPA)

Outcome of Primary Deliverable IV: Increase funding for LEO and FPO patrols to protect resources and investments.

Output (Primary Deliverable): During peak OHV months perform 4 FPO patrols (Thursday-Sunday) per week and 1 LEO patrol (Saturday) per week of treatment sites. FPOs and LEOs will be educated on the rationale for habitat restoration to convey an informed message to the public. Patrols will also be performed on holidays by and LEO and FPO. This action addresses the following performance measures:

Performance Measure H15- Number of Conservation Actions Implemented for Non-Listed Species
Performance Measure O3- Number of Law Enforcement Patrols, Incident Reports, Investigations
Performance Measure O5- Number of Outreach Contacts Made

Output (Anticipated Deliverable): Installment of education and interpretive kiosks at OHV staging areas. This action addresses the following performance measures:

Performance Measure H15- Number of Conservation Actions Implemented for Non-Listed Species
Performance Measure O5- Number of Outreach Contacts Made

VIII. Description of project implementation process

Project implementation will begin with the development of a draft implementation plan for actions that don not require further NEPA and development of a draft proposed action and purpose and need for actions that do require NEPA. The proposed actions will be separated out by species and geographical location: Mt. Charleston blue butterfly, Early-Late Spring Mountains dark blue butterfly in Willow Creek and Upper Wheeler Wash and Spring Mountains acastus checkerspot butterfly. A separate NEPA analysis will be completed for each area unless it is determined they can be consolidated.

Year 1 will consist of development of the proposed action, initiation of the NEPA process for environmental assessments including biological, botanical, and cultural surveys, and beginning Forest Protection Officer patrols. Biological and cultural surveys will be summarized in survey reports and inventories. Survey results will be reported in agency corporate databases as well as shared with respective State agencies (SHPO, Nevada Natural Heritage Program, NDOW, etc.) through established networks.

Year 2 will consist of continued NEPA and Forest Protection Officer patrols, public outreach and education, weed treatments, seed collection and growouts.

Year 3 will consist of the continuation of NEPA, continued growouts and seed collection. The NEPA decision document will be available to the general public once completed.

Year 4 will consist of completion of 2-3 Environmental Assessments and corresponding Decision Notices, continued Forest Protection Officer patrols, public outreach, seed collection and growouts.

Year 5 will consist of continued patrols, seed collection, and monitoring. We will report results of LEO and FPO patrols through the appropriate means.

IX. Level of Readiness for Project Implementation

Upon receiving funds the SMNRA will immediately begin implementing the project. Some actions, including weeds treatments, law enforcement patrols, forest protection officer patrols and educational outreach may be implemented when funds are received because those 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 three areas where restoration, enhancement and augmentation actions are proposed. The First step will be to develop, understand and describe 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. Then the team will prepare a proposed action for butterfly restoration, enhancement and augmentation in areas identified in the enhancement plan produced by Butterfly Autecology Phase III. The Humboldt-Toiyabe National Forest currently has key staff positions filled that are essential to developing the proposed action and carrying forward NEPA. U.S. Fish and Wildlife Service (USFWS) has played an integral role in previous phases of the project and are currently working on a recovery plan and actions from the plan will be included in the proposed action.

X. Relationship to Previous Phases and Anticipated Future Phases

Butterfly Autecology Phase IV is a continuation of Phases I, II, and III. Phase IV's primary goal is to complete required environmental analysis for landscape scale treatments proposed in Phase III's Habitat Restoration, Enhancement, and Augmentation plan that could not be accomplished through existing funds. This project also aligns with the Willow Creek Watershed Restoration project, funded by appropriated dollars. The goal of the Willow Creek project is to close unauthorized motorized routes that could not be closed under SNPLMA and enhance and protect riparian habitat through fence reconstruction, recreationist education, and weed treatments. Furthermore, treatments analyzed during the NEPA process will enhance watershed function and treatments accomplished by Round 6 Clark Canyon Restoration project. The decision documents generated by Phase IV will be implemented in future phases funded by forthcoming SNPLMA rounds or appropriated funding.

XI. Proposed Project Budget

The proposed budget to perform all environmental analysis and implement all actions for this project is $1,608,015. A Cost Estimate Summary sheet is included in Appendix A of this nomination along with the yearly expanded budgets break down.

Non-SNPLMA Funds

There is no non-SNPLMA funding available for this project at this time. There could be additional appropriated funding to supplement the project in the future from our endangered species budget allocation.

In-Kind Contributions

Based on past attendance at previous volunteer trail host program, we anticipate in-kind contributions of volunteer labor through community-wide trail host program of $5,300-$8,500 per year (based on the Department of the Interior's volunteer labor valuations of $21.36 per hour). Based on past partnership agreements with non-profits and universities the estimated in-kind contributions are approximately $15,000 per year.

Best Value Option

This nomination represents the best value option for the completion of environmental analysis for the enhancement, restoration, and augmentation of endangered and sensitive endemic butterfly habitats in the Spring Mountains. This project has been reduced to the minimum funding amount to complete a viable project. Future implementation phases of this project could be pooled into one $2.5 million phase or three smaller phases to accomplish species specific treatments.

XII. Conservation Initiatives Ranking Criteria

In the narrative provided above, this project meets the following ranking criteria identified for SNPLMA Round 16 Conservation Initiatives Nominations:

1. ***Project supports one of the three priority types of projects:***
   a. ***Habitat Enhancement:*** This project will complete environmental analysis for mastication, thinning, container pot planting and seeding that will restore and enhance habitats for the following species: Mt. Charleston blue butterfly, Spring Mountains Acastus checkerspot, and Early-Late Spring Mountains dark blue butterfly.
   b. ***Cultural Resources:*** This project increases our knowledge base of cultural/paleontological resources within the project area. It also minimizes impacts to cultural resources through avoidance and reduction of off-road vehicle impacts.
2. ***Includes public outreach and education as a component LEO and FPO patrols, off highway vehicle impacts, and projects that incorporate public outreach efforts.***
   Deliverable IV of this project includes an increase in recreationist education through increased Law Enforcement and Forest Protection Officer patrols. These patrols will increase visitor contacts and serve as opportunities for habitat restoration education and emphasizing the need to stay on authorized motorized routes. The project will also use educated trail hosts to help with public outreach and education.
3. ***Supports priority sub-types, including:***
   a. ***1. Cultural – Protection:*** This project increases our knowledge base of cultural/paleontological resources within the project areas. It also minimizes impacts to cultural resources through avoidance.
      2. Habitat Enhancement-Endangered Species: Through thinning, container pot planting, seeding, and pile burning this project will restore, enhance, and defragment habitat for the Mt. Charleston blue butterfly.
      5. Habitat Enhancement – Invasive Species Treatment and/or Control (Plant or Animal): This project improves habitat through inventory and treatment of invasive plant species in in projects areas in Willow Creek Watershed, Upper Wheeler Wash Watershed, and Lee

Canyon.

9. Cultural – project includes tribal involvement and/or consultation: As part of project development and the tribal consultation process, we will work with the Nuwuvi Nation, composed of representatives from seven tribes of the Southern Paiute, that consider the Spring Mountains their place of origin, to perform blessings before we commence any on-the-ground work and also blessings when we complete work.

b. ***16. Cultural – Surveys:*** This project will increase knowledge base of cultural/paleontological resources within the project areas through NEPA-level project surveys. It will improve information base for making informed decisions and developing sound actions that minimize impacts to cultural resources through avoidance.

19. Safety and Public Health – Project addresses and mitigates adverse impacts to resources caused by the volume of people using the resource: This project addresses and mitigates adverse impacts to resources through OHV education and increased Law Enforcement and Forest Protection Officer patrols. The project will also use educated volunteer trail hosts to inform the public of sensitive habitats and the effects of unauthorized activities.

4. Enhances partnerships by:

a. Involving individual citizen groups or organizations in the development and accomplishment of resource management goals and other activities during project implementation: Potential non-governmental partners with which we already established relationships include Friends of Nevada Wilderness, OHV clubs, Southern Nevada Conservancy, Great Basin Institute, Nevada Conservation Corps, and Nuwuvi Nation. As part of the tribal consultation process, we will work with the Nuwuvi Nation, composed of representatives from seven tribes of the Southern Paiute, that consider the Spring Mountains their place of origin, to perform blessings before we commence any on-the-ground work and also blessings when we complete work.

b. Addresses the needs of more than one Federal agency: This project addresses the needs of the Forest Service and the U.S. Fish and Wildlife Service through the enhancement, restoration, and augmentation of the endangered Mt. Charleston blue butterfly.

c. Involving non-Federal public partners: The project will only be successful with the support of private and public partners. Partnerships will be essential to educational outreach through volunteer labor and knowledge of habitat locations.

5. Identifies in-kind contributions in the development and implementation of the project through volunteer labor. Based on past partnership agreements with non-profits and universities the estimated in-kind contributions are approximately $15,000 per year and based on past attendance at previous volunteer trail host program, we anticipate in-kind contributions of volunteer labor through community-wide trail host program of $5,300-$8,500 per year. Partnerships will be essential to the completion of biological and cultural surveys.

6. Promotes sustainability through the long term by emphasizing healthy and resilient landscapes by:

a. Conserving resources at the watershed level to ensure availability to future generations: The focus of the environmental analysis for this project is habitat enhancement, restoration, and augmentation in Willow Creek, Lee, and Clark watersheds. Completion of environmental analysis lays the foundation for actions that will ensure the availability of resources for future generations. These actions include: habitat restoration, enhancement, augmentation, and protection, protection of cultural resources, and increased law enforcement and forest protection officer patrols.

b. Restoring natural processes within project timelines: An indirect result of the completion of habitat restoration is increased ecosystem resistance to catastrophic wildfire. Treatments such as thinning and mastication reduce and redistribute fuels and reduce canopy cover.

c. ***Will provide a benefit beyond the existence of SNPLMA:*** The result of the environmental analysis completed by this project is the implementation of actions that assist the long-term recovery of butterfly habitat and increase ecosystem resistance to catastrophic wildfire. These actions will help ensure the availability of resources for future generations through habitat restoration, enhancement, augmentation, and protection, cultural resource protection, and increased recreationist outreach and education.

d. ***Includes a stewardship component through education, outreach, and enforcement for public responsibility in maintaining the gains from the project:*** Through inclusion of education and outreach, the project promotes long-term stewardship and a shared responsibility for its maintenance amongst the general public, specifically user groups accustomed to recreating in the project area. Addressing recreation impacts and authorized uses will reduce long-term human impacts caused by unauthorized motorized routes. Funding of LEO and FPO patrols will protect resources and investments and increase public awareness of habitat sensitivity.

e. ***Reduces long-term costs and minimizes the human impact on the environment.*** This project will restore, enhance, augment, and protect sensitive butterfly habitats in Willow Creek, Lee, and Upper Wheeler Wash watersheds. Law enforcement and forest protection officer patrols will reduce recreationist impacts on the environment.

7. ***Promotes connectivity by linking people to nature and recreational opportunities by encouraging people to meaningfully connect with and care for their natural environment as well as connecting sensitive habitats.***

   a. ***Encourages people to meaningfully connect with their natural environment and helps them appreciate and care for the environment:*** This project includes a primary deliverable increase recreationist awareness and appreciation for sensitive habitats through law enforcement and forest protection officer patrols and outreach and volunteer trail host outreach.

   b. ***Connects habitats, migratory corridors, or protected areas:*** Restoration of unauthorized motorized routes in Willow Creek and Upper Wheeler Was coupled with habitat enhancement and augmentation in Lee Canyon will defragment habitat and connect breeding populations of endangered and sensitive butterfly species.

8. ***Promotes community by improving the quality of life for the human community and protecting the integrity of biological communities at a watershed scale by:***

   a. ***Conserving and restoring the functionality, resiliency, and integrity of biological communities:*** This project focuses on the completion of NEPA for habitat restoration, enhancement, and augmentation of pollinators. Pollinators are integral parts of ecosystem functionality, resiliency, and integrity.

   b. ***Encouraging partnerships and building a sense of community:*** This project will only be successful with the support of public partners. Partnerships will be essential to the implementation of the project for support with partnership staff labor and knowledge of butterfly populations. This project will increase recreationist education and appreciation for the recovery of sensitive pollinator habitats.

   c. ***Improving quality of life for the human community by preserving the past (cultural or historic sites) for present or future generations:*** This project minimizes impacts to cultural resources through avoidance as well as protecting resources through law enforcement and forest protection officer patrols.

XIII. Letters or Statements of Support

There are no addition letters or statements of support for this project.

Schedule B						
CONSERVATION INITIATIVE						
ESTIMATED NECESSARY EXPENSES						
Project Name:	Butterfly Autecology Phase IV					
Project #:		**Priority #:**		**Agencies:**	U.S. Forest Service	
Prepared by:	Charles Woodard					
Phone:	702-515-5429				**Initial**	x
Date:	4/15/2016				**Updated**	

1. Planning & Environmental Documentation		$ 308,068.00	19%
(Surveys/ reports for cultural, natural, biological, archaeological resources, NEPA documentation, etc)			
2. FWS Consultation - Endangered Species Act		$ 6,592.00	0%
(direct expenses for FWS if consultation is required)			
3. Direct Federal Labor to Implement Project (Payroll)		$ 124,035.00	8%
(Federal labor costs for completing the project)			
4. Project Equipment and/or Supplies/ Materials		$ 64,250.00	4%
(include specialized equipment, supplies and materials not included in contracts/ agreements)			
5. Travel & Per Diem for Implementation		$ 1,500.00	0%
6. Official Vehicle Use		$ 17,520.00	1%
(Based on agencies procedures for use, fuel, equipment, and mileage charges)			
7. Contracts/Grants/Agreements to complete the project		$ 844,000.00	52%
8. Required Training to Implement Project		$ 250.00	0%
(includes initial and annual training for LEOs and training necessary to implement the project)			
9. Other Necessary Expenses - See Expanded Budget		$ 241,800.00	15%
	TOTAL	$ 1,608,015.00	100%

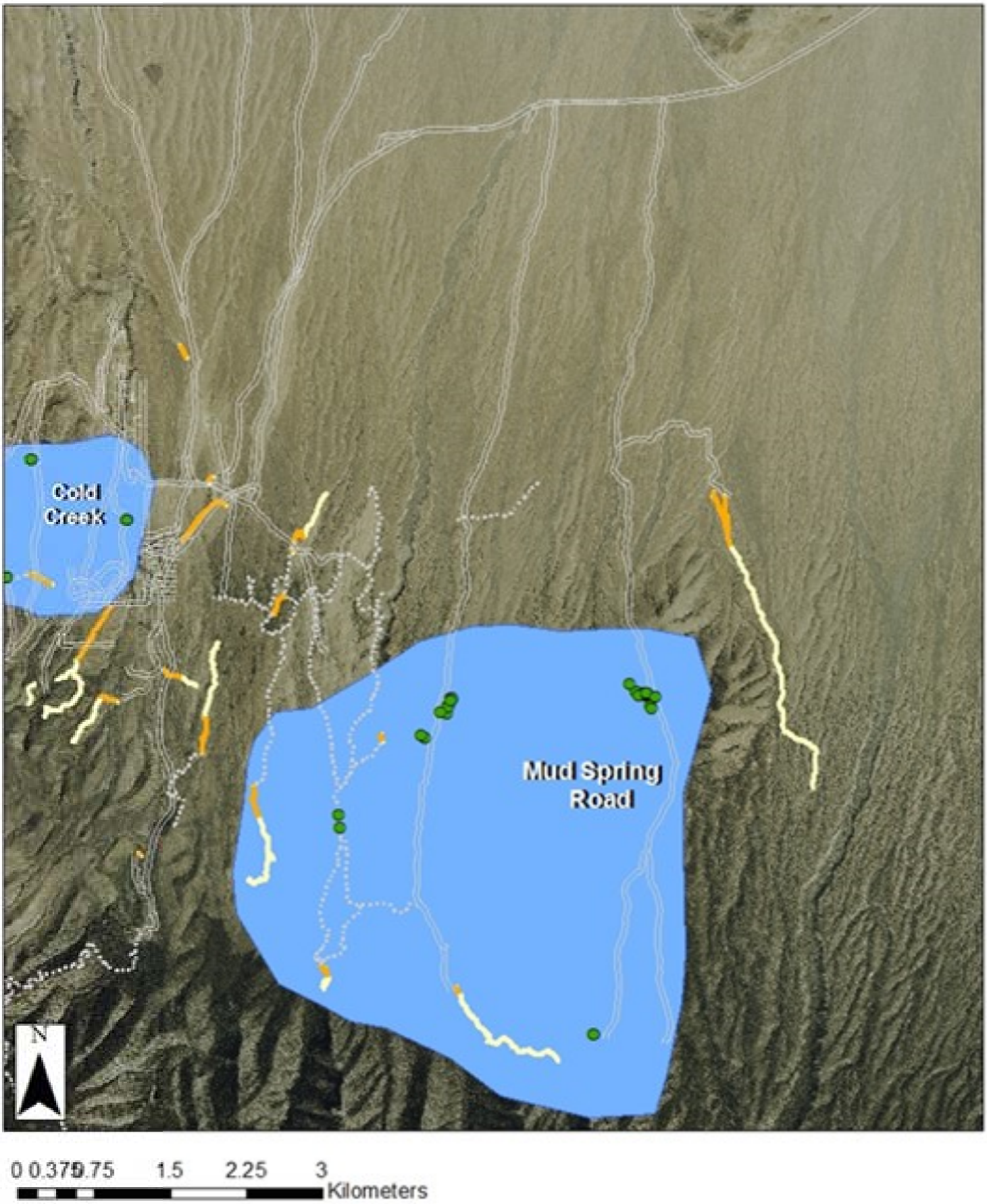
COMMENTS

Detailed Cost Estimate Other Necessary Expense Worksheet

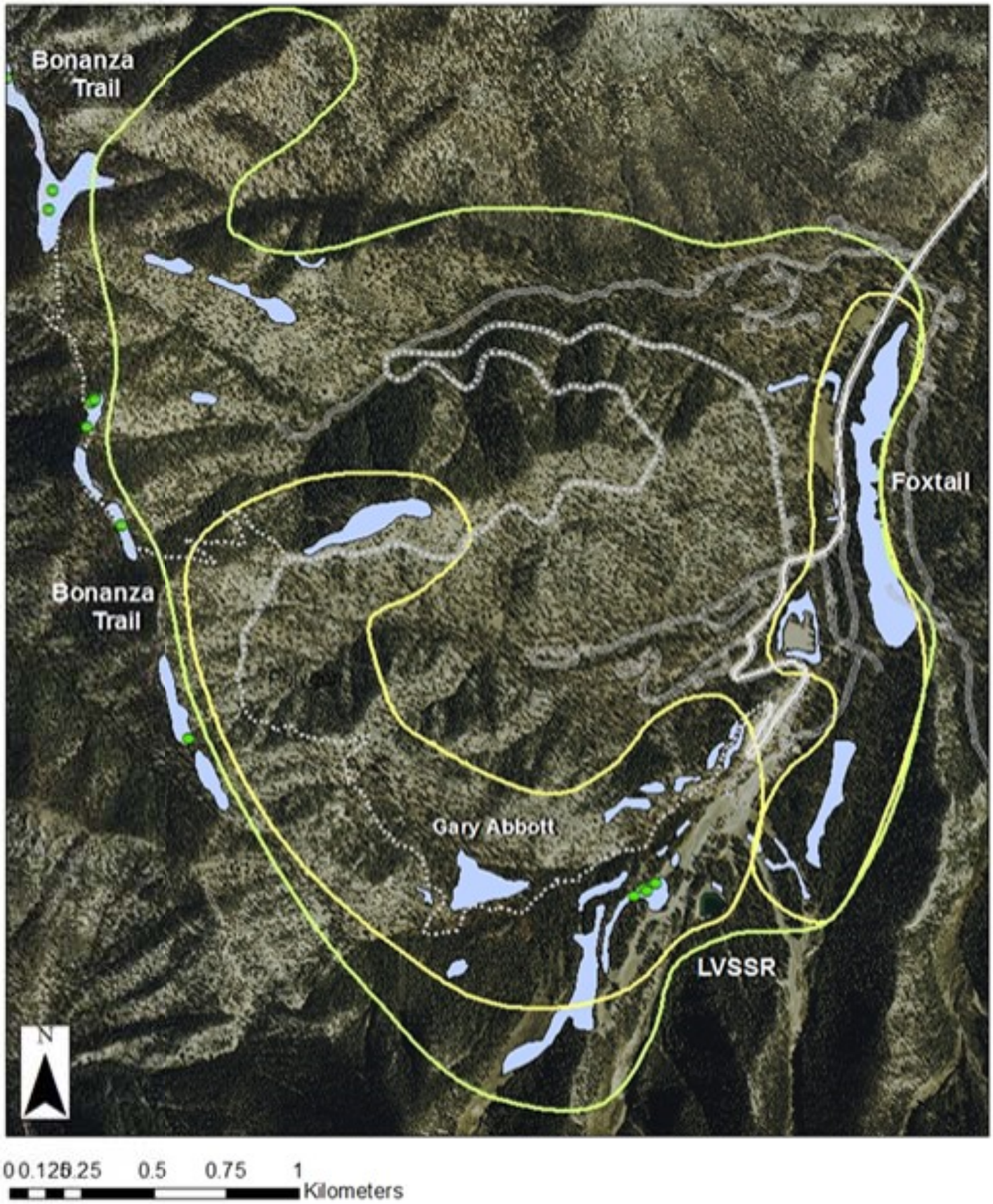
Project Title: Butterly Autecology Phase IV

DETAILED COST ESTIMATE			
1. Planning and Environmental Assessment Costs			
Specialist Surveys/Reports		$	236,481.00
NEPA		$	71,587.00
	Subtotal	$	308,068.00
2. FWS Consultation - Endangered Species Act	**Subtotal**	$	6,592.00
3. Direct Labor/Payroll to Perform the Project (use fully loaded labor rate)			
Botanist - GS-11		$	1,797.00
Hydrologist - GS-11		$	2,042.00
Soil Scientist - GS-11		$	2,042.00
GIS - GS-11		$	1,945.00
Wildlife Biologist - GS-11		$	9,888.00
Archaeologist - GS-11		$	1,921.00
OHV patrols - GS-07		$	104,400.00
	Subtotal	$	124,035.00
4. Project Equipment			
1/4 UTV		$	4,000.00
1/4 UTV trailer		$	750.00
1/4 ATV		$	2,000.00
Trimble Geo7x		$	7,500.00
	Subtotal	$	14,250.00
5. Project Materials and Supplies			
Plant grow outs		$	50,000.00
	Subtotal	$	50,000.00
6. Travel (airfare, car rental, per diem, etc)			
Travel to Forest Protection Officer training		$	1,500.00
	Subtotal	$	1,500.00
7. Official Vehicle Use			
Vehicle Use 1 - Specialists		$	5,324.00
Vehicle Use 2 - OHV		$	5,291.00
Vehicle Use 3 - Fuels		$	6,905.00
	Subtotal	$	17,520.00
8. Required Training for Project Implementation (list purpose)			
OHV Patrols ATV/UTV training		$	250.00
	Subtotal	$	250.00

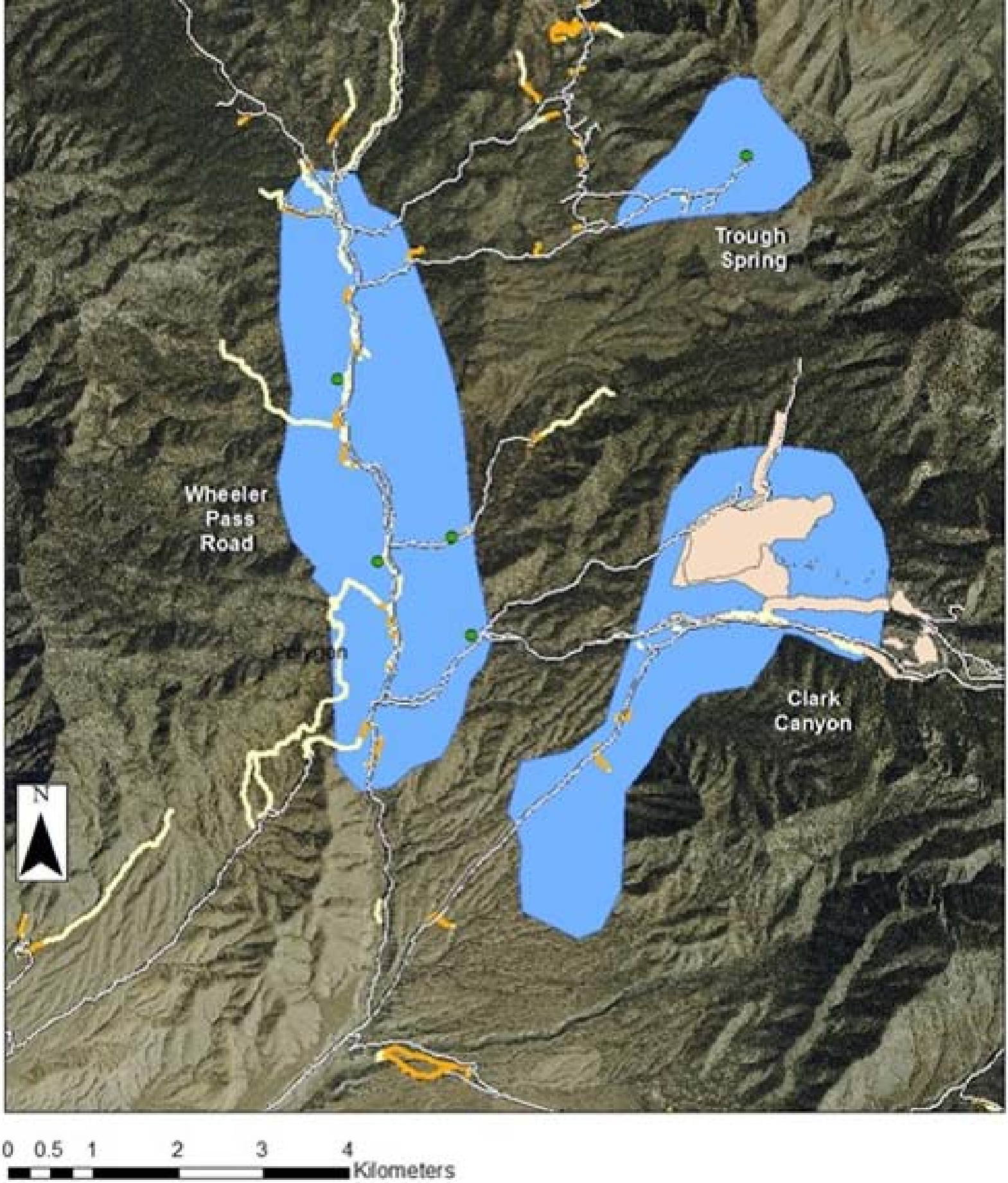
9. Cost of Contracts and/or Agreements to Perform Project		
Biological surveys	$	624,000.00
Cultural surveys	$	100,000.00
Weeds treatment	$	120,000.00
Detailed Cost Estimate Subtotal	$	844,000.00
OTHER NECESSARY EXPENSES (APPENDIX B-11)		
10. Examples of Other Necessary Expenses (providing a breakdown of these costs is optional, however a		
ADMINISTRATION COSTS		
Budget Tracking/Accounting and Execution	$	33,000.00
Allocation of Transferred Funds to the Region and to the Field*	$	4,000.00
Preparation of OMB Reports Required in Association with Transferred Funds*	$	-
Project Procurements and Contract Oversight (If any in addition to Direct Labor for the	$	-
Preparing Transfer Requests*	$	11,400.00
Transfer of Station cost (PCS) for Hiring Project Personnel	$	-
Managing Allocation of Transferred Funds*	$	4,000.00
Financial Audit Support	$	-
Supervision and Oversight of SNPLMA-Funded Staff and/or Contractors	$	45,600.00
Travel Administration for Required Project Travel	$	-
Human Resource/Relations Tasks for SNPLMA-funded Personnel	$	-
Preparing Quarterly Status Reports	$	3,800.00
Tracking Project Activities, Expenses, IGOs, Task Orders (e.g., project database	$	-
IT Services to Install Hardware/Wiring, Project-Required Software, and	$	-
A percent of Project-Related Indirect Costs for Support Based on Staff Time Spent on	$	140,000.00
PROJECT CONSTRUCTION, CONSULTATION AND MANAGEMENT		
Duties of Project Manager/Supervisor (If not already included on the Estimated	$	-
Construction Trailers and Utilities	$	-
Required Project Consultations (e.g., safety and fire; cultural and historic, ADA, etc.)	$	-
Public Scoping and/or Meetings for Environmental Review, Project Design, etc. (Does	$	-
Review of Contracted Surveys, Assessments, Designs/Drawings, Reports (If not already	$	-
Construction Site Security	$	-
Cell Phones, Cell Service, Radios for Project Personnel Primarily in the Field	$	-
Required Cultural, Wildlife, Biological, and other Similar Surveys (If not already	$	-
Interest Required to be Paid on Construction Contract Retention Amounts	$	-
TEMPORARY OFFICE SPACE		
Furniture and Fixtures	$	-
Computer Equipment (See section on equipment costs for limiting conditions)	$	-
Installation Costs for Computer Networks, Telephone Service	$	-
Other (describe)	$	-
Other Necessary Expenses Subtotal	$	241,800.00
GRAND TOTAL	**$**	**1,608,015.00**
CASH/ IN-KIND CONTRIBUTIONS		
Contributor 1	$	-
Contributor 2	$	-
Total	**$**	**-**



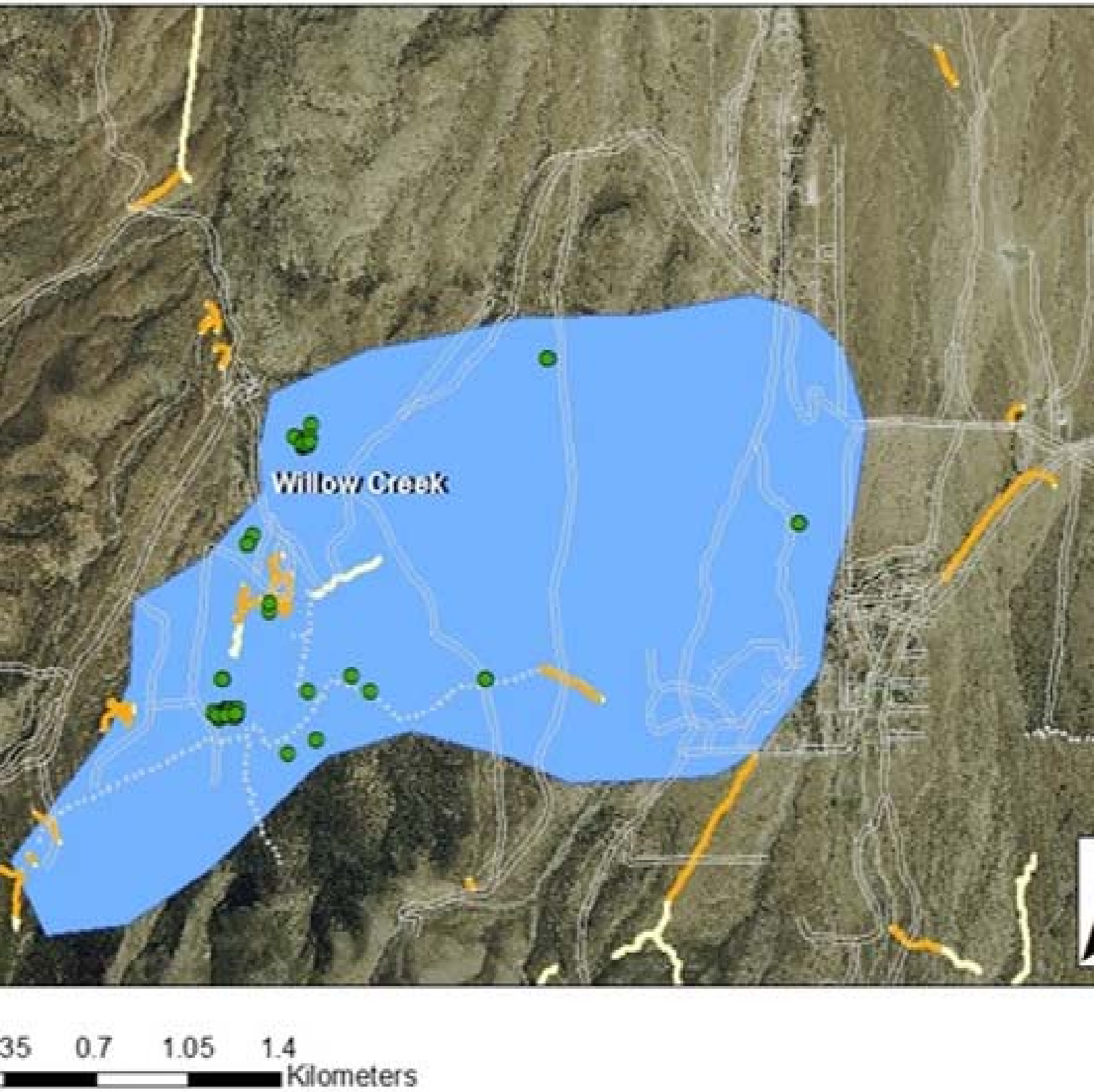
Map 3— Mud Spring Road potential habitat (light blue), roads (double white lines), unauthorized motorized routes (yellow lines), partially restored unauthorized motorized routes (orange lines), and observations of adult *Euphilotes ancilla purpura* (green circles) within SMNRA.



Map 1— Locations where restoration plots could be placed within Lee Canyon (light green polygon) or more specifically in two zones (yellow polygons) with greatest potential to connect existing habitat with sites occupied by butterflies (green circles). Note the yellow polygon to the right (east) encompasses lower elevation areas that may be most sensitive to future drought or climate change. Within *I. s. charlestonensis* habitat (blue), sites will be chosen for enhancement of nectar plants whereas sites chosen outside of current habitat will receive augmentation treatments.



Map 4 — Clark Canyon and west end of Wheeler Pass Road potential habitat (light blue), roads (double white lines), unauthorized motorized routes (yellow lines), partially restored unauthorized motorized routes (orange lines), and observations of



Willow Creek and Cold Creek potential habitat (light blue), roads (double wh
unauthorized motorized routes (yellow lines), partially restored unauthorized
zed routes (orange lines), and observations of adult *Euphilotes ancilla purpur*
a (green circles) within SMNRA.