

**Scoping Comments on the Proposed
Environmental Impact Statement for the
Northern Corridor Highway
In Washington County (UT)**

Submitted by the Red Cliffs Conservation Coalition



Basin and Range Watch

Back County Horsemen of America

Center for Biological Diversity

Conservation Lands Foundation

Conserve Southwest Utah

Defenders of Wildlife

Desert Tortoise Council

Friends of the Inyo

Great Old Broads for Wilderness

Sierra Club

Southern Utah Wilderness Alliance

The Wilderness Society

Utah Audubon Council

Utah Native Plant Society

Western Watersheds Project

Wild Earth Guardians

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1. Introduction

This document provides scoping comments and identifies requests to the Bureau of Land Management (BLM) and the US Fish and Wildlife Service (USFWS) from the Red Cliffs Conservation Coalition, a group of local, state, regional and national conservation organizations brought together through Conserve Southwest Utah¹, for topics to be considered in drafting the National Environmental Policy Act (NEPA) Environmental Impact Statement (EIS/DEIS) addressing impacts from and alternatives to a proposed Northern Corridor Highway through the Red Cliffs National Conservation Area/Desert Reserve (RCNCA/DR).

Due to the complexity of the subject, the wide range of experts engaging in our scoping comments, the very short time allowed for public comment, and the occurrence of the comment period during the holiday season, this document is not as polished as we would have wished. Nonetheless, we hope that our comments are well-founded and that they will be helpful in your preparation of the DEIS. We anticipate your accounting of them in the upcoming scoping report and DEIS. Please add the key contact person for each member of our Coalition as noted at the rear of this document to the public notification list for these connected proposed actions, including informing us when the scoping report is available and how to access it, and when the NOA for the DEIS is or may soon be published in the Federal Register. We recognize agency staff is not at fault for the NOI deficiencies noted in this paper and thank them for their kind consideration and assistance in this process.

We attempted to emphasize specific scoping requests, however, again due to time constraints, some requests are embedded in the body of the document.

At the outset, we reassert our opposition to the timeframe allowed for public scoping comments on this project, for the reasons we identified in our December 13, 2019 request for an extension of comment period. See Appendix I. As we noted, additional time is required to provide scoping comments because a thirty-day scoping period for comment on 4 complex, technical and interrelated actions which include amendments to 3 major plans is not sufficient; the Plan of Development was not shared at publication of the NOI; BLM has refused to provide access to critical relevant and related documents, like the Draft HCP, with the public, and BLM has refused to outreach to members of the Green Springs community above and beyond the publication of the Public Scoping Meeting Notice. BLM denied our request to extend the public scoping period via email on December 30, 2019.

1.1 Scope and Organization of this Document

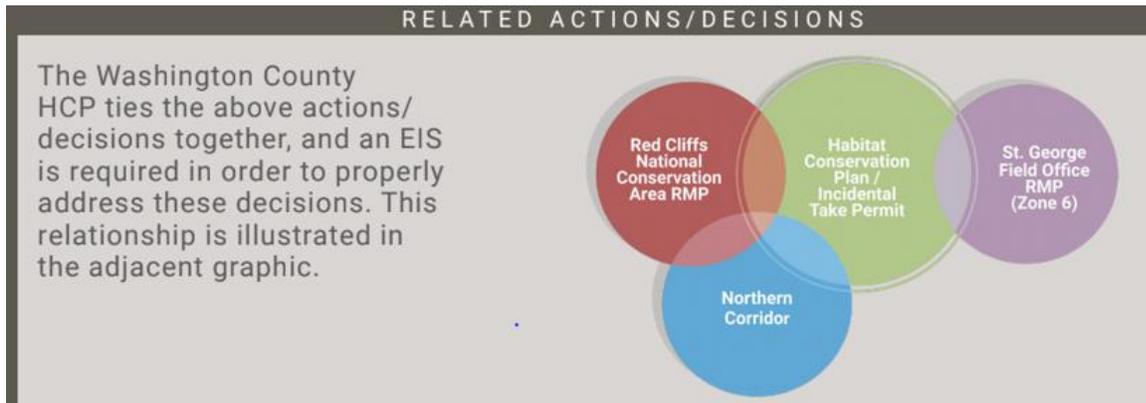
With respect to the proposed actions, their inter-relationships and related actions, our comments are organized in three major sections that mirror the actions described in the Notice of Intent (NOI):

NOI Action 1 (ROW through BLM lands)

¹ Conserve Southwest Utah is a non-profit organization of 2,000 citizens, mostly in Washington County, UT, that advocates for and actively participates in the conservation of natural and cultural resources in Southwest Utah, and smart growth policies that enable conservation balanced with growth, for the benefit of current and future generations of humans and all life.

NOI Action 2 (Amendments to Red Cliffs NCA and St. George Field Office Resource Management Plans), and
NOI Action 3 (Proposed Incidental Take Permit (ITP) and Habitat Conservation Plan (HCP) Renewal) – plus the 2 related actions that were not described in the NOI.

The following graphic illustrates the impacts from these overlapping decisions, and was first presented at the Open House at the Dixie Convention Center.



Section 4: UDOT’s Right of Way (ROW) Application for the Northern Corridor Highway (NCH) and Amendments to the Red Cliffs NCA Resource Management Plan (RMP)

Our scoping comments will address the validity of the NCH and the damage that would be done if it were to be granted, addressing NOI action 1 (the ROW through BLM-managed lands) and the related unidentified action of the ROW in privately owned lands within the RCNCA/DR.

Section 5: Amendments to the St. George Field Office RMP

BLM has also provided no information about specific changes that it proposes to make to the ITP and RMP if the NCH ROW is granted and if Zone 6 is established to purportedly mitigate the damage, addressing NOI actions 3 and 4. Again, our scoping comments on this issue will be limited based on this paucity of information.

Section 6: The Proposed Incidental Take Permit (ITP) and Habitat Conservation Plan (HCP) Renewal

And finally, we also have no information from the NOI or other sources about specific changes to the ITP or to the HCP, addressing NOI action 4 (ITP) and the related unidentified action of the Washington County Habitat Conservation Plan (HCP) renewal, so our comments on this topic will be similarly limited.

Section 7: Climate Change Implications

1.2 List of Scoping Requests for Inclusion in the DEIS

This section is intended to list all the short titles of the scoping comments and provide a link to the section in which their descriptions appear. While it is the intent to list all of them, due to the very short public comment period, some may have been missed. The main body of the document is the source. There are also some redundancies in the list that there was not the time to resolve.

From [2 History and Background](#)

- 2- Address Land Ownership within the RCNCA/DR
- 2- Utility Impacts on NCA Resource Values
- 2- Future Utility Impacts
- 2-Existing ROWs
- 2- Future Demand for ROWs
- 2- Above and below ground utilities
- 2- Impacts of NCH on Designated Purposes/Values of the RCNCA

From [3.1 NEPA Background and Compliance](#)

- 3-Cumulative Impacts of projects outside the RCNCA/DR
- 3-Cumulative Impacts to purposes of the NCA
- 3- Inventory Baseline Conditions
- 3- Cultural Resources
- 3- Tribal Participation
- 3- Paleontological Resources
- 3- Zone 6 Mitigation Uncertainty
- 3- Zone 6 Management Plan
- 3- Zone 6 Mitigation Value and Survey Methods
- 3- Zone 6 Mitigation Concept
- 3- Zone 6 Permanent Protection
- 3- Zone 6 Management
- 3- Zone 6 Future Mitigation Value
- 3- Zone 6 Survey Methods
- 3- Alternatives Outside the NCR/DR
- 3- Alternatives not Linked to HCP Renewal
- 3- Analyses Data and Methods, and Issue Resolution
- 3- Independent Tortoise Survey
- 3-Tortoise Survey Data Sources Conflict of Interest
- 3- Zone 6 Mitigation Uncertainty
- 3- DEIS Language
- 3- Timely Document Availability
- 3- Fair and Unbiased Consideration of Alternatives
- 3- Purpose and need of the NCH
- 3- Assess and analyze the cumulative and connecting projects
- 3- Tribal Consultation
- 3- Tribal Communications on Petroglyphs
- 3- Multiple-Use Conflicts

From [3.2 Notice of Intent Deficiencies](#)

- 3- Project Title

- 3- Proposed Action
- 3- Alternatives
- 3- Purpose Statement
- 3- Need Statement
- 3- Scoping Comment Period Extension
- 3- Unsubstantial Scoping Comment
- 3- NOI Reissuance and Scoping Comment Period Re-start

From [4.2 Right of Way Avoidance Area](#)

- 4- Alternatives outside the NCA
- 4- ROW Consistency with NCA
- 4- NCH Mitigation Measures
- 4- “Take” Disclosure
- 4- Critical Habitat Modification Disclosure
- 4- Construction Methods Description
- 4- Construction Plan Description
- 4- Existing ROW Constraints Description
- 4- Construction Staging
- 4- Constraints on Off-Road Travel
- 4- Construction Supervision

From [4.3 Analyze Entire Washington Parkway Proposal as a Single Entity](#)

- 4- Integrated Analysis of the NCH’s segments 2 and 3

From [4.4 NCH in the Travel Management Plan](#)

- 4- TMP-NCH

From [4.5 The Transportation Model’s Veracity](#)

- 4- Uncertainty
- 4- Land Use
- 4- NCH Evaluation 1
- 4- NCH Evaluation 2
- 4- NCH Evaluation 3
- 4- Private Inholding Status
- 4- Transportation Modeling Deficiencies
- 4- Transportation System Vision

From [4.6 NCH Alternatives Outside the RCNCA/DR](#)

- 4- NCH Alternatives Analysis
- 4- Technological Improvements
- 4- Vision Dixie Implementation
- 4- Moving People
- 4- Re-routing I-15 Thru Traffic
- 4- Industrial Park Reuse

From [4.7 NCH Impacts on the RCNCA/DR](#)

- 4- Impact Analysis and use of Best Available Science
- 4- Habitat Fragmentation
- 4- Current Modeling Data and Analysis

- 4- Road Effect
- 4- Impacts Adding to Human Growth/Development
- 4-Impact due to NCH Phasing
- 4-Residual Impacts
- 4- Impacts to hydrologic conditions
- 4- Please include the following reports in your analysis
- 4- Impacts to water resources
- 4- Impacts to watershed
- 4- Impacts to air quality
- 4- Impacts to cave, karst and soil resources
- 4- Cumulative impacts associated with climate
- 4- Impacts to Native Vegetation Communities
- 4- Impacts to Special Status Plant species and Bees
- 4- Impacts to Ecotone
- 4- Impacts to Scenic and Visual Resources
- 4- Impacts to Recreation related to Scenery 2
- 4- Key Observation Points
- 4-General Impacts to Special Status Wildlife Species
- 4- Impacts to Birds
- 4- Impacts to Fish
- 4- Impacts to Fish
- 4- Impacts to other fish and wildlife habitat
- 4- Growth-Inducing and Cumulative Impacts
- 4- Additional Impacts
- 4- Recreation Quality and Visitor Experience Impacts
- 4- Equestrian Recreation Impacts
- 4-Impacts to Cultural Resources
- 4-Impacts to Historical Resources
- 4-Impacts to Natural Resources
- 4-Impacts to Educational Resources
- 4-Impacts to Scientific Research
- 4- Paleo/Geological Survey
- 4-Socio-Economic Framework
- 4-Evaluating Alternatives
- 4-Avoid IMPLAN
- 4-Total Personal Income
- 4-Examination of Historic Trends
- 4-Ecosystem Services and Nonmarket Values
- 4-Cost-Benefit Analysis
- 4-Real Estate
- 4-Nonmarket Values
- 4-Scenic Values related to tourism and major events
- 4-Health Benefits

From [5.1. Recreation](#)

- 5- Zone 6 Recreation

From [5.2 Long-standing Land Uses](#)

- 5- Long-standing Zone 6 Issues

From [5.3 Competitive sporting events](#)

- 5- Visitor Impacts
- 5- Event Timing
- 5- Event Supervision
- 5- Event Economic Impact
- 5- Constraints on Events

From [5.4 Livestock Grazing](#)

- 5- Grazing Permit Management
- 5- Fencing Plans
- 5- Grazing Allotments Purchase Plans
- 5- Grazing Impacts
- 5- Grazing Impacts on Invasive Species

From [5.5 Roads and Routes](#)

- 5- Impact of Planned Road Projects on Zone 6

From [5.6 Mining](#)

- 5- GEM Mine Impacts

From [5.7 DiVario Development](#)

- 5- DiVario Impacts

From [5.8 Adventure Park and Shooting Range](#)

- 5- Holmgren Milkvetch Protection

From [5.9 Holmgren Milkvetch](#)

- 5- Holmgren Milkvetch Protection

From [5.10 Other Major Inadequacies of Zone 6](#)

- 5- Major Zone 6 Inadequacies

From [6.1 Introduction](#)

- 6-Evidence of MDT Take Impact
- 6-Renewed or New Take Permit
- 6- Update of Threat Assessments:
- 6- Evaluate HCP/ITP in light of Updated Species Inventories:
- 6- Define how Zone 6 Mitigates NCH Impacts
- 6- Define how Planned Zone 6 Fragmentation supports MDT recovery

From [6.2 Minimization and Mitigation of Take](#)

- 6- MDT Take Minimization and Mitigation
- 6- Plant Species Mapping
- 6- Accounting of the take authorized in the original WCHCP
- 6- Dismiss the concept of using Zone 6 as a Mitigation Bank
- 6- Analyze Zone 6 as mitigation considering acreage, quality, activities and fragmentation

- 6- Ensure New Development Mitigation Measures
- 6- “Take” Determination Process
- 6- Define Biological Goals and Objectives
- 6- High Standard of Protection
- 6- Define an Adaptive Management Plan
- 6- Require Conservation Fulfillment prior to Take
- 6- Analyze at Least 3 Alternatives
- 6- Justify Zone 6 as Valid Mitigation
- 6- Consider the Impacts of Climate
- 6- Establish Definitive HCP Boundaries
- 6- Require Conservation-Minded Activity Control
- 6- Require an Independent Review of HCP Documents
- 6- Ensure Funding for HCP Implementation
- 6- Specify Harmful Impacts of “Take”
- 6- Compliance Accountability

From [6.3. Measurable Biological Goals and Objectives](#)

- 6- HCP Administration Reform
- 6- Disallow Development within the Reserve/NCA
- 6- Consistent, Valid Survey Methods
- 6- Efficacy of Mass Translocations
- 6- MDT Use of Culverts
- 6- HCP Economic Value
- 6- Known/Potential MDT Habitat
- 6- Known/Potential MDT Habitat
- 6- Known/Potential MDT Habitat
- 6- Determine the Relationship between the NCH and HCP Purpose
- 6- Address Protocols for Construction Clearance Activities
- 6- Mitigation Ratio Disclosure
- 6- Plan for Acquiring Private In-Holdings
- 6- Financial Disclosure
- 6- Address Surprises and Changed Circumstances
- 6- Clarification of Specific Items

From [7. Climate Change Implications](#)

- 7- Consider Climate Change

2 History and Background

2.1 History of Organization Involvement

Back Country Horsemen of America

Utah Back Country Horsemen Southwest Chapter was formed in December 1995 in response to Snow Canyon State Park's indication that equestrian use would be discontinued within the park. Adopting the missions of Back Country Horsemen gave us the backing of the state, Back Country Horsemen of Utah, and Back Country Horsemen of America. We have five specific mission statements that dictate a very narrow focus – keeping trails open for pack and saddle stock – through service work, education on the wise and sustainable use of America's public lands and advocacy in local, state and national levels. We changed our name to Back Country Horsemen of Utah – Southwest Chapter in 2011. We have been involved in advocacy to defend the Red Cliffs National Conservation Area since 2018.

Basin and Range Watch

Basin and Range Watch is a 501(c)(3) non-profit working to conserve the Great Basin and Mojave Desert regions and to educate the public about the diversity of life, culture, and history of the ecosystems and wild lands of the desert.

Center for Biological Diversity

The Center for Biological Diversity is a national non-profit organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has 67,373 members including 620 members who reside in Utah. The Center's members and staff have visited the federal public lands within the Red Cliffs National Conservation Area and intend to continue to do so for hiking, camping, viewing and studying wildlife, photography, and other vocational and recreational activities. The Center has worked to protect species and habitats found on these federal public lands in Utah, including Mexican Spotted Owl, northern goshawk, spotted bat, Southwestern willow flycatcher, yellow-billed cuckoo, California condor, Navajo sedge, Colorado pikeminnow, bonytail chub, humpback chub, razorback sucker, and Mojave desert tortoise and intends to continue to do so.

Conservation Lands Foundation

Conservation Lands Foundation (CLF) is a non-profit organization that promotes environmental conservancy through support of the National Landscape Conservation System (National Conservation Lands) and preservation of the outstanding historic, cultural, and natural resources of those public lands. CLF works to protect, restore, and expand the National Conservation Lands through education, advocacy, and partnerships.

CLF achieves its mission by working with and supporting the Friends Grassroots Network (FGN). The FGN consists of over 60 organizations located in 13 states, to foster and implement a national strategy to promote the protection of the National Conservation Lands. Organizations within the FGN and their members organize and conduct a wide range of conservation-related activities, including clean-up projects, trail maintenance and rebuilding, riverbank and stream restoration, removal of invasive species, closure of illegal roads, water quality monitoring, enhancement of wildlife habitat, and

improvement of recreational access. CLF worked with BLM during development of the current Red Cliffs National Conservation Area Resource Management Plan.

Conserve Southwest Utah

Conserve Southwest Utah (CSU) is a grassroots non-profit group of citizens advocating conservation of our natural resources. CSU was established in 2006 as Citizens' for Dixie's Future (CDF) after the Washington County Growth and Conservation Act was introduced because of concerns, in part, that there was a provision for a highway through the Red Cliffs Desert Reserve. This bill was the first mention of a Northern Corridor in support of private interests that wanted a highway to the Ledges development. CSU worked tirelessly on revisions to the bill that resulted in the highway being taken out of bill and designation of the Red Cliffs National Conservation Areas in the 2009 Omnibus Public Lands Management Act (OPLMA). Concurrently, CSU was instrumental in developing, with support of Utah's Congressional Delegation, a set of smart growth principles known as Vision Dixie to guide the growth in Washington County in a way that would also conserve natural and cultural resources. Many CSU members and supporters live near and recreate on public lands in Washington County, Utah. These lands provide unique opportunities for sightseeing, hiking, camping, trail running, mountain biking, appreciation of archaeological resources and natural quiet, journaling, birdwatching, ecosystem research, photography and more. CSU has longstanding involvement with HCP related issues, including attending HCAC and TC meetings, and providing comments at some of those meetings. CSU led testimony and discussions with congressional committees and members of congress in Washington DC at significant expense in time and money related to proposed federal legislation permitting the NCH, successfully stopping the proposed legislations.

Conserve Southwest Utah's 2,000 members participate in annual stewardship and habitat restoration activities in and adjacent to the Red Cliffs NCA. Our staff and board members provide guided hikes, outreach, education and advocacy training focused on the Red Cliffs NCA to over 2,500 community members, including school children, every year.

Since 2012, Conserve Southwest Utah has partnered with BLM to organize the Southwest Utah National Conservation Lands Friends (SUNCLF) group. SUNCLF functions as Washington County's only boots-on-the-ground volunteer organization dedicated to stewardship of the Red Cliffs and Beaver Dam Wash NCAs. SUNCLF volunteers in the site steward program donate hundreds of hours each year to monitoring archaeological sites on BLM lands in Washington County, including in the Red Cliffs NCA.

Defenders of Wildlife

Founded in 1947, Defenders of Wildlife (Defenders) is a national non-profit conservation organization focused on conserving and restoring native species and the habitat upon which they depend. Based in Washington, DC, the organization also maintains six regional field offices, including in the Southwest. Defenders is deeply involved in public lands management and wildlife conservation, including the protection and recovery of flora and fauna on the mesas and canyonlands of southern Utah. We submit these comments on behalf of more than 1.8 million members and supporters nationwide, including 13,725 members in Utah.

Desert Tortoise Council

The Desert Tortoise Council (Council), comprised of members from throughout the United States, works to achieve its mission statement, which paraphrased, is to protect wild desert tortoises in their native habitats, including tortoises in the Red Cliffs Desert Reserve/NCA (herein, “Reserve”). The Council has proactively opposed the development of the Northern Corridor (NC) in letters dated 5/15/2018 (Desert Tortoise Council 2018a), 8/12/2018 (Desert Tortoise Council 2018b), and 7/4/2019 (Desert Tortoise Council 2019).

Additionally, Board member, Ed LaRue participated in a five-member team visit to Washington, D.C. in September, 2018, where he and others met with eight Members of Congress and/or their staffs to oppose the construction of the highway through the Reserve/NCA. Most recently, on 5/30/2019, LaRue participated in a field trip to the Reserve/NCA and proposed Zone 6 areas with local members of the Shivwits Band of the Paiute Indian Tribe of Utah and Cameron Rognan of Washington County HCP to discuss impacts and mitigation associated with the proposed NC.

Friends of the Inyo

Founded in 1986 Friends of the Inyo's mission is to ensure the public lands of the Eastern Sierra exist in an intact, healthy natural state for people and wildlife through preservation, stewardship, exploration and education. With over 1,000 members across the west we work on BLM, USFS and NPS lands.

Great Old Broads for Wilderness

The Southwest Utah Broadband, the local chapter of the Great Old Broads for Wilderness has been actively involved with the Red Cliffs Desert Reserve/Red Cliffs National Conservation Area since 2015. Many of our members have attended stewardship and habitat restoration projects in Red Cliffs and have been involved with trail monitoring. We worked with partner organizations to support the 2016 Resource Management Plan

Southern Utah Wilderness Alliance

The Southern Utah Wilderness Alliance (SUWA) has a long-standing interest in the management of Bureau of Land Management (BLM) lands in Utah and regularly participates in the decision-making process for land use plans and site-specific proposals around the state. SUWA members and staff enjoy a myriad of activities on the public lands managed by BLM, including hiking, biking, nature viewing, photography, and quiet contemplation in the solitude offered by wild places. SUWA is particularly interested in decisions that could affect threatened species and lands in the Red Cliffs National Conservation Area.

The Wilderness Society

The Wilderness Society and our members have a deep interest in the protection and management of the RCNCA. The Wilderness Society was heavily involved in the passage of the Omnibus Public Land Management Act of 2009 (OPLMA) and especially engaged in the Washington County Lands section of that Act. It is the position of The Wilderness Society that the negotiations made in that bill and passed into law were a momentous achievement on behalf of conservation and the interests of Washington County, which should be honored as such.

Utah Audubon Council

Utah Audubon Council is comprised of the leadership of the four Utah Audubon organizations affiliated with the National Audubon Society. UAC conducts policy analysis and advocacy on behalf of and in conjunction with Great Salt Lake Audubon, Wasatch Audubon, Bridgerland Audubon, and Red Cliffs Audubon, and their 2,000 members statewide.

Commenting for the scoping process for the Northern Corridor EIS is clearly within the mission of the National Audubon Society and local affiliates, which states “Audubon protects birds and the places they need, today and tomorrow “, and each of the individual societies in Utah have advocated for the establishment and/or protection of the bird and wildlife habitat within the desert tortoise reserve at various times in the past. Our members recreate and provide research and volunteer on habitat protection and improvement projects within the area that would be impacted by the highway project under consideration, and many live in the community that will be directly affected.

Utah Native Plant Society

The Utah Native Plant Society (UNPS) is a 501(c)(3) qualified Utah non-profit organization which was initially incorporated in 1978. UNPS has 400 members and has had many past and current chapters throughout the state of Utah including in southwestern Utah. UNPS is dedicated to the appreciation, preservation, conservation and responsible use of the native plant and plant communities found in the state of Utah and the Intermountain West. This has included extensive involvement in rare plant and invasive species issues in Washington County. We have provided research funding for study of various rare plants found only in Utah in Washington County, home to the highest native vascular plant biodiversity of any county in Utah. We engaged the state of Utah in providing preliminary protections for the Dwarf/Low Bear Poppy (*Arctomecon humilis*), and later worked to obtain critical habitat designations for *Astragalus holmgreniorum* and *Astragalus ampullarioides*. We have held rare plant meetings, participated and organized field trips, and have frequently commented on agency proposals in Washington County. The conservation and study of rare plants (and native plant ecosystems in general) in Washington County is a frequent topic at our annual rare plant meetings held each year in March. Our rare plant committee ranks the status of all rare plants in the state and therefore a significant amount of attention is paid to species that occur in Washington County.

Western Watersheds Project

Western Watersheds Project (WWP) is a non-profit organization with more than 9,000 members and supporters. Our mission is to protect and restore western watersheds and wildlife through education, public policy initiatives and legal advocacy. Western Watersheds Project and its staff and members use and enjoy the public lands and their wildlife, cultural and natural resources for health, recreational, scientific, spiritual, educational, aesthetic, and other purposes. WWP has a long history of working to conserve desert tortoises across their range.

WildEarth Guardians

WildEarth Guardians is a non-profit conservation organization dedicated to protecting and restoring the wildlife, wild places, wild rivers, and health of the American West. Guardians has offices in New Mexico, Colorado, Oregon, Washington, Montana, and

Arizona. With more than 275,000 members and supporters, Guardians works to keep public lands where they belong: in public hands. It also has an active endangered species protection campaign, with a geographic focus on flora and fauna endemic to the western United States.

Sierra Club

The Sierra Club is a national nonprofit organization of approximately 3.5 million members and supporters dedicated to exploring, enjoying, and protecting the wild places of the earth; to practicing and promoting the responsible use of the earth's ecosystems and resources; to educating and enlisting humanity to protect and restore the quality of the natural and human environment; and to using all lawful means to carry out these objectives. Sierra Club's Utah Chapter was organized in 1969 and has been involved in protecting Utah's resources ever since. We have a significant interest in protecting the wilderness, wildlife, and other resources of the Red Cliffs National Conservation Area.

2.2 History and Background of the RCDR, HCP, and RCNCA

As far back as the late 1970's, discussions about listing the Mojave desert tortoise (MDT - *Gopherus agassizi*) as "endangered" were underway.² In 1980, the Beaver Dam Slope population of the desert tortoise in Utah was listed as threatened. In 1989, the USFWS emergency listed the Mojave desert tortoise as endangered, and in 1990 listed the MDT as threatened under the Endangered Species Act. The graphic below illustrates the difference and overlapping geographic range of the Mojave and Sonoran desert tortoise.



The range of the Mojave desert tortoise (*Gopherus agassizii*), which is federally listed as Threatened, is shown by the hatched area. The range of the Sonoran desert tortoise (*Gopherus morafkai*) is indicated by stippling.

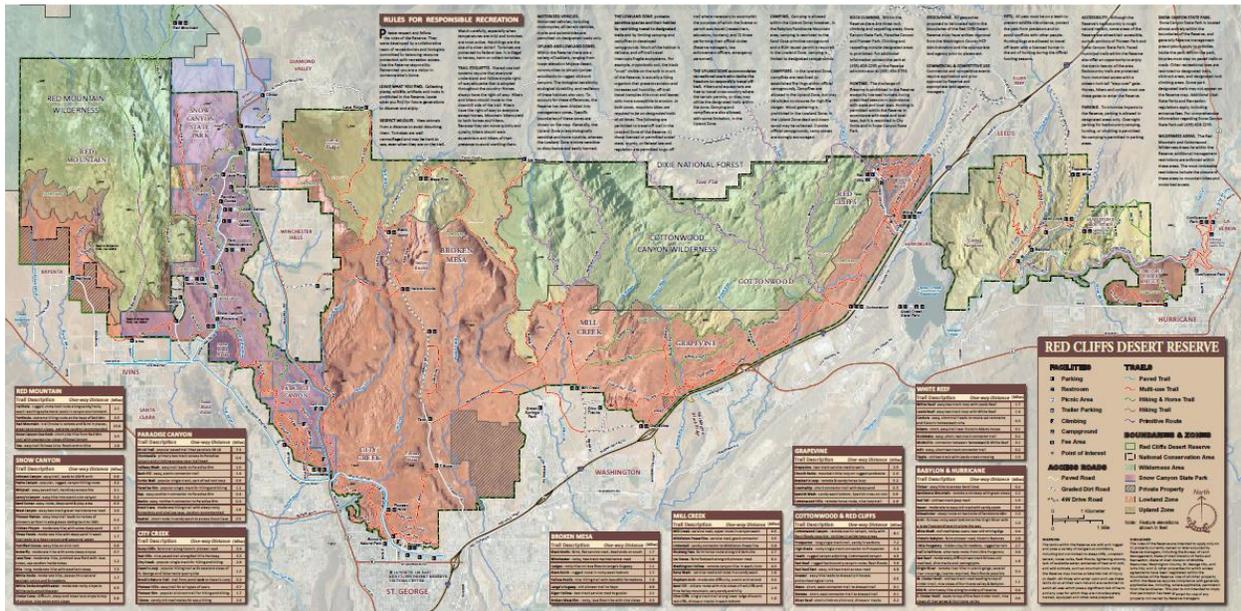
After listing the MDT under the Endangered Species Act, the USFWS established a Steering Committee in 1990, which included representatives from government agencies, livestock interests, environmental organizations, recreation interests, land developers, and landowners. The goal of the Steering Committee was to formulate a plan to ensure MDT populations and habitat were protected, including by allowing limited "take" of MDT in portions of desert tortoise habitat in fast-growing Washington County Cities (including St. George), while implementing actions that would contribute to the conservation of the tortoise.³ This tradeoff in allowing take in certain areas with high densities of tortoises – like the area adjacent to the reserve – while protecting other areas – including the Desert Reserve – from any future development, including new roads such as highways was the crucial bargain discussed during these negotiations.

After protracted negotiations among stakeholders, the county and impacted cities agreed to a Habitat Conservation Plan (HCP) which established the Red Cliffs Desert Reserve. As discussed, the HCP struck a bargain between allowing certain "take" of MDT in high-concentration MDT areas adjacent to the Reserve, while barring future development within the Reserve. The HCP also provided a template to preserve scenic hiking and

² Federal Register / Vol. 44, No. 237 / Friday, December 7, 1979 / Proposed Rules
https://ecos.fws.gov/docs/federal_register/fr368.pdf

³ 1995 Habitat Conservation Plan, Washington County
<http://www.redcliffsdesertreserve.com/wp-content/uploads/2006/02/HCP-The-Plan-amended-11-3-09.pdf>

horseback riding areas (and later mountain biking) for the general public. The illustration below outlines this critical balance between development and protection within MDT habitat.



Varied governments, groups and interested parties all agreed to this central bargain, including Washington County, Snow Canyon State Park, Bureau of Land Management (BLM), USFWS, Utah Department of Natural Resources (UDNR), Utah Division of Wildlife Resources (UDWR), Utah School and Institutional Trust Lands Administration (SITLA), The Nature Conservancy (TNC), and the cities of St. George, Washington City, Ivins, Hurricane, Santa Clara, Rockville, and Springdale.⁴ Before the HCP was officially approved by USFWS, several cities and towns signed interlocal agreements for the HCP (see Interlocal Agreement example at end of this section), including St. George, Ivins, Rockville, Santa Clara, and Washington City in 1993, Springdale in 1994, and LaVerkin and Toquerville in 2006. .

The crucial balance of the HCP set aside from all future development approximately 62,000 acres of prime and unique tortoise habitat, just north of the city of St. George and adjacent to Snow Canyon State Park, in exchange for more than 300,000 acres of land in the county that was freed for development.⁵ Additionally, the HCP created so-called “Zone 4” within the Reserve, which is a translocation area.

The ITP and HCP provided direction for how the Reserve would be administered and allowed for access within the reserve for municipal water wells, power lines, and an electric substation. 12,264 acres were established as incidental take outside the Reserve (where incidental take was “most likely to occur”) meaning that development could occur there after the area was cleared of tortoises. This “incidental take permit” allowed for

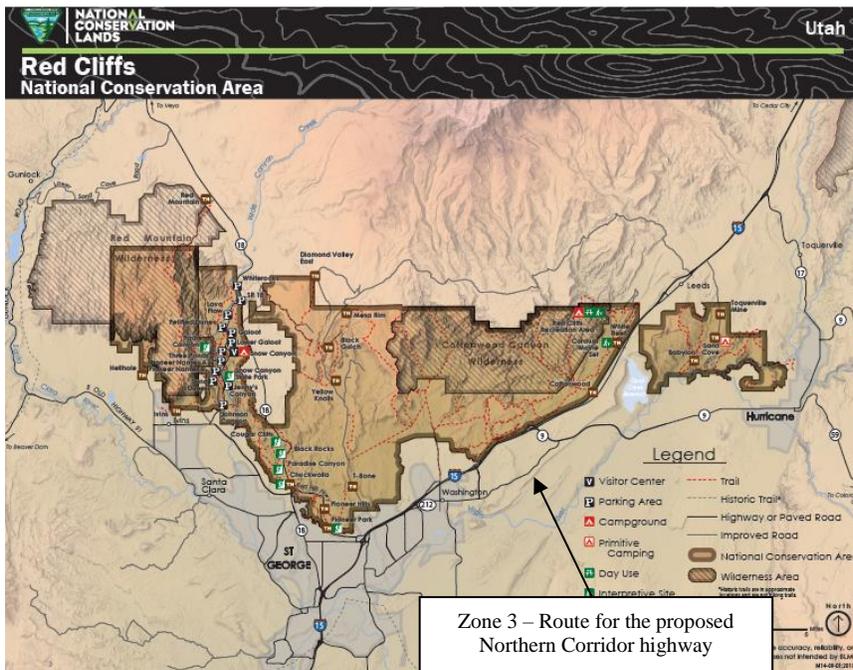
⁴ Interlocal agreement
<http://www.redcliffsdesertreserve.com/faq>

⁵ Frequently Asked Questions about the Reserve
<http://www.redcliffsdesertreserve.com/faq>

removal or accidental death of 1,169 tortoises on non-federal property outside the Reserve as development on those lands occurred.

Further, the ITP and HCP allowed for the expansion of existing Red Hills Parkway from two to four lanes within the Reserve.⁶

In 2009 as part of the Omnibus Public Land Management Act (OPLMA)⁷, the Red Cliffs National Conservation Area was established. The RCNCA covers 45,000 acres of the original 61,000-acre Red Cliffs Desert Reserve. When Congress established the RCNCA, the HCP management protocols barring “take” from occurring within the Reserve (aka Utility Development Protocols) were carried forward. Below is an illustration of the RCNCA, with a citation to the proposed NCH.



⁶ The expansion of the Red Hills Parkway, now long completed, is not to be confused with the construction of the NCH. These are two unrelated projects, and the NCH was never mentioned, cited, or approved in the HCP. Indeed, construction and siting of the NCH within the Desert Reserve is anathema to the bargain struck in the HCP, as this area (i.e., Zone 3) was expressly identified as remaining “roadless” in the HCP. HCP (page 127).

⁷ <https://www.congress.gov/bill/111th-congress/senate-bill/22>

2.3 History of the Northern Corridor Highway

“Will there be a highway through the middle of the reserve between St. George City and Washington City?” Washington County posed this question several years ago in a published brochure, and answered this question unequivocally:

The HCP does not permit a new highway through the reserve. The recently improved ‘Red Hills Parkway,’ approved as a 4-lane road (also called Skyline Drive or the Northern Corridor), was allowed under the HCP, no others are permitted.

In an effort to pave the way for the NCH, however, local leaders – including the same Washington County Commissioners – now seek to rewrite the central bargain struck in the HCP, and claim that the NCH has been in the plans since the reserve’s creation and can be done “for the benefit” of the protected populations. This argument is fatuous.

Denial #1: HCAC 1997

Discussion of a road came up in the January 29, 1997 Habitat Conservation Advisory Committee (HCAC) meeting minutes, copied below, shortly after the HCP was created. Minutes reveal that the HCAC **rejected** the idea of constructing the currently proposed route for the NCH – including the related Washington Parkway Extension and the NCH) – in favor of widening Skyline Drive, now known as Red Hills Parkway, which, as discussed above, was approved in the HCP.

WASHINGTON CITY/ST. GEORGE NORTH BELT ROUTE

The Committee welcomed Brent Gardner, Alpha Engineering Co. Mr. Gardner introduced Dana Meier and Robert Dowell of UDOT and Dallas Todd and Stephen Lewis of Parsons Brinkerhoff. His presentation included a poster display of the proposed route for the beltway.

He reviewed the studies done on St. George’s main route traffic problems. The results of the study led to the proposal which is before the Committee today. Of the several alignments studied, this is considered the most feasible beginning at mile-post 13 in Washington City, to City Creek and linking up with Skyline Drive and subsequently, Tuachan Drive into Ivins. Access would be limited to four entries. The route would include intermittent bridge-like structures and fencing.

Discussion followed which focused on the impact on the tortoise population. *It is recognized that construction will require some real creativity and a major adjustment to the HCP.* Chris Blake added that more than a “blade and grade” approach is needed and placing occasional overpass facilities and fencing will not resolve the problem. *Several other members voiced concern to the proposed alignment.*

Widening of Skyline Drive offers a possibility of resolving some of the location problem since that project is already addressed in the HCP. *It was agreed that altering the alignment to any other route in the HCP will only move the problem to a different location.* Mr. Gardner advised that a southern route is already a part of the proposed beltway program.

BLM endorsed this position in the BLM’s St. George Field Office March 1999 Record of Decision and Resource Management Plan, which establishes the Washington County HCP reserve as a “Right-of-Way Avoidance and Exclusion Area.”⁸:

Denial #2: US Congress 2006- 2009

⁸ <https://eplanning.blm.gov/epl-front-office/projects/lup/66847/81891/96150/STGEOROD.pdf>

In its February 28, 2006 HCAC meeting, HCAC committee member Henry Maddux again noted that when the HCP was negotiated, a northern beltway was discussed but ultimately excluded. He explained, “Bisecting the reserve with a beltway would be a major impact and would threaten the viability of the HCP.” Meeting minutes and notes confirm that other HCAC members supported this interpretation, too. See Meeting Minutes (Maddux directing that “planners consider a roadway further north (as mentioned by Mr. Crisp) to accommodate the northward expansion of the County”); *id.* (HCAC Member Crisp noting that “...if the beltway were approved, a future connection via Cottonwood Road might become a secondary concern by creating an additional paved road inside the reserve”).

During additional negotiations over the 2006 Washington County Growth and Conservation Act introduced in Congress, St. George Mayor McArthur and Washington County Commissioner Gardner advocated for HCAC agreeing to legislative language identifying a location of the NCH through the Reserve. Committee member Maddux indicated he would be agreeable to language in the legislation regarding the northern corridor but would not agree to a line on a map and not allow predetermination of the highway going through the reserve. Committee member Reed Harris agreed with Maddux’s concerns and supported language allowing for negotiations of a highway including routes outside the reserve. The whole committee agreed unanimously to allow bill language but no line on a map.

A document about the 2006 Washington County Growth & Conservation Act addressed the highway topic this way:

“The bill allows for a corridor, yet to be identified, that will run from SR18 in the Winchester Hills/Diamond Valley area which would connect to the Hurricane or Washington City exit. It requires that proposed routes inside and outside tortoise habitat be evaluated. The Habitat Conservation Advisory Committee will have full involvement in the process as well as the general public in selecting a route that will have the least impact on the desert tortoise while at the same time meeting transportation needs.”

During negotiations over this bill, the U.S. Fish and Wildlife prepared a letter dated June 4, 2007 to the Washington County Commission addressed fragmentation of the Red Cliffs Desert Reserve. The USFWS noted that a “Northern Corridor” transportation route through the Red Cliffs Desert Reserve would severely threaten the survival and recovery of the desert tortoise within this recovery unit. Any transportation corridor would further increase the risk to the desert tortoise population and accelerate its decline by increasing fire frequency, noise disturbance, increase human access, and direct mortality along the corridor.”

During this same time, the Utah Department of Transportation (UDOT) prepared a study]in 2007 examining ideas for a northern corridor, and noted that “[t]he City of St. George, UDOT, and FHWA determined that the anticipated implementation challenges and potential environmental effects . . . would be substantial and thereby eliminated the Northern Corridor Alternative from further consideration. (emphasis added)

November 24, 2009 HCAC meeting minutes similarly reveal that Commissioner Gardner told HCAC members that if the highway were not included in the new bill mayors of St.

George and Washington City would oppose the bill. He added that Rick Fridell, a Utah biologist, had scouted a NC route that would be least offensive to the HCP. Committee member Reed Harris noted that several HCAC members made a field trip to look at the possible route and at least three members were opposed to it.

In fact, UDOT and the Federal Highway Administration (FHWA) considered and rejected a northern corridor route through the Red Cliffs Desert Reserve in the 2009 Environmental Assessment of the Red Hills Parkway. UDOT and FHWA eliminated this route due to the concern of U.S. Fish and Wildlife Service, which noted:

...such a road would compromise the commitments on which the Washington County Habitat Conservation Plan (HCP) was based, is likely to compromise the biological integrity of the Upper Virgin Recovery Unit (already the smallest recovery unit), and may result in an adverse modification of designated critical habitat.

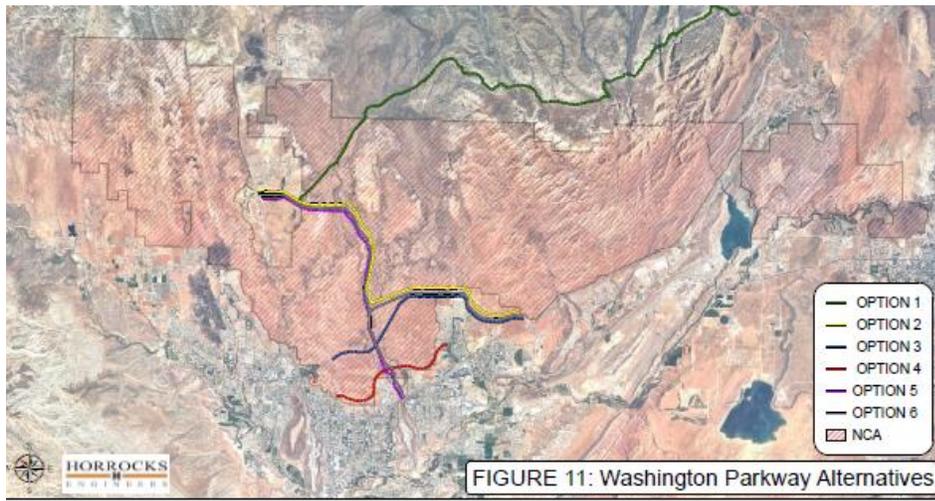
Of course, due to citizen opposition to the 2006 Washington County Growth & Conservation Act, this bill never passed, but this history shows that current concerns and complaints about the long-standing intent to authorize and construct the NCH through the Desert Reserve is groundless.

Denial #3: Washington County's General Plan

As a result of the passage of the 2009 OPLMA, Washington County issued and revised its general travel plan, identifying four alternative routes for a northern corridor route stating, “[a]t least one alternative route would pass through a portion of the Red Cliffs Desert Reserve established for the protection of the desert tortoise.”

Maps that accompany the county's revised 2010 General Plan show several options for a “northern corridor.” At that time, apparently, leaders had not settled on one specific route although now in public events they say the “one” preferred Northern Corridor route has always been the choice.

The following 2011 map shows the six alternatives studied for the Washington Parkway (aka Northern Corridor), and Option 3 represented the county's preferred route through the reserve/NCA. By examining alternative routes for the NCH, Washington County here acknowledged that the siting and location of the NCH was not established in the 2009 Omnibus Public Lands Act, as they now claim.



Denial #4: Red Cliffs NCA Resource Management Plan 2015

In July 2015, BLM issued the Draft Resource Management Plans Beaver Dam Wash National Conservation Area and Red Cliffs National Conservation Area, Draft Amendment to the St. George Field Office Resource Management Plan and Draft Environmental Impact Statement (EIS), which addressed the highway issue.

During the public comment period, Dr. William Mader, the original administrator of the HCP and Desert Reserve, noted:

“This [HCP] agreement which I helped to write over a two-year period did not allow a highway through the Red Cliffs Desert Reserve (now designated as the Red Cliffs Conservation Area). Indeed, the specific intent of the HCP was to never allow a highway through the reserve. This is why no highway route was identified in the HCP document. Nor is it discussed. As the administrator of the Red Cliffs Desert Reserve (for Washington County) I spent many months negotiating this permit and personally writing it. I also signed the permit application on behalf of the County. I know perhaps more than anyone else exactly what the intent of this legal agreement was and why things were left in while others were left out. None of the current commissioners of Washington County were commissioners when the HCP was written and signed, and none had input on the wording of the HCP document.”

At this same time, then-Governor Herbert noted that the State of Utah supported identifying a specific location for the “northern transportation route” highway. BLM did not adopt this alternative, and, instead, BLM adopted an alternative that managed a majority of the NCA as an Exclusion area (41,023 acres) for new utility and transportation rights-of-way, but identified 3,652 acres to be managed as Avoidance areas for new rights-of-way.”

Denial #5: US Congress 2018

Recent Congressional attention also shows the absence of prior agreement on the location of the NCH through the Desert Reserve, and current Congressional leaders have sought – unsuccessfully – to lock in the location through the Reserve. Again, if the location of these NCH through the Reserve was already required, this legislation is superfluous.

More specifically, in May 2017, Congressman Chris Stewart introduced H.R.2423, entitled the “Washington County, Utah, Public Lands Management Implementation Act.”⁹ was introduced May 16, 2017. The bill attempted to add a Zone 6 to the existing Reserve/NCA in an effort to use that as mitigation for building the Northern Corridor. This bill died in committee.

Senator Hatch introduced a companion bill, S.1053¹⁰, co-sponsored by Senator Mike Lee, which stated it would “require the Secretary of the Interior to issue new resource management plans applicable to the Beaver Dam Wash National Conservation Area and the Red Cliffs National Conservation Area and a new amendment to the St. George Field Office Resource Management Plan” and require the approval of the NCH. Like Congressman Stewart’s bill, this one went nowhere.

Subsequent legislative efforts to require construction of the NCH through the Desert Reserve have similarly failed. *See* H.R.5597¹¹, S.3297¹². In this failure, however, it is apparent that Congressman Stewart, and Senators Hatch and Lee have all recognized that there is no requirement through the 2009 OPLMA or otherwise that requires the construction of the NCH through the Desert Reserve.

2.4 Current Land Ownership in the Reserve/NCA

The Red Cliffs Desert Reserve/NCA is a multi-jurisdictional unit, and the proposed NCH is routed through different administrative jurisdictions:

Table 1. Administrative Jurisdictions Crossed by the Project

Jurisdiction	Road Length (approximate; based on proposed alignment, Figure 1)	Temporary ROW (acres) (to be determined)	Permanent ROW (acres) (approximate; based on 300-foot-wide or 110-foot-wide ROW)	Total ROW (acres) (to be provided upon determination of temporary ROW needs)
Red Hills Parkway to Washington City Boundary (300-foot-wide ROW)				
BLM	1.75 miles		63.6	
Utah School and Institutional Trust Lands Administration	0.24 miles		8.7	
Utah Division of Wildlife Resources State Wildlife Reserve/Management Area	0.62 miles		22.5	
Private	1.53 miles		55.6	
Washington City Boundary to Green Spring Drive (110-foot-wide ROW)				
Utah Division of Wildlife Resources State Wildlife Reserve/Management Area	0.15		2.0	
Utah School and Institutional Trust Lands Administration	0.21		2.8	
Total	4.5 miles		155.2	

⁹ <https://congress.gov/bill/115th-congress/house-bill/2423/actions>

¹⁰ <https://www.congress.gov/bill/115th-congress/senate-bill/1053/text>

¹¹ Desert Tortoise Habitat Conservation Plan, Washington County, Utah
<https://stewart.house.gov/media-center/press-releases/rep-stewart-introduces-legislation-for-washington-county-northern>

¹² <https://www.congress.gov/bill/115th-congress/senate-bill/3297/text?q=%7B%22search%22%3A%5B%22s+3297%22%5D%7D&r=1>

While this land ownership status is helpful in understanding the potential threats and risks of constructing and siting the NCH in the RCNCA, additional information is needed to ascertain a better understanding of these risks.

Request for Inclusion in the DEIS Scope:

2- Address Land Ownership within the RCNCA/DR: We request that the DEIS address the following issues and concerns regarding current land ownership in the Red Cliffs NCA/Reserve and its relationship with the NCH:

- a. At its eastern end, the highway is routed through SITLA land. SITLA claims that the most valuable land in all of Washington County is their inholding inside the Red Cliffs Desert Reserve above Green Springs. SITLA has also stated that they have the ability to withdraw from the Washington County HCP at will and develop this land because they own land in Zone 6 that they believe could be used as mitigation (Pers. Communications). What plan is in place to make sure that SITLA does not withdraw from the HCP after the NCH is built through their land, increasing access and the temptation to develop?
- b. The DEIS should disclose the appraised and/or assessed value of SITLA land in the Red Cliffs Desert Reserve *and* in Zone 6.
- c. After passing through SITLA land, the NCH passes through private inholdings owned by Alan Carter and Robert Brennan. Please identify and discuss any plan, alternative or approach to resolving any and all ownership, fee title, and management issues regarding the private inholding of Brennan, Carter and any and all other private inholdings in the RCNCA.
- d. The DEIS should disclose the appraised and/or assessed value of private inholdings inside the Red Cliffs Desert Reserve, specifically per-acre cost of Alan Carter, James Doyle, Robert Brennan and any and all other private inholdings.
- e. The DEIS should address pre-decisional bias associated with Washington County's recent \$1.35 million purchase of a 29.53-acre parcel inside the Red Cliffs Desert Reserve from private in-holder Robert Brennan. These parcels fall within the proposed NCH alignment. This purchase should not be allowed to influence the selection of alternatives.
- f. The DEIS should disclose why Washington County purchased for 1 million dollars a 22.73-acre parcel inside the Red Cliffs Desert Reserve from Robert Brennan that is adjacent to the NCH alignment. What are the plans for this parcel?
- g. The DEIS should address how routing the NCH through 1.75 miles of BLM-NCA lands would undermine the management of these lands as part of the American system of National Conservation Lands.
- h. The DEIS should address how routing the NCH through 0.62 miles of UDWR land would undermine the management of these lands as part of the Utah's system of Wildlife Reserve/Management Areas.
- i. The DEIS should describe how the applicant plans to secure ownership of the private inholdings through which the NCH would be routed.

- j. The DEIS should include the cost of acquisition of private land for the NCH ROW.
- k. The DEIS should disclose the exact acreage of SITLA and private inholdings that have been traded out, exchanged, or acquired in the Reserve/NCA since 1995 and the cost of these transactions. These transactions have been facilitated by or paid for with tax payer money, and routing a highway through land acquired for conservation purposes is a disservice to the American taxpayer.

2.5 Land Acquisition

Since the creation of the Desert Reserve, there have been many parallel efforts to acquire lands within the Reserve. As noted in the Red Cliffs NCA DRMP,

Since 1996, the SGFO has assisted Washington County in the furtherance of its HCP commitments through land tenure adjustments designed to acquire private land inholdings into federal ownership in the. During the 17-year period between 1996 and 2013, a total of 6,374 acres were acquired, primarily by land exchange, with private inholdings being exchanged at fair market value by willing owners for public lands elsewhere in Washington County. Other private inholdings were acquired through donations and direct purchases with Land and Water Conservation Funds. Although BLM has been the primary agency to acquire lands, Utah State Parks and UDWR have also actively pursued acquisitions of private inholdings in the Reserve, using federal funds provided under Section 6 of the ESA. Non-federal lands remain within the boundaries of the NCA that could be acquired from willing sellers or land administrators. Certain tracts are encumbered with previous developments such as large retention basins, a large water tank, and a former municipal landfill which has been remediated and capped.¹³

Additional data suggests BLM has exchanged nearly 48689 acres in Zone 3, and otherwise used LWCF monies to acquire 1272 acres and ESA Section 6 monies to acquire 2848 acres in and around the Desert Reserve. October 19, 2010 HCAC Minutes.

In total, USFWS claimed that the value of these acquisitions was over \$100 million. Some land owners in the reserve benefited greatly from the exchange for land outside of NCA by getting BLM land around the new airport.

Moreover, Washington County applied for \$23 million of Federal funding from LWCF to purchase land within the NCA to prevent habitat fragmentation, and now the County wants to build a highway through this land. The LWCF website reads:

“Utah’s Washington County is one of the fastest growing retirement and recreational areas in the nation. New residents are attracted in part by the exceptional red rock landscape, and tourists converge to visit Zion National Park and the Dixie National Forest. The county is also home to the highest density of Mojave desert tortoises in the United States. From 1980 to 1990, the population of the county increased 86 percent, and this trajectory has continued since then. In order to protect the desert tortoise, along with a number of other species, Section

¹³ Red Cliffs NCA DRMP 3.42.1 Land Tenure Adjustments

6 funding has helped to build a 62,000-acre reserve, allowing for continued growth and development elsewhere in the county in compliance with the Endangered Species Act. This investment of nearly \$23 million from LWCF has prevented further fragmentation of habitat, established wildlife corridors and connectivity, and brought stakeholders together to manage the community's resources collectively and solve a very difficult problem.”

In 2019, BLM purchased 113 acres of private inholdings inside the Reserve for \$5 million dollars using LWCF funds.¹⁴

We have two concerns regarding these acquisitions. First, we are concerned that taxpayer funds used to provide for permanent habitat protection will be impacted by the NCH. Land and Water Conservation Funds (LWCF) and ESA Section 6 funds were used for many acquisitions. The NCH ROW should not be approved across any lands acquired with help of LWCF or Section 6. These lands were purchased using money to buy habitat for special status species.

The DEIS must include analysis of the full breadth of all land acquisitions within the Desert Reserve since 1996, and the legality of routing the NCH through land acquired with LWCF or Section 6 Funds. Additionally, the DEIS must disclose the number of acres within the NCH ROW that were acquired with LWCF and/or Section 6 Funds.

2.6 Existing ROW and Utilities in the Red Cliffs NCA

There are already 25 existing rights-of way through the Red Cliffs NCA, and we are concerned about requests for future utilities in the NCH ROW which could require additional disturbance of Mojave desert tortoise critical habitat. *See* Table 3.47 of RCNCA RMP. To fully understand the potential impacts of extant and future ROWs, we specifically request a robust analysis and discussions of the following impacts.

Request of Inclusion in DEIS Scope:

2- Utility Impacts to the Purpose of the NCA: Determine the cumulative impacts caused by future utilities (power, water, gas, and others) that could be constructed in the NCH ROW. What are cumulative impacts to the threatened Mojave desert tortoise, other special status wildlife and the 9 resource values protected in the NCA

2- Future Utility Impacts: Determine impacts from future utility developments that could be constructed in or near the NCH ROW, including applications to expand this ROW to accommodate such projects. In 2018, Dominion Energy proposed to route a major natural gas pipeline through the Red Cliffs NCA/Reserve following the path of the proposed NCH.¹⁵ They anticipated that this project would have

¹⁴ BLM purchases \$5 million land parcel in desert tortoise reserve
<https://www.stgeorgeutah.com/news/archive/2019/08/30/mks-blm-purchases-5-million-land-parcel-in-desert-tortoise-reserve/#.XguZb25FxPY>

¹⁵ Committee tables proposed gas line through Red Cliffs Desert Reserve
<https://www.stgeorgeutah.com/news/archive/2018/11/28/mgk-committee-tables-proposed-gas-line-through-red-cliffs-desert-reserve/#.Xguoom5FxPY>

created a new disturbance area where the pipeline route left the corridor approximately 1,640 feet long. It is important to note that the co-location of a gas pipeline in the NCH ROW would require major dynamiting and blasting in Middleton and Chisel Washes. The gas pipeline could not travel above these washes, so would have to be routed below, in and through the washes.

- 2-Existing ROWs:** Provide baseline data on impacts existing ROWs have caused to the tortoise, other special status species, and the NCA's 9 resource values *prior* to calculating NCH ROW-specific impacts. The 2015 RCNCA DRMP lists 25 existing ROWs granted in the NCA/Reserve (table below). Existing ROW impacts to the tortoise, special status species and the 9 resource values the NCA was designated to protect should be calculated. Then NCH ROW-specific impacts should be added to impacts from existing ROW's to provide a full picture of ROW-caused impacts in the Reserve/NCA.
- 2- Future Demand for ROWs:** Finally, any known plans for future ROWs in the NCA/Reserve should be addressed. Estimate the foreseeable future demand for ROWs and where they would be located.
- 2- Above and below ground utilities:** Though we do not support any additional linear features being accommodated in the ROW, we do recognize the importance of confining linear disturbances in the same narrow corridor. The DEIS should analyze pros and cons of co-locating utilities in the NCH ROW above and below ground. For example, above ground transmission lines disturb scenic resources and provide nest perches for ravens, a major tortoise predator. Below-ground utilities require blasting and excavation that could negatively impact the threatened Mojave desert tortoise.

2.7 Purpose of the NCA

Pursuant to the legal authority granted by Congress in the Antiquities Act of 1906¹⁶, Congress designated the Red Cliffs NCA for the explicit purpose to:

conserve, protect, and enhance for the benefit and enjoyment of present and future generations the ecological, scenic, wildlife, recreational, cultural, historical, natural, educational, and scientific resources of the National Conservation Area; and

(2) to protect each species that is--

- (A) located in the National Conservation Area; and
- (B) listed as a threatened or endangered species on the list of threatened species or the list of endangered species published under section 4(c)(1) of the Endangered Species Act of 1973¹⁷.

¹⁶ 16 U.S.C. §§ 431-433

¹⁷ 16 U.S.C. 1533(c)(1)

Because of its significance, which merited designation as an NCA and inclusion in the National Landscape Conservation System (National Conservation Lands), the NCA requires different management from other BLM lands. The designation of National Monuments, together with the establishment of the National Conservation Lands themselves, represents the cornerstone of a new era in land stewardship, in which BLM focuses on a mission of stewardship to: “conserve, protect, and restore nationally significant landscapes that have outstanding cultural, ecological, and scientific values for the benefit of current and future generations.”¹⁸.

Secretarial Order 3308 speaks to the management of the National Conservation Lands. The Order states in pertinent part that “[T]he BLM shall ensure that the components of the [National Conservation Lands] are managed to protect the values for which they were designated, including, where appropriate, prohibiting uses that are in conflict with those values.” The Order also requires the incorporation of science into the decision-making process for the National Conservation Lands, stating, “[s]cience shall be integrated into management decisions concerning [National Conservation Lands] components in order to enhance land and resource stewardship and promote greater understanding of lands and resources through research and education.”

Based on these management requirements within National Conservation Lands, we request a robust analysis of the direct, indirect and cumulative impacts of the NCH on the designated purposes and values of the RCNCA, and any and all effects the NCH may have on ensuring that these purposes and values are conserved, protected and restored.

Request for Inclusion in DEIS Scope:

2- Impacts of NCH on Designated Purposes/Values of the RCNCA: Based on these management requirements within National Conservation Lands, we request a robust analysis of the direct, indirect and cumulative impacts of the NCH on the designated purposes and values of the RCNCA, and any and all effects the NCH may have on ensuring that these purposes and values are conserved, protected and restored.

¹⁸ 16 U.S.C. § 7202 (2009)

3. General Considerations

3.1 NEPA Background and Compliance

NEPA is the “basic charter for protection of the environment.”¹⁹ In NEPA, Congress declared a national policy of “creat[ing] and maintain[ing] conditions under which man and nature can exist in productive harmony.”²⁰ NEPA is intended to “ensure that [federal agencies] ... will have detailed information concerning significant environmental impacts” and “guarantee[] that the relevant information will be made available to the larger [public] audience.”²¹

Under NEPA, before a federal agency takes a “major [f]ederal action[] significantly affecting the quality’ of the environment,” the agency must prepare an environmental impact statement (EIS).²²

“An EIS is a thorough analysis of the potential environmental impact that ‘provide[s] full and fair discussion of significant environmental impacts and ... inform[s] decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment.’”²³ An EIS is NEPA’s “chief tool” and is “designed as an ‘action-forcing device to [e]nsure that the policies and goals defined in the Act are infused into the ongoing programs and actions of the Federal Government.’”²⁴

An EIS must take a “hard look” at the direct, indirect, and cumulative effects of the proposed action. This requires more than “general statements about possible effects and some risk” or simply conclusory statements regarding the impacts of a project.²⁵ Conclusory statements alone “do not equip a decisionmaker to make an informed decision about alternative courses of action or a court to review the Secretary’s reasoning.”²⁶

Importantly, agencies are required to “describe the environment of the areas to be affected or created by the alternatives under consideration.” Establishment of baseline conditions is a requirement of NEPA, and “without establishing . . . baseline conditions . . . there is simply no way to determine what effect [an action] will have on the environment, and consequently, no way to comply with NEPA.”²⁷

¹⁹ 40 C.F.R. § 1500.1(a).

²⁰ *Or. Natural Desert Ass’n v. Bureau of Land Mgmt.*, 531 F.3d 1114, 1120 (9th Cir. 2008) (quoting 42 U.S.C. § 4331(a)).

²¹ *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1212 (9th Cir. 1998).

²² *Kern v. U.S. Bureau of Land Mgmt.*, 284 F.3d 1062, 1067 (9th Cir. 2002) (quoting 43 U.S.C. § 4332(2)(C)).

²³ *Klamath-Siskiyou Wildlands Ctr. v. Bureau of Land Mgmt.*, 387 F.3d 989, 993 (9th Cir. 2004) (citing 40 C.F.R. § 1502.1).

²⁴ *Or. Natural Desert Ass’n*, 531 F.3d at 1121 (quoting 40 C.F.R. § 1502.1).

²⁵ *Klamath Siskiyou Wildlands Center v. BLM*, 387 F.3d 989, 995 (9th Cir. 2004) (citation omitted); *Oregon Natural Resources Council v. BLM*, 470 F.3d 818, 822-23 (9th Cir. 2006).

²⁶ *NRDC v. Hodel*, 865 F.2d 288, 298 (D.C. Cir. 1988).

²⁷ *Half Moon Bay Fisherman’s Marketing Ass’n v. Carlucci*, 857 F.2d 505, 510 (9th Cir. 1988).

NEPA regulations also direct Federal agencies to “[u]se the NEPA process to identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions...”²⁸ And, the lead agency must discuss and identify any mitigation measures designed to improve the project.²⁹

NEPA requires that, in preparing an EIS, the agency must discuss “any responsible opposing view which was not adequately discussed in the draft statement and indicate the agency’s response to the issue raised.”³⁰ The Council on Environmental Quality interprets this requirement as mandating that an agency respond in a “substantive and meaningful way” to a comment that addresses the adequacy of analysis performed by the agency. Forty Most Asked Questions Concerning CEQ’s National Environmental Policy Act Regulations.³¹

NEPA also requires agencies to ensure the scientific integrity and accuracy of the information used in its decision-making.³² The regulations specify that the agency “must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The information must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential.”³³

Importantly, NEPA requires that environmental analysis and information be presented in a manner that facilitates rather than impedes public comment. NEPA requires BLM to “[e]ncourage and facilitate public involvement in decisions which affect the quality of the human environment.”³⁴ A critical part of this obligation is presenting data and analysis in a manner that will enable the public to thoroughly review and understand the analysis of environmental consequences. For this reason, NEPA requires the use of high-quality data and the disclosure of the methodology underlying proposed decisions, as discussed above, and also explicitly requires that an EIS “be written in plain language” and presented in a way that “the public can readily understand.”³⁵

The National Environmental Policy Act (NEPA)³⁶ requires, among other things, that agencies

1. conduct environmental analysis of the direct, indirect, and cumulative **impacts** of proposed actions,
2. determine the adequacy of **mitigation** measures

²⁸ 40 CFR § 1500.2(e); see 40 CFR § 1500.2(f).

²⁹ 40 C.F.R. § 1502.14(f) (listing mitigation measures as one of the required components of alternatives analysis in an EIS), *id.* at § 1508.25(b)(3) (defining the “scope” of an EIS to include mitigation measures).

³⁰ 40 C.F.R. § 1502.9.

³¹ The U.S. Court of Appeals for the Tenth Circuit has found that the “Forty Questions” are “persuasive authority offering interpretive guidance” on NEPA from CEQ. *Davis v. Mineta*, 302 F.3d 1104, 1125 (10th Cir. 2002).

³² 40 CFR § 1502.24.

³³ 40 C.F.R. § 1500.1(b).

³⁴ 40 C.F.R. § 1500.2(d).

³⁵ 40 C.F.R. § 1502.8.

³⁷ *Metcalf v. Daley*, 214 F.3d 1135, 1151 (9th Cir. 2000); *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 348 (1989).

3. consider a range of reasonable **alternatives** (including an alternative that minimizes environmental impacts),
4. solicit and respond to **public comments**, public comments, and
5. connected actions” in one comprehensive NEPA analysis to avoid piecemeal or “segmented” analysis.

The following sections address these requirements.

3.1.1 “Hard Look” at Impacts

NEPA dictates that BLM take a “hard look” at the environmental consequences of a proposed action and the requisite environmental analysis “must be appropriate to the action in question.”³⁷ In order to take the “hard look” required by NEPA, BLM is required to assess impacts and effects that include: “ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, *whether direct, indirect, or cumulative.*”³⁸ NEPA regulations define “cumulative impact” as:

the impact on the environment which results from the *incremental impact of the action when added to other past, present, and reasonably foreseeable future actions* regardless of what agency (Federal or non-Federal) or person undertakes such other actions. *Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.*³⁹

To satisfy NEPA’s hard look requirement, the cumulative impacts assessment must do two things. First, BLM must catalogue the past, present, and reasonably foreseeable projects in the area that might impact the environment.⁴⁰ Second, BLM must analyze these impacts in light of the proposed action.⁴¹ If BLM determines that certain actions are not relevant to the cumulative impacts analysis, it must “demonstrat[e] the scientific basis for this assertion.”⁴² A failure to include a cumulative impact analysis of actions within a larger region will render NEPA analysis insufficient.⁴³

Requests for Inclusion in EIS:

3-Cumulative Impacts of projects outside the RCNCA/DR: In the DEIS, analyze cumulative impacts of past, present, and reasonably foreseeable projects in the Red Cliffs NCA/Reserve *and* in proposed Zone 6 *and* for projects constructed outside the NCA/Reserve that are connected to the proposed Northern Corridor Highway.

3-Cumulative Impacts to purposes of the NCA: Analyze direct, indirect and cumulative impacts to the congressionally-defined purposes of the Red Cliffs NCA which is to protect each species that is located in the

³⁷ *Metcalf v. Daley*, 214 F.3d 1135, 1151 (9th Cir. 2000); *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 348 (1989).

³⁸ 40 C.F.R. § 1508.8. (emphasis added).

³⁹ 40 C.F.R. § 1508.7 (emphasis added).

⁴⁰ *Muckleshoot Indian Tribe v. U.S. Forest Service*, 177 F.3d 800, 809–10 (9th Cir. 1999).

⁴¹ *Id.*

⁴² *Sierra Club v. Bosworth*, 199 F.Supp.2d 971, 983 (N.D. Ca. 2002).

⁴³ *See, e.g., Kern v. U.S. Bureau of Land Management*, 284 F.3d 1062, 1078 (9th Cir. 2002) (analysis of root fungus on cedar timber sales was necessary for an entire area)

NCA and listed as a threatened or endangered species in the Endangered Species Act of 1973; and to conserve, protect, and enhance for the benefit and enjoyment of present and future generations: ecological, scenic, wildlife, recreational, cultural, historical, natural, educational and scientific resources of the NCA.

3.1.2 Baseline Information

Importantly, agencies are required⁴⁴ to “describe the environment of the areas to be affected or created by the alternatives under consideration.” Establishment of baseline conditions is a requirement of NEPA. The Ninth Circuit states⁴⁵ that “without establishing . . . baseline conditions . . . there is simply no way to determine what effect [an action] will have on the environment, and consequently, no way to comply with NEPA.” The court further held that “[t]he concept of a baseline against which to compare predictions of the effects of the proposed action and reasonable alternatives is critical to the NEPA process.”

Requests for Inclusion in EIS:

- 3- Inventory Baseline Conditions:** In the DEIS, establish baseline conditions by conducting inventories for each special status species protected inside the Red Cliffs NCA⁴⁶ and for each of the 9 resource values the Red Cliffs NCA was designated to protect, including, but not limited to the following:
- 3- Cultural Resources:** Complete inventories for cultural resources per Section 106 of NHPA⁴⁷
- 3- Tribal Participation:** Invite a cultural monitor from the Shivwits Band, whose ancestral homelands the NCH would travel through, to participate during cultural inventories
- 3- Paleontological Resources:** Complete inventories for paleontological resources.

3.1.3 Adequacy of Mitigation: Specific Mitigation Measures and Commitments for Action

NEPA requires that BLM discuss mitigation measures in an EIS.⁴⁸ In general, in order to show that mitigation will reduce environmental impacts to an insignificant level, BLM must discuss the mitigation measures “in sufficient detail to ensure that environmental consequences have been fairly evaluated.”⁴⁹ Simply identifying mitigation measures, without analyzing the effectiveness of the measures, violates NEPA. Agencies must “analyze the mitigation measures in detail [and] explain how effective the measures would be A mere listing of mitigation measures is insufficient to qualify as the reasoned discussion required by NEPA.”⁵⁰ NEPA also directs that the “possibility of

⁴⁴ 40 C.F.R. § 1502.15

⁴⁵ In *Half Moon Bay Fisherman’s Marketing Ass’n v. Carlucci*, 857 F.2d 505, 510 (9th Cir. 1988),

⁴⁶ <https://conserveswu.org/wildlife-and-plants-in-the-nca/>

⁴⁸ *Muckleshoot Indian Tribe v. U.S. Forest Service*, 177 F.3d 800, 809–10 (9th Cir. 1999).

⁴⁸ 40 C.F.R. §§ 1502.14, 1502.16.

⁴⁹ *Communities, Inc. v. Busey*, 956 F.2d 619, 626 (6th Cir. 1992).

⁵⁰ *Nw. Indian Cemetery Protective Ass’n v. Peterson*, 764 F.2d 581, 588 (9th Cir. 1985), *rev’d on other grounds*, 485 U.S. 439 (1988).

mitigation” should not be relied upon as a means to avoid further environmental analysis.⁵¹

Further, general statements that BLM will conduct monitoring are also not an appropriate form of mitigation. Simply monitoring for expected damage does not actually reduce or alleviate any impacts.

Requests for Inclusion in EIS:

- 3- Zone 6 Mitigation Effectiveness:** Analyze the effectiveness of the proposed Zone 6 Satellite Mitigation Area in mitigating not just damage caused to the threatened Mojave desert tortoise and its critical habitats, but also to the other 9 resource values the Red Cliffs NCA was statutorily designated to protect, and to the other special status species protected inside the NCA.
- 3- Zone 6 Mitigation Uncertainty:** Disclose the scientific uncertainty related to Zone 6 functioning as effective mitigation for damage caused to Zone 3 (and the larger Reserve and Upper Virgin River Recovery Unit) by the Northern Corridor Highway. There is no scientific consensus regarding the effectiveness of Zone 6 mitigation.
- 3- Zone 6 Management Plan:** Document how Washington County plans to honor its commitment to manage Zone 6 in *the same manner* that the other 5 Zones of the Red Cliffs Desert Reserve are managed, i.e., for protection and recovery of the threatened Mojave desert tortoise, *and* under management protocols for National Conservation Lands. For example, given the increasing recreational uses in Zone 6 and the likelihood of greater future management conflicts, how would the county be able to guarantee its ability to exert adequate management control to ensure protection for tortoises and their habitats?
- 3 – Zone 6 Mitigation Value and Survey Methods:** Describe the mitigation value (tortoise abundance and density and quality of habitat) of Zone 6 in a manner that enables its value to be compared accurately and fairly with the value of the *unfragmented* (pre-NCH) Red Cliffs Desert Reserve Zone 3. Survey methods to determine density and abundance of the threatened Mojave desert tortoise in Zone 6 and Zone 3 must be comparable. If different survey methods are used (as we know was the case for 2018 surveys in Zone 6) the DEIS must explain clearly and concisely how their differences are equitable.
- 3- Zone 6 Mitigation Concept:** Detail how Zone 6 would mitigate damage caused to the ecological, scenic, wildlife, recreational, cultural, historical, natural, educational and scientific resources the Red Cliffs NCA was statutorily designated to protect. The purposes of the Red Cliffs NCA are bounded by the geography of the NCA, and damage to the purposes cannot be mitigated off-site in Zone 6.

⁵¹ Council on Environmental Quality, *Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations*, available at <http://ceq.hss.doe.gov/nepa/regs/40/40p3.htm>; *Davis v. Mineta*, 302 F.3d at 1125.

- 3- Zone 6 Permanent Protection:** Describe how the SITLA lands in Zone 6 would be permanently protected as mitigation given SITLA’s top fiduciary duty to optimize revenue for its beneficiaries and therefore the possibility that future lucrative development proposals could persuade or require SITLA to renege on its promise to allow full protection of these SITLA lands. In addition, what mitigation benefit may occur if the new HCP prohibits any incidental take on these SITLA Zone 6 lands?
- 3- Zone 6 Management:** Describe how the BLM lands in Zone 6 (including in the Red Bluffs ACEC) would be managed differently to achieve an arguably higher level of protection for tortoises and their habitats. Since BLM is already legally obligated to protect tortoises and their habitats, how would establishing the new Zone 6 overlay to those lands “add conservation value” with regard to mitigation for the Northern Corridor’s significant adverse impacts?
- 3- Zone 6 Future Mitigation Value:** Describe how proposed future developments and infrastructure in and adjacent to Zone 6 would directly, indirectly, and cumulatively affect the current and future mitigation value of Zone 6.
- 3- Zone 6 Survey Methods:** If different survey methods are used (as we know was the case in 2017 for RCNCA and Zone 6) DEIS must explain clearly and concisely how their differences are equitable.”

3.1.4 Adequacy of Range of Alternatives

The range of alternatives is “the heart of the environmental impact statement.”⁵² NEPA requires BLM to “rigorously explore and objectively evaluate” a range of alternatives to proposed federal actions.⁵³ “An agency must look at every reasonable alternative, with the range dictated by the nature and scope of the proposed action.”⁵⁴ An agency violates NEPA by failing to “rigorously explore and objectively evaluate all reasonable alternatives” to the proposed action.⁵⁵ This evaluation extends to considering more environmentally protective alternatives and mitigation measures.⁵⁶ For this Northern Corridor related NEPA analysis, the consideration of more environmentally protective alternatives is also consistent with the Federal Land Policy and Management Act’s (FLPMA) requirement that BLM “minimize adverse impacts on the natural, environmental, scientific, cultural, and other resources and values (including fish and wildlife habitat) of the public lands involved.”⁵⁷

NEPA requires that an actual “range” of alternatives is considered, such that the Act will “preclude agencies from defining the objectives of their actions in terms so unreasonably narrow that they can be accomplished by only one alternative (i.e. the applicant’s

⁵² 40 C.F.R. § 1502.14.

⁵³ See 40 C.F.R. §§ 1502.14(a), 1508.25(c).

⁵⁴ *Nw. Env'tl. Defense Center v. Bonneville Power Admin.*, 117 F.3d 1520, 1538 (9th Cir. 1997)

⁵⁵ *City of Tenakee Springs v. Clough*, 915 F.2d 1308, 1310 (9th Cir. 1990) (quoting 40 C.F.R. § 1502.14).

⁵⁶ See, e.g., *Kootenai Tribe of Idaho v. Veneman*, 313 F.3d 1094, 1122–23 (9th Cir. 2002) (and cases cited therein).

⁵⁷ 43 U.S.C. §1732(d)(2)(a). 61 Re: Request for Extension by 45 Days of Scoping Comment Period <https://conserveswu.org/extensionrequest/>

proposed project).”⁵⁸ This requirement prevents the environmental impact statement (EIS) from becoming “a foreordained formality.”⁵⁹

Further, in defining what is a “reasonable” range of alternatives, NEPA requires consideration of alternatives “that are practical or feasible” and not just “whether the proponent or applicant likes or is itself capable of carrying out a particular alternative”; in fact, “[a]n alternative that is outside the legal jurisdiction of the lead agency must still be analyzed in the EIS if it is reasonable.”⁶⁰

Requests for Inclusion in EIS:

3- Alternatives Outside NCA/DR: In the DEIS, analyze transportation alternatives *outside* the Red Cliffs NCA/Reserve, including the [Community Transportation Alternative](#) proposed by Conserve Southwest Utah.

3- Alternatives not Linked to HCP Renewal: In the DEIS, analyze [alternatives to ITP/HCP Renewal](#) that do not conditionally link HCP Renewal to granting of the NCH ROW.

3.1.5 High Quality Information – Requests for Inclusion in DEIS:

3- Data, Analyses, Methods and Issue Resolution: BLM must provide the public with an explanation of both the data used in analyzing the potential effects of management alternatives and the methods used to conduct the analysis, as well as an opportunity to provide comments and propose corrections or improvements.

3- Independent Tortoise Survey: BLM must complete independent research and gather information on the density of the threatened Mojave desert tortoise population in Zone 6 since no adequate information exists. The existing survey results are not accepted by all members of the scientific community.

3-Tortoise Survey Data Sources Conflict of Interest: BLM must disclose whether it used or relied upon any data generated by consulting firms that may have a financial or other potential conflict of interest in terms of past, current, or possible future contracts involving any aspect of the proposed Northern Corridor Highway.

3.1.6 Public Engagement, Scientific Uncertainty, Differing Scientific Opinions, and Conflicts of Interest

Requests for Inclusion in the EIS Scope:

3- Zone 6 Mitigation Uncertainty and Acknowledgement: In the DEIS, BLM must examine and discuss the scientific uncertainty related to Zone 6 functioning as effective mitigation for the Northern Corridor

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Highway. Furthermore, BLM must acknowledge *and respond* to questions and concerns expressed by the scientific community regarding Zone 6.

3- DEIS Language: In the DEIS, BLM must use clear language that is readable by the many groups and individuals who have already submitted public comment on this controversial project.

3-Timely Document Availability: BLM has failed to facilitate public comment by providing all relevant documents in a timely manner⁶¹ and must remedy this by providing the following:

- a. Clearly defined proposed actions
- b. A clearly defined project proposal
- c. A purpose and need Statement
- d. A draft of the Washington County HCP

3- Fair and Unbiased Consideration of Alternatives: We ask that the DEIS address the following issues:

- a. Disclose a plan for fair and unbiased screening of alternatives suggested during scoping
- b. We are concerned with the identification and use of Horrocks Engineers to screen and evaluate proposed alternatives or any other role in this process, as Horrocks has a conflict of interest in that it was contracted by the Dixie Metropolitan Planning Organization (DMPO) to prepare the 2011 Washington Parkway Cost/Benefit Study which analyzed 6 different east-west transportation routes, all *inside* the NCA.
- c. Disclose how Horrocks and any of its associates would be involved in the planning, design, and/or construction and maintenance of the Northern Corridor Highway if the ROW is granted.
- d. We are concerned with the use of Jacobs Engineering (JE) for this same reason, as Washington County and UDOT hired JE to conduct the environmental analysis process and to prepare the DEIS. Jacobs on the 2012 Washington Parkway Study: Integration of East-West Transportation Needs with Conservation Objectives for Desert Tortoise in Washington County, Utah. In this report, JE asserted that the NCH "...can ameliorate many existing threats, contribute to improving conditions, and provide future management options for the tortoise on the Reserve."⁶²
- e. For similar reasons are concerned with the use of SWCA consultants, as they too have been actively working with Washington County to facilitate construction of the NCH and

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<https://conserveswu.org/extensionrequest/>

62 https://dixiempo.files.wordpress.com/2017/06/nwp_final_report.pdf

have been involved in pre-surveys of the NCH alignment (September 2018) and surveys of Zone 6. Disclose a plan detailing how SWCA will neutrally evaluate scoping comments.

3.1.7 Additional Relevant Considerations

Project applicants have failed to share with the public the inputs, conditions, assumptions and constraints of the travel demand model used to undergird the need for the NCH in the location being analyzed during scoping. The need for the NCH may therefore be misplaced if the purpose and need rests upon contingent future events that may not occur as anticipated, or indeed may not occur at all.

Requests for Inclusion in the EIS Scope:

3- Purpose and need of the NCH

- a. Whether the NCH is truly “ripe” given that construction won’t begin until after 2030 and won’t be completed until after 2050.
- b. Whether applicants have considered advancements in transportation which include self-driving cars, mass-transit, shared vehicles, etc. that would reduce congestion on our roadways
- c. Whether applicants have considered changes to current land use planning and zoning (i.e. implementation of Vision Dixie Smart Growth Principles) that would reduce congestion on our roadways
- d. Whether the population projections used by the applicant to justify need for the NCH are accurate and whether they include the most recent Kem C. Gardner predictions which have been trending down.

3.1.8 NEPA Segmentation

Requests for Inclusion in the EIS Scope:

3-Assess and analyze the cumulative and connecting projects

- a. The Washington Parkway Extension;
- b. The 5 transportation projects associated with the NCH listed in the 2019-2050 Regional Transportation Plan;
- c. The 6 transportation projects associated with Zone 6 listed in the 2019-2050 Regional Transportation Plan
- d. The widening of the proposed NCH from two to four or six lanes in the future
- e. Development on private, SITLA, or Washington County private inholdings adjacent to the proposed Northern Corridor Highway
- f. Construction of additional highway projects in the Red Cliffs NCA that would be served by construction of the Northern Corridor Highway

3.1.9 Consultations with Bands/Tribes

Requests for Inclusion in the EIS Scope:

3- Tribal Consultation: Consistent with the requirements of the National Historic Preservation Act, BLM must invite participation by the

following bands and tribes, all who have a stake in the fate of their ancestral homelands and cultural resources protected therein:

- a. The Paiute Indian Tribe of Utah including the Shivwits, Cedar, Indian Peaks, Kanosh and Koosharem Bands
- b. The Moapa Band of Paiutes
- c. The Kaibab Paiute Tribe
- d. All groups that claim affinity to this area should be consulted and given the opportunity to provide ethnography and input on cultural resources

3- Tribal Communications on Cultural Resources: We also request that the Shivwits Band of the Paiute Indian Tribe of Utah and other groups claiming affinity to the area be alerted to the following:

- a. The known petroglyph panel located inside the proposed NCH alignment.
- b. That band/tribal members be invited to visit and provide comment on this (and other) petroglyph panels and cultural resources prior to the DEIS

3.1.10 Management of National Conservation Areas/National Conservation Lands

Requests for Inclusion in the EIS Scope:

- 1- Multiple-Use Conflicts:** Describe how BLM would ensure that the NCA is managed to protect statutorily-designated NCA values, the Mojave desert tortoise, and other special status species rather than as public domain lands under the FLPMA multiple use requirement.

3.2 Notice of Intent Deficiencies

3.2.1 Proposed Actions and Alternatives

These National Environmental Policy Act (NEPA) Environmental Impact Statement (EIS) scoping comments involve four connected and interdependent proposed actions in order to grant construction of the proposed Northern Corridor Highway (NCH), as defined in the [Notice of Intent](#)⁶³ (NOI) published by BLM and USFWS, in response to the ROW application submitted by the Utah Department of Transportation (UDOT) on behalf of Washington County, Utah:

1. Whether the BLM will approve a 1.75-mile ROW section of the approximately 5-mile long Northern Corridor project that crosses the 62,000-acre Red Cliffs Desert Reserve and the 45,000-acre congressionally established Red Cliffs National Conservation Area (NCA)
2. Whether the BLM will amend the Red Cliffs NCA Resource Management Plan (RMP) to allow for a transportation ROW and/or utility corridor within the NCA
3. Whether the BLM will amend the St. George Field Office RMP to modify management on approximately 6,800 acres outside the Reserve and NCA to offset the ROW impacts
4. Whether the FWS will issue an associated ITP for the Mojave desert tortoise for specific land use and land development activities in Washington County

Related unidentified actions:

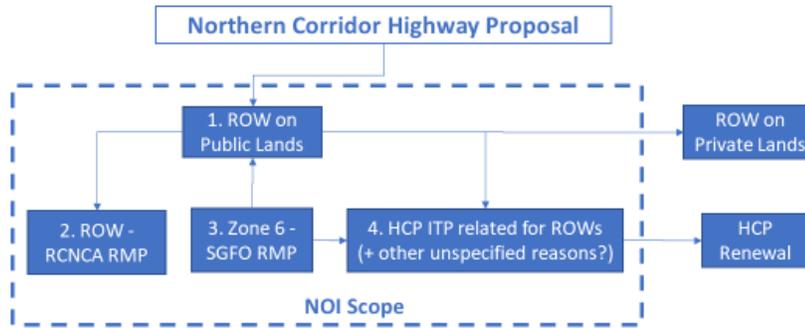
1. Related to action 1: The ROW is required through the entire ~5-mile long proposed highway through lands governed by the provisions of the HCP and NCA, not just those currently managed by the BLM.
2. Related to action 4: The scope of this item is unclear in that it does not address which specific land use/development activities are to be considered. It may address the ROW only, or the proposed Zone 6, or any number of other future development projects. Is the applicant applying for a new ITP, or an amendment to the existing ITP? According to HCP administration, the existing ITP limits have not yet been met, i.e., the take of 1,169 tortoises and 12,264 acres of critical tortoise habitat.⁶⁴

These actions are assumed to be related as depicted in the following chart:

⁶³ Notice of Intent To Prepare an Environmental Impact Statement To Consider a Highway Right-of-Way With Associated Issuance of an Incidental Take Permit, and Resource Management Plan Amendments, Washington County, UT: https://eplanning.blm.gov/epl-front-office/projects/lup/1502103/20009659/250011316/2019-26287_Published_Notice_of_Intent.pdf

⁶⁴ Washington County HCP <http://www.redcliffsdesertreserve.com/wp-content/uploads/2006/02/HCP-The-Plan-amended-11-3-09.pdf> pg. vi

The Context for the Notice of Intent (NOI)



If Action 1 (the ROW on public lands) is allowed, Action 2 (an update to the RCNCA RMP) must be done. Action 1 is dependent upon the proposed Action 3 (Zone 6 as mitigation for the damage caused by the ROW). Action 4 is required to add Zone 6 to the HCP and to define the ITP for both the existing HCP area and the added Zone 6. There are two actions outside the scope of the NOI but should be considered in the scope of the EIS: (1) acquiring the ROW on or purchase of private lands within the HCP/NCA areas and (2) renewing the expired HCP.

An NOI is supposed to describe the proposed action and the alternatives considered. The published NOI does not directly state the proposed action, but rather states 4 secondary actions that are necessary to enable the primary proposed action. The NOI erroneously omits consideration of related secondary actions: the ROW on private lands and the HCP renewal. Nonetheless, the primary proposed action can be derived from the proposed secondary action listed in the NOI. However, the NOI is devoid of a description of alternatives to the proposed actions that were considered. This omission should render the NOI insufficient to enable adequate public comment.

In light of these transgressions, we again request BLM issue a new NOI, and undertake a new public comment and scoping period, to resolve the follow deficiencies:

Request for Correction of NOI Deficiencies:

- 3- Project Title:** The NOI is focused on the Northern Corridor Highway through the Red Cliffs National Conservation Area/Desert Reserve, which of course is narrowly focused on a particular alternative. We request a broader title to reflect the scope of alternatives that must be considered, such as “Washington County (UT)-St George Metropolitan Area Improved Northern Transportation Route”, allowing for consideration of both new and improved existing routes.
- 3- Proposed Action:** The NOI’s proposed action should define the primary action in addition to the secondary actions that result from it. The DEIS should clarify the primary action, and should include the missing related secondary actions.
- 3- Alternatives:** the NOI is supposed to describe alternatives that were considered; it did not.

3.2.2 Proposed Purpose and Need Statement

It is very important that the Purpose and Need Statement be broadly enough defined to allow inclusions of all appropriate alternatives. Per the applicants [Guidance on Purpose](#)

[and Need Statements](#)⁶⁵, the “purpose” defines the goals and objectives to be satisfied by a particular transportation solution, and the “need” provides the data to support the purpose. Per the BLM guidelines⁶⁶, the Purpose and Need should achieve the goals and objectives of the RCNCA RMP: “The purpose and need for the action is usually related to achieving goals and objectives of the LUP; reflect this in your purpose and need statement.” The Purpose and Need should not be defined by the applicant. “The purpose and need statement for an externally generated action must describe the BLM purpose and need, not an applicant’s or external proponent’s purpose and need”.⁶⁷ The public should have the opportunity to review the Purpose and Need as it is refined throughout the NEPA process, especially during identification and selection of alternatives⁶⁸: “Reexamine and update your purpose and need statement as appropriate throughout the NEPA process, especially when refining the proposed action and developing alternatives.”

Per industry-standard program and project management definitions, a goal is a relatively abstract, broad statement about the long-term expectation; and an objective is specific to the measurable outcome to be achieved at a specific time. We propose the following Purpose and Need Statement, with foundational issues described in the notes:

Proposed Purpose Statement

Goal: The goal of the proposed actions is to uphold the protection requirements of the RCNCA and Endangered Species Act (ESA) while accommodating as much as possible the transportation requirements of Washington County. Those requirements consist of reducing the anticipated future traffic congestion around I-15 exits 8 and 10, improving the efficiency of traffic movement between the east (Hurricane) and west (Ivins/Santa Clara) sides of the metropolitan area and between both the east and west sides and the central employment/shopping/medical/ university district. These two congestion areas are predicted to “fail” (meaning traffic entering the area exceeds traffic exiting the area) in the future.

Note: This goal statement is insufficient in that the data specifying the degree of failure (time, duration, frequency) and date at which these failures are predicted to begin, has not yet been publicly disclosed by the applicant.

Objective: TBD

Note: It is not possible to propose the objective(s) for the same reason as stated above, however a proper statement would specify the traffic flow rates and times that are judged acceptable/unacceptable, and why.

Proposed Need Statement: TBD

Note: We cannot propose Need Statement since that information has also not been made publicly available, but such a statement must describe the basis for the data used to define the goals and objectives in the Purpose Statement, the point at

¹⁰¹UDOT Guidance on “Purpose and Need” Statements

<https://www.udot.utah.gov/main/uconowner.gf?n=200407061451441>

⁶⁶ BLM NEPA Handbook section 6.2.1

⁶⁷ 40 CFR 1502.13

⁶⁸ BLM NEPA Handbook section 6.2.1

which congestion causes too much burden on the local economy, the basis for that judgment in comparison with other metropolitan areas, and the degree to which this failure must be alleviated and why. Probabilities/accuracies in data projections must be addressed.

Request for Correction of NOI Deficiencies:

- 3- Purpose Statement:** Properly define the goal and objectives to state in the appropriate specificity the anticipated condition, why it is unacceptable, what would be acceptable, and why.
- 3- Need Statement:** Properly define the need to provide data to support the purpose statement, along with estimated degrees of accuracy in the data.

3.2.3 Suppression of Public Engagement

This project is very complex and is one of the two most controversial, expensive and impactful environmental proposals in Washington County over the past 25 years or more, proposals for which government officials and agencies have refused information and requests for public engagement in discussions of alternatives. The proposal for the NCH It has failed in multiple other attempts due in large part to citizen objection. Scoping is extremely important in determining the analyses and facts that will be considered during the decision process. To rush this step of the process with a 30-day period, during the holiday season, concurrent with the other highly controversial project (the Lake Powell Pipeline NEPA scoping comment period), is an abuse of power by the Department of Interior's and the Bureaus of Land Management and Reclamation, and clearly intended to suppress public engagement. The NEPA process, which is subsidized with taxpayer money, should be fair, unbiased and free from predetermined outcomes associated with an overly narrow Purpose and Need statement

Request for Correction of NOI Deficiencies:

- 3- Scoping Comment Period Extension:** Set in place plans that encourage public engagement, a tenant core to the NEPA process, rather than suppressing it.
- 3- Unsubstantial Scoping Comment:** A comment need not be substantive to trigger the agency's response requirement. Given the limited scoping period provided for these three complex issues, citizen comments even those considered "unsubstantial" should receive respectful consideration.

Request for Correction to NOI Deficiencies:

- 3- NOI Reissuance and Scoping Comment Period Re-start:** Due to the above-mentioned deficiencies, we request a reissuance of the NOI to address the deficiencies and a re-start, with a 90-day period, of the public scoping comment period in order to better ensure enough information to properly engage.

4. Proposed Northern Corridor Highway

4.1 Introduction

This section addresses the Proposed Northern Corridor Highway, including the Right-of-Way (NCH ROW) and related impacts to the Red Cliffs National Conservation Area Resource Management Plan (RCNCA RMP), including [NOI actions 1 and 2](#), considering related action 1 (The ROW is required through the entire ~4.5-mile proposed roadway, as described in [3.3 Notice of Intent Deficiencies](#). The entire route is within lands governed by the provisions of the Habitat Conservation Plan and NCA.

4.2 Right of Way Avoidance Area

BLM is required to manage the Red Cliffs NCA as a ROW exclusion and avoidance areas, with fully 38,472 acres managed to exclude all future ROWs and 6,367 managed to avoid future ROWs. In avoidance areas, BLM may permit future ROWs in very limited circumstances, only after undertaking the following analysis:

- a) consider options for routing or siting the ROW outside of the NCA;
- b) ensure consistency of the ROW with the established purpose of the NCA, as identified in OPLMA; (emphasis added)
- c) ensure that new ROWs share, parallel, or adjoin existing ROWs;
- d) apply special stipulations and mitigation measures within avoidance areas consistent with VRM objectives and the purpose of the NCA;
- e) authorize new ROWs only when the project specific NEPA analysis indicates that the construction and operation of the facility would not result in the take of federally-listed species; the adverse modification of designated critical habitats; or adverse effects to NRHP-listed or eligible properties, and the following criteria are met:
 - 1) construction could be accomplished through methods that minimize new surface disturbances and resource impacts;
 - 2) new ROW access roads would not be required for construction, operation, and maintenance;
 - 3) existing ROW access roads would not be permanently widened or upgraded for construction, operation, and maintenance; temporary enlargements or modifications to existing access routes needed during construction would be rehabilitated immediately after construction is completed; and
 - 4) construction, operations, and maintenance would not require off-road travel by motorized vehicles.

Request for Inclusion in DEIS Scope:

- 4- Alternatives outside the NCA:** Consider options for routing or siting the NCH ROW outside of the NCA
- 4- ROW Consistency with NCA:** Ensure consistency of the NCH ROW with the established purposes of the NCA, as identified in OPLMA. Disclose the impacts the NCH ROW would have on the special status species and 9 resource values protected inside the NCA.
- 4- NCH Mitigation Measures:** Describe the NCH mitigation measures that would be used within the avoidance area consistent with VRM objectives and the purpose of the NCA

- 4- “Take” Disclosure:** Disclose the full amount of Mojave desert tortoise take (direct, indirect, cumulative and residual) that would be caused by the construction and operation of the NCH (independent from Zone 6 mitigation calculations)
- 4- Critical Habitat Modification Disclosure:** Disclose the full amount (acreage) of adverse modification of designated critical habitats for the threatened Mojave desert tortoise
- 4- Construction Methods Description:** Describe the construction methods and how they will minimize new surface disturbances and resource impacts
- 4- Construction Plan Description:** Describe a plan for constructing the highway that abides by the guideline requiring that new ROW access roads would not be required for construction, operation, and maintenance (of the NCH)
- 4- Existing ROW Constraints Description:** Describe a plan for ensuring that existing ROW access roads would not be permanently widened or upgraded for construction, operation, and maintenance
- 4- Construction Staging:** Disclose the exact number of temporary enlargements or modifications to existing access routes needed during construction AND the plan for rehabilitation after construction is completed
- 4- Constraints on Off-Road Travel:** Describe a plan for ensuring that construction, operations, and maintenance would not require off-road travel by motorized vehicles.
- 4- Construction Supervision:** Describe a plan for supervision of construction activities in critical tortoise habitat

4.3 Analyze Entire Washington Parkway Proposal as a Single Entity

As we have noted repeatedly, the Washington Parkway, as it is proposed in its final state, would be composed of 3 segments:

- Segment 1: the existing roadway connecting Telegraph Road in Washington City to I-15 at exit 13.
- Segment 2: extending segment 1 through private/state land to the NW corner of the Green Springs Neighborhood, the roadway about to begin construction.
- Segment 3: extending from the NW end of segment 2 via the Northern Corridor right-of-way in the RCNCA/DR to an intersection with the western portion of Red Hills Parkway)

We hereby repeat our request that BLM undertake an integrated analysis of the direct, indirect and cumulative impacts of these three segments.



Washington Parkway Extension (WPE) Segment 2, was, in our opinion, erroneously approved for construction via a Categorical Exclusion (CE), which is defined as a class of actions which either individually or cumulatively would not have a significant effect on the human environment and therefore would not require preparation of an environmental assessment or environmental impact statement under the National Environmental Policy Act (NEPA). See Appendix K Impermissible NEPA Segmentation. This segment 2 has been in the Dixie Metropolitan Planning Organization’s transportation plan for many years as an explicit part of the NCH, and also in the Washington City Transportation Master Plan as an explicit part of the NCH. The Washington City Transportation Master Plan shows the WPE maxing out at 6 lanes, wide, which makes us question if there are plans to widen the NCH to 6 lanes in the future as well.⁶⁹ While the WPE does have some utility to the Green Springs neighborhood, it is being constructed as an integral, indispensable part of the Northern Corridor concept, and therefore should have been considered as part of this upcoming DEIS.

Request for Inclusion in DEIS Scope:

4- Integrated Analysis of the NCH’s segments 2 and 3

4.4 NCH in the Travel Management Plan

BLM is required to develop a Travel Management Plan for the RCNCA, but has failed to disclose or discuss in the NOI this seemingly parallel process.

Request for Inclusion in DEIS Scope:

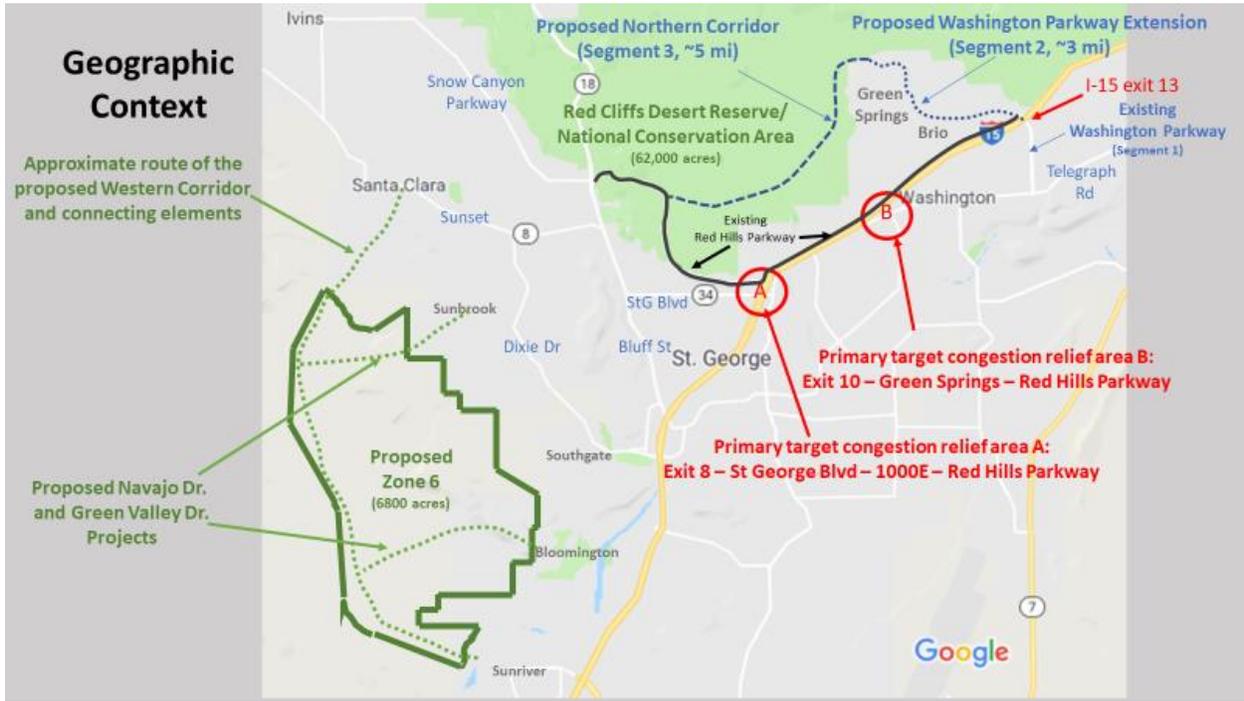
4- TMP-NCH: Include a full and robust discussion of how the TMP and associated NEPA documentation may affect this NCH process.

4.5 The Transportation Model’s Veracity

4.5.1 Northern Corridor Highway Geographic Context

The map below provides the geographic context for the primary projected traffic congestion areas, the Northern Corridor Highway proposed as a solution to the congestion, its proposed Zone 6 mitigation, with the highways planned in that proposed mitigation area.

⁶⁹ Footnote: <https://washingtoncity.org/publicworks/2013TransportationMasterPlan9-26-14web.pdf>

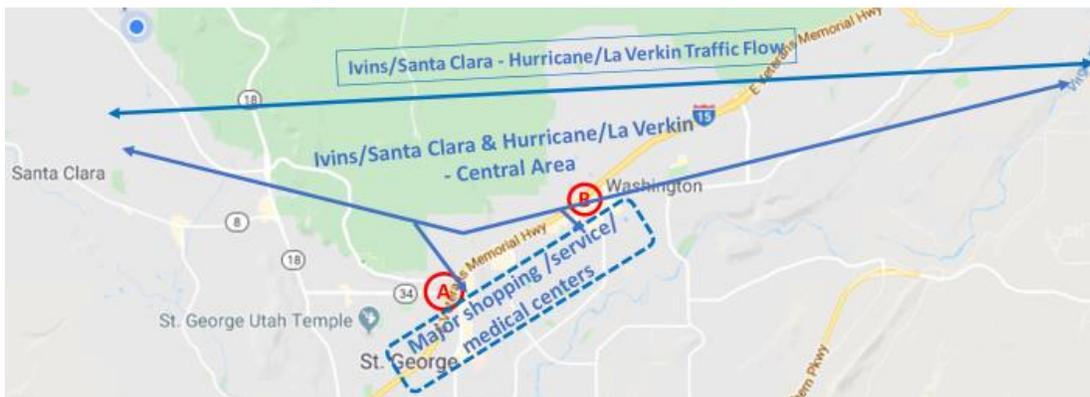


The proposed Northern Corridor Highway (NCH) is roughly parallel to and performs the same function as the existing Red Hills Parkway (RHP).

From I-15 exit 13 to Bluffs/SR18, the NCH would be about 9.5 miles, fairly curvy, with a portion going through neighborhoods. The RHP is roughly 8.3 miles with fewer curves. The NCH would intersect RHP 1.5 miles east of Bluff/SR18. The NCH had no advantage in distance or road speed over the RHP.

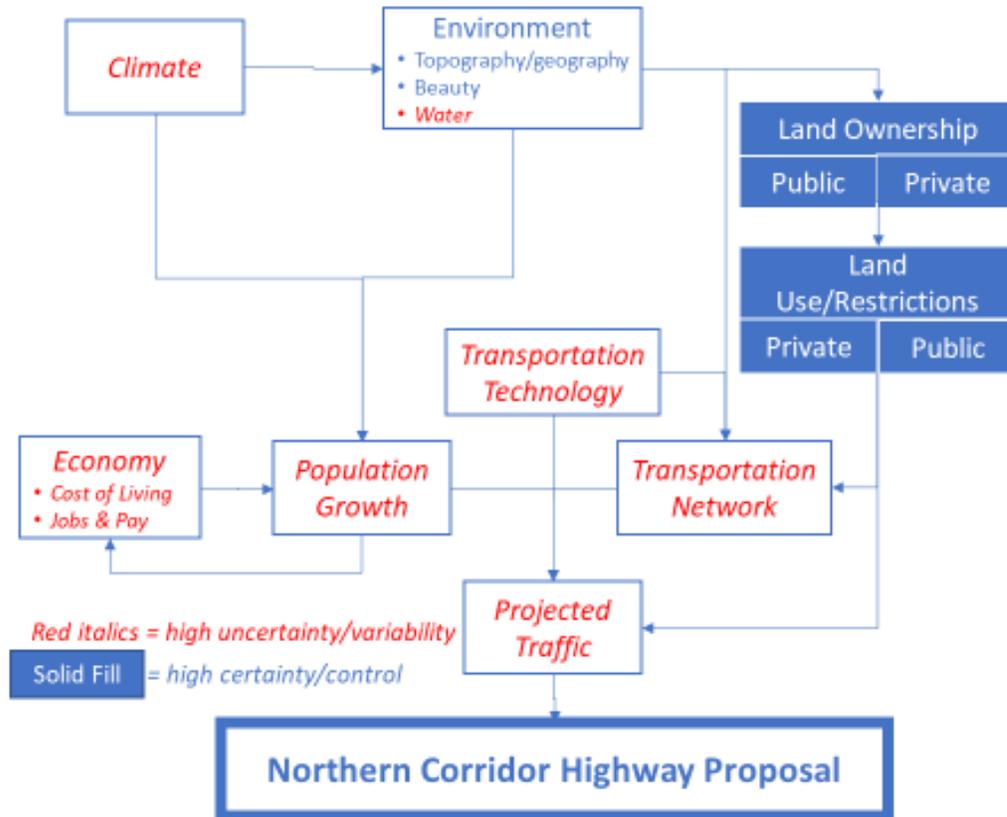
RHP currently has no traffic obstructions for the 3.5 miles between 1000E (congestion area A), save an east-bound light that is rarely red, with speed limits of 40 and 50 mph. The NCH will have slow speed limits through Green Springs, perhaps with a traffic light or stop sign, another traffic light or stop sign at Cottonwood Road at about the halfway point. A traffic light would be added to both roads at their intersection

Finally, Congestion Areas A and B (above) appear to be caused by traffic moving east-west and by traffic moving east-south and west-south, as depicted below.



4.5.2 Context for Derivation of the Northern Corridor Highway Proposal

The figure below describes the context for the NCH proposal. The bottom of the chart states the obvious: that the NCH proposal is derived from a transportation model that indicates projected traffic and congestion points. The applicant states that the NCH is the only solution that will solve the congestion, and makes that statement with a high enough confidence to warrant the expense of the NEPA process at this time. Our contention is that it is not the only solution, that indeed it does not solve the problem, that the conditions upon which the solution is based are highly uncertain, and that such a solution is not needed anytime soon. The following sections will develop this case.



The **projected traffic** upon which the proposed NCP is based is a function of the 4 variables: the **population**, **transportation technology**, the **transportation network**, and the **land use/land use restrictions** that are assumed or anticipated or planned to exist at a certain point in time.

Population growth is highly inter-dependent on the **economy**: the one will follow the other. However, population growth is directly and highly dependent upon the **climate** and the **natural environment**, perhaps more so on the climate and the environment, especially since the climate effects **water** supply and demand. If it weren't for the sunny and relatively moderate climate and for the natural environment with its amazing topography and beauty, and its adequate water supply, this would not be an attractive place to live and the population would not grow. There is, however, a high probability that the climate is changing in a manner that will make this area less desirable in terms of

both temperature and water supply/demand.⁷⁰ This makes projected population growth quite uncertain.

Transportation technology is changing rapidly, from the perspective of fuels, automated driving, and traffic control which will enable faster and more efficient traffic movement. The constraints of high population densities and the limitation of surface roads will generally drive different modes of transportation than the single-occupant vehicles dominating traffic today. It is highly unlikely that the causes of today's traffic congestion will be tomorrow's problem.

The **transportation network**, which today is surface roads, is driven by **transportation technology** (already shown to be highly uncertain), and by **topography** and **land use/restrictions**. **Land use and use restrictions** have two impacts on the transportation network: they define what sort of growth can happen where, which drives where people live, work, shop, etc., as well as where roads may be placed. Private land use/restrictions are much more controllable than public land use/restrictions in that local government has control of them. The EIS reflects local government's position that it would rather try to change public land use/restrictions than private ones, even though it has complete control of private ones, and could solve the perceived problem within its own domain of control, if it wished.

Request for Inclusion in DEIS Scope:

4- Uncertainty: Justify the certain damage to the habitat protected by the JCP and NCA caused by a highway to be built in the distant future having uncertain utility considering the uncertainty of population growth, transportation technology and related network requirements, in light of the ability of local government to significantly impact projected traffic with land use planned to reduce congestion.

4- Land Use: Determine to what degree the projected traffic congestion can be alleviated by changes in land use designations throughout the county. BLM may argue that land use planning and smart growth are outside the scope of this NEPA analysis because BLM has no authority over zoning and land use on private lands. However, the county and other municipalities that sign on and benefit from the HCP do have this zoning and land use authority. We argue that since the county is behind the UDOT NCH ROW application, it would be disingenuous for them to say that its future land use and zoning decisions are not relevant as part of a comprehensive transportation analysis. The county and cities clearly either make traffic congestion better or worse based on their cumulative zoning and land use decisions. For example, the density of different designated zoning districts, and the number of lots approved in subdivision plats, obviously affects the amount of traffic that would be generated at those locations. If the county and cities choose to continue to allow endless sprawl development, should they be rewarded by letting them harm an NCA and threatened species.

4.5.3 Criteria for the Northern Corridor Highway Evaluation

⁷⁰ [Udall Colorado Plateau Climate Change](#), [Davies Colorado Plateau Climate Change](#)

In viewing the simulation of the projected traffic congestion, the difference between the two versions with and without the NCH do not appear to be great. Since all documentation requests about the modeling and simulation have been refused, we have no data about the conditions under which the simulation was executed or the results of the simulation, such as:

- Time: month, day, time
- Land use, and logic driving vehicle trips
- Traffic flow limitations (speeds, distances between vehicles, traffic signal timing, etc.)
- Definition of “failed’ intersections (vehicles entering >vehicles exiting) based on duration of failure and duration of wait
- Planned improvements included/excluded from the model
- Accuracy of traffic modeling

There was also no data presented concerning what results were considered acceptable/unacceptable or the criteria used to make that judgment, or comparisons to other cities. It’s possible that worst conditions were chosen for critical parameters, giving the simulation a worst case rather than an average case condition. Traffic models have been shown to have a 10-20% error, generally erring on the side of higher congestion, when compared to actual future traffic.⁷¹ State-of-the-Art data gathering methods should be used in gathering input data for modeling.⁷²

Request for Inclusion in DEIS Scope:

- 4- NCH Evaluation 1:** Determine reasonableness and accuracy of the data basis for the traffic modeling/simulation used to determine the value of the NCH.
- 4- NCH Evaluation 2:** Verify the criteria and data used to determine the acceptability/unacceptability of congestion areas/intersections, including comparisons to other cities with similar congestion.
- 4- NCH Evaluation 3:** Verify the economic impact of potential future congestion with and without the NCH.

4.5.4 Implications to the NCA’s Private In-holdings

The proposed NCH ROW is near or through private inholdings in the NCA that have not yet been purchased or traded. It is unclear if these in-holdings could be developed and if so under what conditions. Since the initiation of this EIS process demonstrates that our county government does not consider itself bound by prior agreements to protect sensitive habitat for the long-term within the NCA in exchange for immediate relief in developing on private property throughout the county, there can be little trust placed in an agreement about these private in-holdings, or for that matter, about the development of BLM land within the NCA.

Request for Inclusion in DEIS Scope:

- 4- Private Inholding Status:** Determine the conditions under which the private in-holdings within the RCNCA could be developed and establish a binding agreement to prevent development from occurring in a federally-designated NCA or in critical habitat managed under the provisions of an HCP. Absent acquisition or exchange at fair market value, these inholding

⁷¹ <https://www.ssti.us/2019/12/how-reliable-are-traffic-forecasts/>

⁷² <https://www.ssti.us/2018/02/big-data-enables-new-tool-for-analyzing-and-diagnosing-traffic-congestion/>

owners likely always could pursue Fifth Amendment “takings” claims with the U.S. Court of Claims, arguing that the surrounding NCA or HCP prevents all reasonable uses or development of their land.

4.5.5 Limitations of the DMPO Transportation Demand Modeling

Having reviewed and formally commented on the Dixie Metropolitan Planning Organization (DMPO) 2019-2050 Regional Transportation Plan (RTP), we believe that it has one predominant limitation.⁷³ In short, the conclusions drawn from the RTP to justify building the proposed NCH/Washington Parkway through the Red Cliffs National Conservation Area (RCNCA) are not adequate for the purposes of NEPA. Based on our review of the RTP we believe that it cannot be used to form a valid comparison between a future transportation plan that includes the proposed Northern Corridor Highway in the RCNCA and one which does not.

If UDOT intends to use the future-year modeling scenarios presented in the RTP for the quantitative analysis needed to determine the necessity of building the proposed highway, we contend that the analysis will be flawed for the following reason: The transportation demand modeling that was done for the 2019-2050 RTP did not actually model a scenario where major improvements to the transportation network were included *without* the inclusion of the new highway segment through the RCNCA.

We believe that it is the BLM’s responsibility to require that an additional future-year scenario be developed and modeled so that the DEIS can evaluate at least three future transportation scenarios; a Build, a No-Build and a No-Action Alternative. The 2019-2050 RTP, in effect, only evaluates two of those alternatives: Build and No-Action. The RTP has a “2050 Build” scenario which models a transportation system in 2050 with investments of two billion dollars being made over a thirty-year period. Of that \$2 Billion, \$150 Million is included for the NCH/Washington Parkway in the RCNCA.

The RTP “2050 No-Build” scenario is actually a “No-Action” scenario because over that same thirty-year time horizon no investment whatsoever is made in the transportation network. Comparisons of congestion are then made between a system with two billion dollars of investment and one with no investment whatsoever. What is needed for a true comparison of transportation system performance is a third scenario: A ‘2050 No-Northern Corridor Highway’ alternative. We think it is possible that a range of other network improvements which do not include a new highway through the RCNCA would be preferable to the current UDOT proposal.

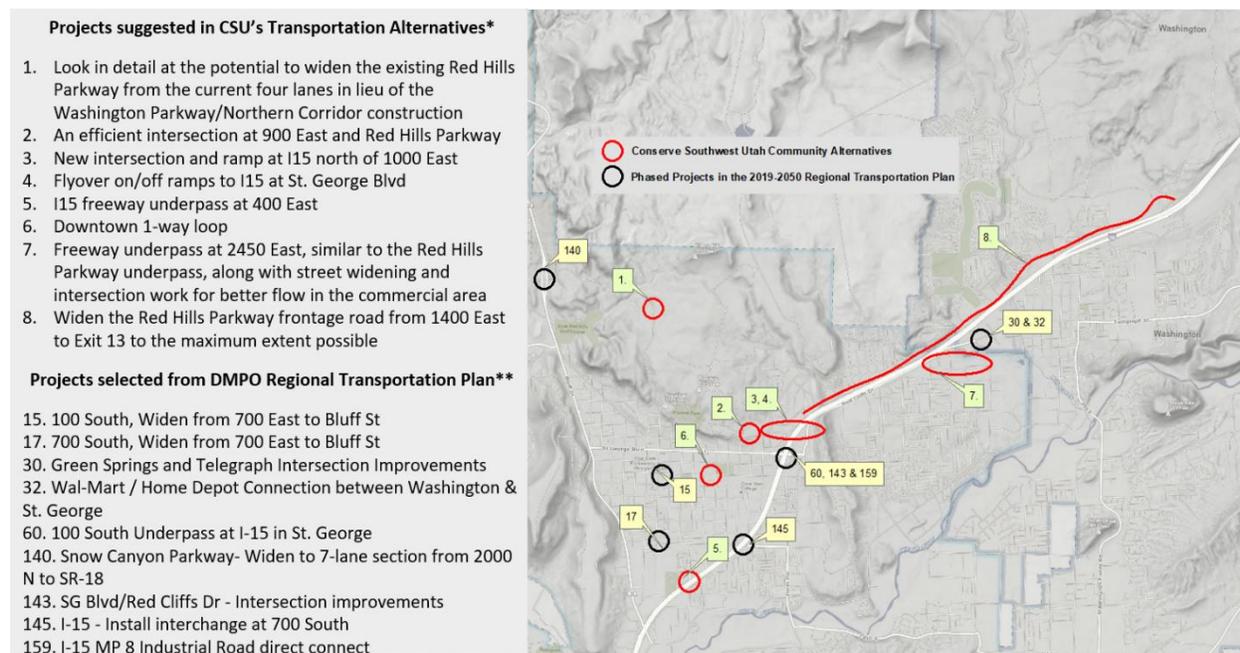
In discussions between CSU and DMPO over a period of several years, we have sought to understand their concerns for a transportation future that includes strong population and economic growth. As a result of those discussions, CSU has developed a package of possible transportation alternatives in an attempt to address the DMPO’s top concerns. They have been conveyed to DMPO through a number of forums and we included a short discussion of them in our formal comments on the draft 2019-2050 RTP. A full discussion of those alternatives can be found in the Community Alternatives section of these scoping comments.

⁷³ <https://conserveswu.org/wp-content/uploads/DMPO-comments-RTP-1.pdf>

Our proposals attempt to:

1. Strike a balance between the need to move people and respect for the environment.
2. Abide by and honor the existing HCP agreement and 2009 legislation that protect tortoise habitat and open space in the NCA.
3. Seek to encourage a long-term plan that is based on the Vision Dixie Smart Growth Principals through new and innovative transit and multi-model projects and to encourage elements of urban development that goes hand in hand with mobility options other than the automobile.

The figure below presents an example of how UDOT and its modeling contractor could begin to scope out a third scenario, as described above, for modeling. Including this new scenario would allow UDOT to provide BLM and the public with a quantitative comparison between a plan that includes a new section of highway through the RCNCA and one that does not. Figure 2 shows a general overview of the CSU Community Alternative proposals for a range of transit projects that could also be part of a new ‘2050 No-Washington Parkway/Northern Corridor’ modeling scenario.



Example Approach to Create a Comprehensive New Set of Inputs for the Transportation Demand Model⁷⁴

Request for Inclusion in DEIS Scope:

- 4- Transportation Modeling Deficiencies:** Determine and correct deficiencies in the transportation modeling used by UDOT and the Dixie MPO to define the NCH's purported need, and develop and apply a "No Build" alternative for modeling in the DEIS to provide an objective comparison

4.5.6 Lack of Vision

⁷⁴ <https://dixiempo.files.wordpress.com/2019/06/dixie-mpo-lrp-c-list.pdf>

The proponents of the NCH have not provided a vision of growth and supporting transportation infrastructure for the county. There appears to have been no consultation with experts in this area, instead relying on those who plan, design and build roads. To those focused on roads as a solution, roads are the only solution considered. The Vision Dixie principles are widely supported by the citizens of the county but only get lip service from the political leadership, with no implementation planning for it. Due diligence has not been applied in the case of the NCH in that a contextual vision has not been established and its implementation planned. They are professional organizations such as the [State Smart Transportation Initiative](#)⁷⁵ that should be investigated and consulted for this visioning and planning. Most of the county's elected officials and planners have not been exposed to the problems and solutions of fast growth, and they are leading more by intuition and parochial perspective than by knowledge and experience.

Research has shown that at some point more roads are not the answer.⁷⁶ Those of us who have lived in large, growing cities have experienced this effect. Many of the leaders in these cities are recognizing this fact⁷⁷, but not yet in Washington County.

⁷⁵ <https://www.ssti.us/about-ssti/>

⁷⁶ <https://www.ssti.us/2019/09/more-highways-more-congestion/>

⁷⁷ <https://www.ssti.us/2019/08/new-mindset-needed-to-address-congestion-says-massdot/>

4.6 NCH Alternatives Outside the RCNCA/DR

4.6.1 Summary of the Issue

As described above, the applicant included only two alternatives in its consideration of the NCH:

1. All of the proposed projects identified in the [Regional Transportation Plan](#)
2. None of them

This does not represent an appropriate or reasonable range of alternatives.

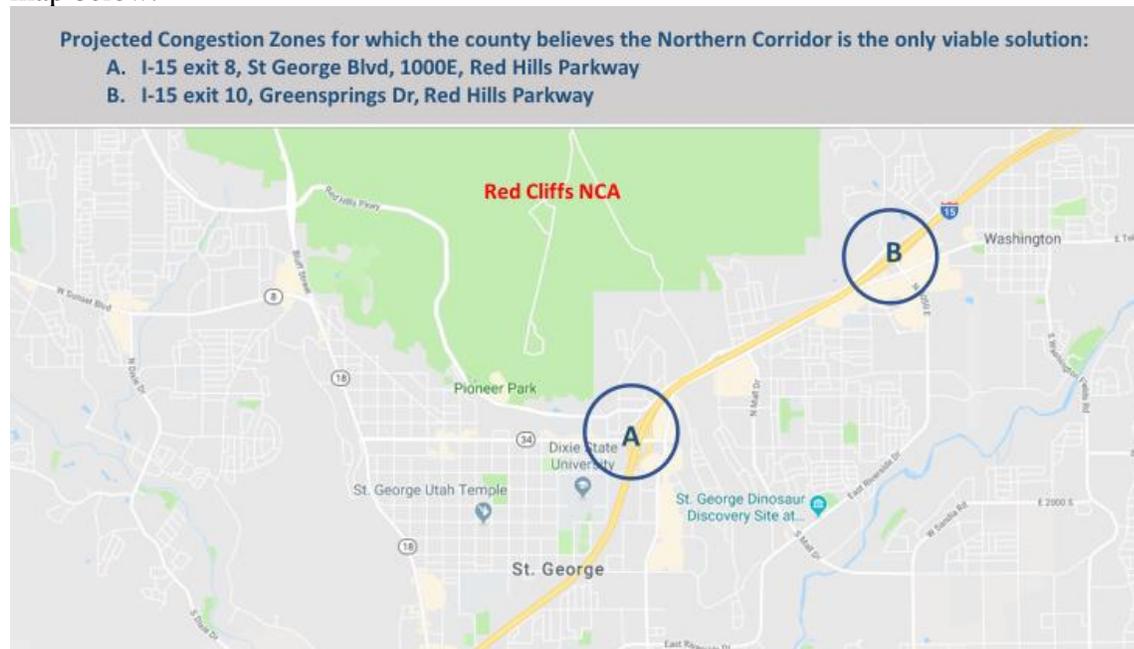
Request for Inclusion in DEIS Scope:

4- NCH Alternatives Analysis: The EIS should analyze two additional sets of alternatives:

1. All of the proposed projects minus the Northern Corridor
2. All of the proposed projects minus the Northern Corridor plus the set of Community Alternatives, singly and in multiple combinations

4.6.2 The Community Alternatives

There are several alternatives to the Northern Corridor Highway that would reduce the projected traffic congestion. There are two primary projected zones as depicted in the map below.



Projected congestion in these two zones is suggested by the applicant to be caused by traffic attempting movement in these two scenarios:

1. East-west along the northern side of the metropolitan area
2. East and the west heading south into the center of town.

This makes sense as there are few ways to get over/under I-15 to access the main center for jobs, businesses, shopping and services south of I-15. As shown in the maps and indicated in the descriptions in [4.3 Verify the Transportation Model's Conclusions](#), Red Hills Parkway, the existing highway through the NCA's prime habitat, is the shortest and most economical route to perform these functions. We propose a set of solutions

improving this existing highway and other roadways as the most effective and efficient solutions to the projected congestion.

Alternative 1: Red Hills Parkway – I-15 Viaduct/Flyover Connection

This alternative scenario 1 by connecting Red Hills Parkway north-bound directly to I-15 north-bound, and I-15 south-bound directly to Red Hills Parkway south-bound, enabling very efficient movement of east-west traffic. There are two options:

Option 1: a classic flyover viaduct, shooting over/adjacent to businesses south of Red Hills Parkway between N100E and I-15. This would disturb or cause relocation of a small number of businesses.



Option 2: a viaduct over the existing Red Hills Parkway and a shorter flyover causing less business disturbance or relocation.



Alternative 2: Improvements to Red Hills Parkway between I-15 exits 8 and 13

This alternative addresses both scenarios by widening and straightening the road throughout its length, adding traffic circles at busy intersections and eventually improving throughput with flyovers/tunnels to ease left and right turns.

Red Hills Parkway (known as Buena Vista on the northern end) essentially parallels the proposed Northern Corridor Highway. Maximization of its throughput would minimize or eliminate the need for the Northern Corridor. Such an action has been made more difficult by the lack of planning for traffic caused by sprawling development, but limiting side-road access and maximizing the utility of major intersections would allow this road to perform the function of the Northern Corridor.



Alternative 3: More Porous I-15 to Move Traffic North-South Around Congestion Areas

This alternative addresses both scenarios by removing traffic intending southward movement to the other side of I-15 from the main congestion areas. Much of the congestion around Areas A and B is due to traffic being forced through them in order to transit north and south across I-15, causing unnecessary chock points at the congested intersections. By allowing one or more optional avenues for north-south traffic, congestion would be relieved.



Alternative 5: Implement/Plan for Technological Improvements

Automated Traffic Control is a fast-improving technology increasing the efficiency of traffic movement and reducing traffic congestion through an integrated set of traffic sensors, traffic signal controllers and computing capability. Current traffic control in the Greater St George metropolitan area appears to use little of this technology, as evidenced by poorly timed traffic signals and poor traffic movement through main arterial routes. The potential of self-driving vehicles over the next 20-40 years could also have a major impact on traffic flow by enabling speed and distance-between-vehicle controls. The use of these technologies should be considered in projecting traffic flow. Tunnels under traffic congestion zones are being implemented in many cities and boring/tunneling technology advances.

Request for Inclusion in EIS Scope:

4- Technological Improvements: Determine the degree to which anticipated technological improvements could improve traffic flow..

Alternative 6: Implement Congestion Reduction Land Use Principles (Vision Dixie)

In a reaction to the proposed 2006 Washington County Lands Bill sponsored by the county and Utah’s congressional delegation that would have forced the construction of the Northern Corridor Highway, the citizens of the county lodged a protest that resulted in not only the 2009 Omnibus Public Lands Bill that established additional protections against the highway, but also a growth and traffic planning process named [Vision Dixie](#). The outcome of this Vision Dixie process was a set of principles to guide future land use decision-making in Washington County. These principles included protecting public lands, concentrating growth to avoid sprawl, and addressing transportation planning integrally with growth planning. Vision Dixie demonstrated a disconnect between the citizens and their elected representatives concerning growth, traffic planning, and protection of our public lands. The disconnect has become further demonstrated by the lack of implementation planning by our county and municipal governments. Growth has

sprawled, transportation corridors have not been managed, and traffic congestion is resulting. This is a self-inflicted wound. The scope of the DEIS should include alternatives that support the Smart Growth principles committed to in the results of the Vision Dixie process. This would address land use issues that are causing traffic congestion.

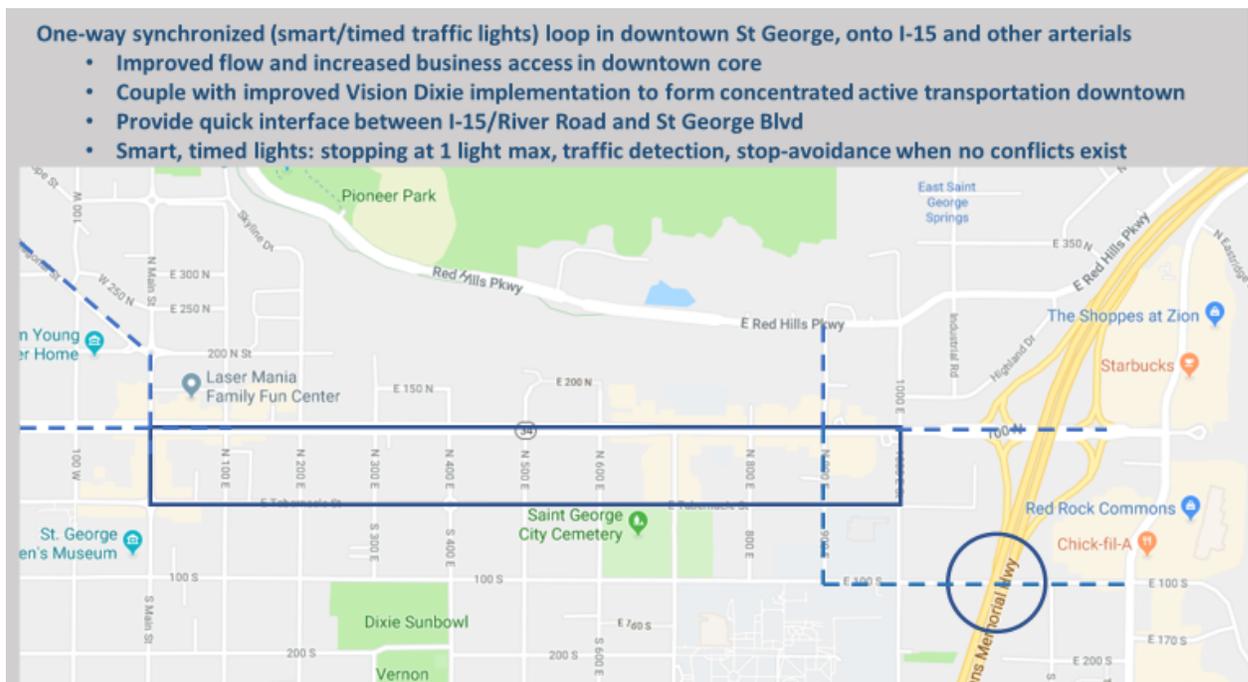
The county and local municipalities should create, review with the public, verify satisfaction of principles, and execute a Vision Dixie Implementation Plan. Such a plan would define a “program” for implementation, describing the strategy and concepts for the implementation, and identifying the projects and their sequencing and budgets for implementation; and then define and execute the specific projects (tasks, schedules, responsibilities, budgets). This could be done for each government or in an integrated, unified way covering the entire county. Such a plan and execution would prevent or at least better manage the growth issues that are exacerbating traffic problems throughout the county.

Request for Inclusion in EIS Scope:

4- Vision Dixie Implementation: Determine the implications of Vision Dixie implementation on projected traffic congestion, including how congestion would be affected with and without the NCH.

Alternative 7: Downtown St George Loop

Vision Dixie principles indicate that growth should be up rather than out, and that a core shopping/business area should be developed in a manner that enable traffic flow and alternative active modes of transportation (e.g., walking, bicycling). Such a core would be facilitated by a “efficient” traffic loop in the downtown area (e.g., timed traffic signals and “free” turning (e.g., flashing yellow left turns rather than left turns only allowed on green arrow lights)), with efficient entrance/exit points to/from adjacent arterials and shopping/service/medical centers. See the map below for the concept.



Further components of a transportation plan grounded in Vision Dixie Smart Growth principles might include reimagining the Downtown St. George - Arts & Entertainment District. The City View and Joule Plaza mixed use developments have changed the face of downtown St. George. Similar projects with higher densities on smaller footprints are likely to become a trend as the center of the city redevelops. Properties east of 200 East and north of St. George Boulevard are prime candidates for this type of mid-rise mixed-use redevelopment. Imagine a vibrant, walkable arts and entertainment district anchored by a performance hall located at the north end of 400 East. Circulator trolleys carry people between downtown and the Dixie Center via Main Street to 200 North with an extension to 300 East. The loop continues south on 400 East, over or under I-15, to connect with Riverside Drive, returning to the hotels near the Dixie Center via 270 East. Large downtown day-use parking lots near the circulator route are now park and ride lots for arts patrons going to the performance hall, thus minimizing the need for parking in the arts and entertainment district.

Alternative 8: Address Moving People rather than Vehicles

Enable workable transit options within and across the metro area such as

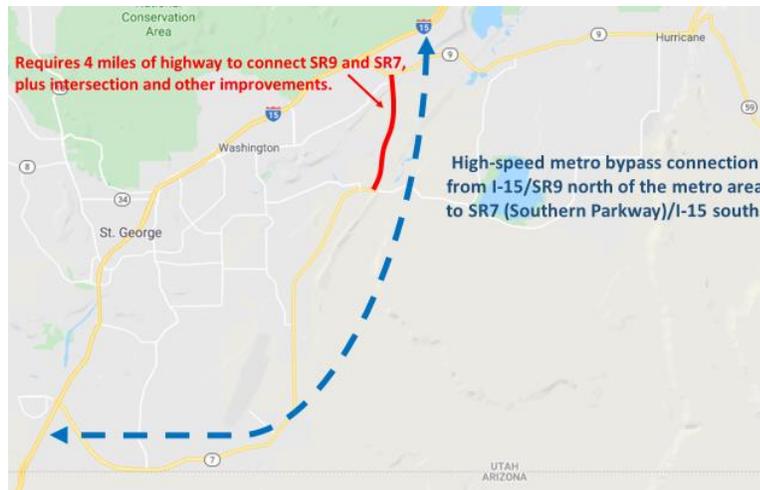
- East-West transit routes between Ivins/Santa Clara and Hurricane/Laverkin
 - Tourist routes between lodging and major attractions (e.g., Zion NP, Snow Canyon SP, Red Cliffs NCA)
 - Integrated mass transit planning to consider long-term options such as light rail
 - Consider long-term improved transit flows with dedicated lanes.
 - Walkable/bikeable city
 - Circulator Trollies for major shopping and employment centers
- Imagine an east-west circulator trolley loop connecting the downtown circulator with the DSU campus, the DRMC campus and shopping at the Zion Outlet stores and the Red Hills Mall. Suntran bus service will be expanded to serve all St. George Neighborhoods and give K-12 students an option for riding to school with free or reduced fare passes if they live too close to ride school buses. All Suntran stops will have shade, seating, trash receptacles, and regular maintenance to keep them appealing. Major institutions and businesses will follow DSU's lead with student transit passes and provide free or reduced fare passes to employees who ride the bus or participate in vanpools. DSU campus shuttles running between the main campus and the Taylor Health Science Building will reduce the need for student parking on Medical Center Drive when the Taylor Building lot is full. This will minimize the potential for crashes posed by parked cars blocking the view of drivers exiting DRMC parking lots.

Request for Inclusion in DEIS Scope:

4- Moving People: Determine the degree to which traffic congestion could be eased by appropriately timed and planned implementation of alternatives to cars. This is coupled with Vision Dixie land use changes.

Alternative 9: Long-term Thru-Traffic St George Bypass

There is considerable I-15 traffic moving from Salt Lake City and points north and east to Las Vegas and points south and west. This traffic adds to the overall congestion in the metropolitan area and to air, noise, invasive species pollution.



It is a common practice of major cities to have a bypass freeway. The Southern Parkway was conceived in part to serve this purpose.

Request for Inclusion in DEIS Scope:

4- Re-routing I-15 Thru Traffic: Determine the degree to which traffic congestion could be eased by re-routing a portion of north-south traffic from I-15 to the Southern Parkway.

Alternative 10: Industrial Park Reuse

Movement of the Industrial Park to a better location would reduce traffic, including pile ups caused by trucks, at Exits 8 and 10. The current location of the industrial park at the east end of St. George Boulevard made sense when Highway 91 was the main route between Salt Lake City and Southern California. Industrial and distribution uses at this location are increasingly incompatible with the burgeoning residential and commercial development on Cottonwood Springs Road and Red Hills Parkway near Middleton. Incentives could be given for industrial and distribution businesses to relocate to more appropriate locations such as the Fort Pierce Industrial Park or near Desert Color where they would have access to I-15 from the Southern Parkway rather than contributing to downtown traffic congestion. Part of the former industrial park could provide space for expansion of the landlocked DSU campus and more student housing, with campus shuttle service between the proposed DSU north campus, the main campus, and the Health Sciences building. St. George City could use a portion of the former industrial site to expand its Public Works yards to the east with an interior road linking the existing yards to the new ones.

Request for Inclusion in DEIS Scope:

4- Industrial Park Reuse: Determine the degree to which traffic congestion could be eased by re-routing traffic associated with the industrial park to a more fortuitous location.

4.7 NCH Impacts on the RCNCA/DR

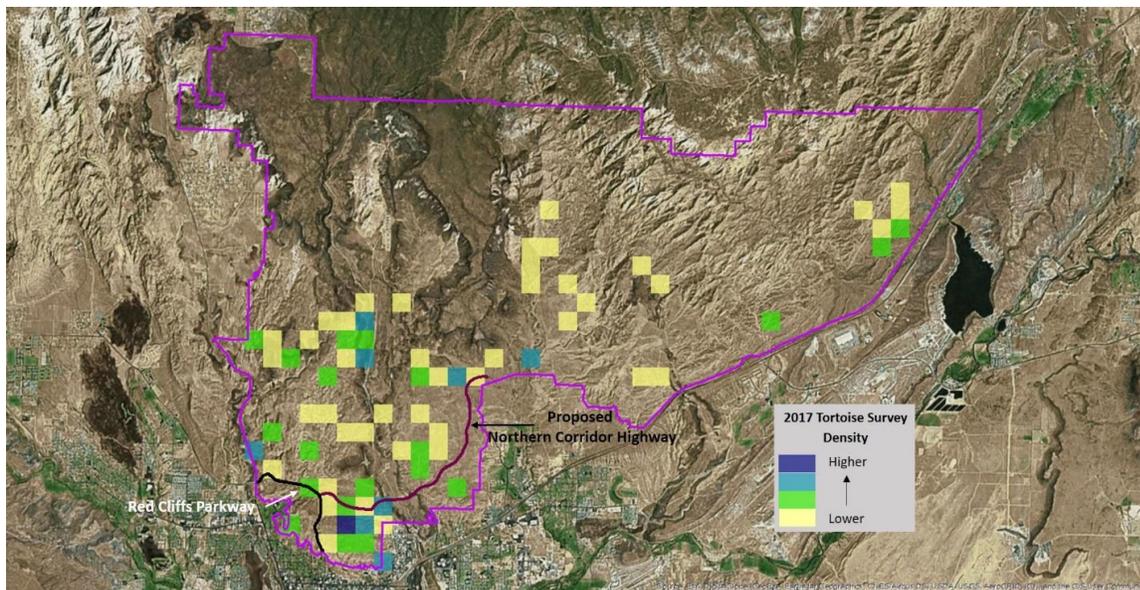
4.7.1 Impacts to Tortoise and Critical Habitat

The proposal to construct the Northern Corridor Highway in the southwest portion of management in the Red Cliffs National Conservation Area (RCNCA)/Desert Reserve (RCDR) raises significant questions about the effect of the highway on the desert tortoise population. BLM and FWS must use best available data to objectively analyze the impacts of the highway to desert tortoise and disclose the impacts in the Draft Environmental Impact Statement.

4.7.1.1 Desert Tortoise Data and Analysis

The BLM must use the best available science – including monitoring data and habitat models - to evaluate the impacts of the alternatives on the desert tortoise. In doing so, the BLM must evaluate direct, indirect, and cumulative effects. A closer look at publicly available data, as outlined in this section, raises questions about the proposed highway that should be answered by wildlife biologists at the FWS and BLM before proceeding with the request by the Utah Department of Transportation.

The 62,000 RCNCA/RCDR is made up of 5 management Zones. At over 39,000 acres, Zone 3 makes up the largest portion and, as one might expect, is home to the majority of tortoises counted during the biannual surveys done by the Utah Division of Wildlife Resources (UDWR)⁷⁸. The figure below shows a generalized view of the tortoise population in Zone 3 based on the latest data available. The data for the figure was provided to CSU by UDWR through a Government Records Access and Management Act (GRAMA) request.



Relative density map created by the author

See the Data Mapping section for a discussion of the methodology and its limitations.

⁷⁸ McLuckie, et al. 2013. p. 28. Table 6

In addition to this occurrence data, the BLM should consider the data and analysis offered in a 2019 study published by the Defenders of Wildlife entitled “[Protecting the Mojave Desert Tortoise: A Model Approach -- New habitat, connectivity and disturbance models for conserving a threatened species.](https://defenders.org/sites/default/files/2019-11/Desert-Tortoise-Report.pdf)” Attached as Appendix F and available at <https://defenders.org/sites/default/files/2019-11/Desert-Tortoise-Report.pdf>. This study is the most detailed analysis of desert tortoise habitat suitability and connectivity available to date. You can download the GIS data related to the study as follows:

- Mojave desert tortoise full habitat suitability model (range-wide) data download: <https://osf.io/vmhuf/download>
- Mojave desert tortoise threshold habitat suitability model (range-wide) data download: <https://osf.io/37pvf/download>
- Mojave desert tortoise connectivity model (range-wide) data download: <https://osf.io/64nxz/download>

We ask the BLM and FWS to incorporate the study’s approaches and findings into the Draft Environmental Impact Study for this project. In particular, see the section of the report starting on page 16 that describes how the data can be utilized in decision-making. The study’s findings can be used to quantify the relative value of desert tortoise habitat in lands (including effect zones) proposed for development and those proposed for mitigation.

Request for Inclusion in DEIS Scope:

4- Impact Analysis and Use of best available science: The BLM and USFWS must use the best available science when analyzing direct, indirect, cumulative and residual impacts to the threatened Mojave desert tortoise.

4- Habitat Fragmentation: The USFWS must look specifically at questions that concern the cumulative effects of habitat fragmentation from constructing the NCH. In addition, the BLM needs to address two other questions through this same lens of habitat fragmentation. The first is to determine whether a trade of acreage on the opposite side of St George, the proposed Zone 6, will actually mitigate the effects of the NCH on the tortoise population in Zone 3. Second is whether the County and UDOT have sufficiently analyzed the available transportation alternatives that might remove the need to build a new highway through the RCNCA. We recommend a range of alternative projects (see [4.7 NCH Alternative Road - Improvements Outside the RCNCA/Reserve](#)) that might, in conjunction with UDOT’s own transportation engineering expertise, provide such an alternative.

4- Current Modeling Data and Analysis: Incorporate the Defenders of Wildlife study’s applications and findings into the Draft Environmental Impact Statement and utilize the information in the analysis of the environmental impact of the alternatives.

4.7.1.2 The “Road-Effect” Zone

Scientific studies suggest that indirect impacts associated with highways may extend from 400 meters⁷⁹ to 4,250 meters either side of the highway.⁸⁰ BLM and FWS NEPA documents must fully disclose direct, indirect, cumulative and residual vehicle impacts associated with roads and particularly highways. We expect that the literature given in Appendices A-E will be included and specifically considered in the NEPA analysis.

Between 1998 and 2003 there was a 41% reduction in tortoise numbers within the Reserve⁸¹ largely due to fire; depredation by common ravens is increasing within the Reserve; there are problem areas associated with infestations of non-native plants; and there have been recent documented cases of poaching within the Reserve. And, importantly, these impacts have occurred in spite of reserve-level management by the BLM and Washington County. We know that 14,624 acres of habitats have recently burned on the Reserve, including 25 percent of the tortoise critical habitat therein⁸². Raven depredation, introducing weed species, poaching, and wildfire are indirect impacts that are likely to increase in response to NCH construction, and must be analyzed and mitigations identified in NEPA documents.

Request for Inclusion in DEIS:

4- Road Effect: BLM’s DEIS must fully disclose the direct, indirect and cumulative impacts of construction and siting of the NCH, together with the overlapping impacts of wildfires, on known tortoise densities. Please superimpose the location of the proposed NCH relative to the wildfire footprint, existing tortoise densities, habitats to the north that are not deemed suitable for tortoises, etc. so that we can see the full extent and juxtaposition of the proposed NCH to these sustained and impacted tortoise densities.

There have been many studies looking at how the construction of new roadways effects wildlife, including the threatened Mojave desert tortoise. The Desert Tortoise Council, in written testimony to Clark County, Nevada, lists 20 citations dating back to the early 1990’s on these effects⁸³. The Desert Tortoise Annotated Bibliography published by the USGS⁸⁴ briefly summarizes some of these studies specifically in relation to the desert tortoise. Estimates of the effects on tortoise populations may extend out 2.2 miles from the roadway⁸⁵. Potential effects on the tortoise would likely decrease with distance from the road as indicated in one study that looked for such effects based on distance⁸⁶.

⁷⁹ Boarman and Sazaki, 2006

⁸⁰ von Seckendorff Hoff and Marlow 2002

⁸¹ McLuckie et al. 2012

⁸² McLuckie et al. 2012

⁸³ Clark County Board of Commissioners Resolution... 2019. p.3

⁸⁴ Berry, et al. 2016. pp 209-215

⁸⁵ Board of Commissioners Resolution... 2019

⁸⁶ Boarman and Sazaki, 2006

The tortoise population in Zone 3 has apparently stabilized since 2003; however, their total numbers have declined by about 50% since 1999⁸⁷. Given the geographic location of the RCNCA directly adjacent to the St George city limits on the north and the possible clustering of tortoise population in the southwest sector of Zone 3 a new highway right-of-way would increase pressure on the already stressed desert tortoise population in Zone 3. Even though the testimony to Clark County was in opposition to opening new OHV areas rather than a specific highway corridor, it addresses the potential for unknown and random effects to accumulate when constrained within tight boundaries:

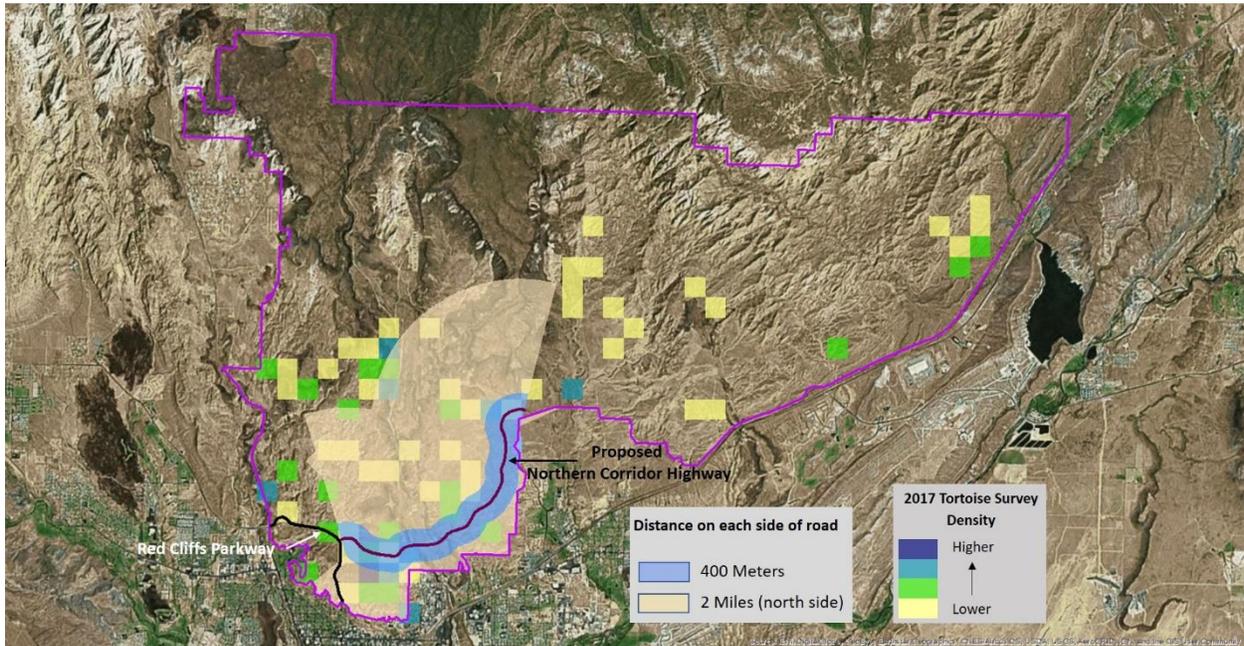
“This last OHV recreation area location would confine the tortoises in the LSTS [large-scale translocation study site] between Interstate 15 to the east, the proposed OHV recreation area to the west, and the Stateline/Primm/solar developments to the south. This confinement means substantially reduced connectivity between the LSTS population and adjacent populations. Given its small size and low density of tortoises because of human development and activities, stochastic events would likely cause this population to be extirpated in the near future.”⁸⁸

The figure below overlays a minimum and maximum Zone-of-effect on the proposed Northern Corridor Highway alignment. Neither of these boundaries should be thought of as bright lines of demarcation. This figure portrays the possibility of ecological damage to habitat and tortoise mortality by the proximity and intersection of the tortoise population with the construction of a new right-of-way. The minimum distance, 400 meters, is selected based on the Boarman and Sasaki study which found a statistical difference in effect at 400 meters from the roadway. The maximum boundary of two miles is based on the written testimony of the Desert Tortoise Council to Clark County, Nevada, mentioned above.

The figure below also illustrates the predicament faced by the Zone 3 tortoise population from confinement between the proposed right-of-way and the southern border of the RCNCA. Given the documented studies that have been undertaken in California and Nevada in the desert tortoises’ range, we think that the same type of analysis needs to be a necessary part of the DEIS.

⁸⁷ McLuckie, et al. 2013. pp 9-10

⁸⁸ Board of Commissioners, 2019.



Generalized buffers

- potential areas of direct and indirect effects from new construction

4.7.1.3 Data Mapping

An Excel workbook with surveyed tortoise locations and ancillary data from 1974 to 2019 was provided to CSU by the Utah Division of Wildlife Resources (UDWR) in response to a GRAMA request.

Using standard GIS techniques, the point-location (UTM) data was processed to transform the individual points into a density surface or map. This was done by overlaying a set of regularly spaced grid cells which are 500 meters on a side (each cell being 500 x 500 meters). The array of grid cells covered the entire RCNCA. By simply counting up the number of surveyed tortoise locations within each grid cell, in a given year, a density of tortoises per grid cell is created.

To ensure that conversion of the spreadsheet data is not misrepresented in the map, a wildlife biologist was asked to review the maps and provide comments. Their feedback suggested that given the limitations of the survey data, tortoise density at a ½ kilometer resolution can only be relative. Reasons for this include; a mix of data sources for the surveys which involve aspects of effort and observation type, as well as different kinds of statistical adjustments necessary in the final data compilation. In other words, as stated in the UDWR study from 2013⁸⁹, the tortoise density of Zone 3 is estimated to be 11.41 tortoises per km² for the *entire* area. However, it is not appropriate to put any kind of numerical values on the derived density maps shown in the figures above.

Finally, the 2017 tortoise survey was used in this case because that is the latest survey year. Density maps were created for each survey done in the RCNA since 1999. The patterns in those maps move around from year to year which is another reason why it is best to think of the densities as relative rather than attach numbered values.

⁸⁹ McLuckie, et al. 2013

4.7.2. General Impacts to Tortoise

4.7.2.1 Direct Impacts

It is our concern that the following impacts will result because of construction of the NCH, and *but for* this construction, the NCA/Reserve would not be subject to elevated levels of these impacts. We ask that the DEIS fully assess the following impacts that would likely result from construction of the NCH:

- a. Direct mortality during and following construction, including entombment and entrapment of tortoises and road kills
- b. Introducing construction activities into a dedicated Reserve area
- c. Creating habitat fragmentation;
- d. Resulting in habitat loss, surface disturbance and direct loss of shelter, breeding and nesting sites
- e. Impairing the efficacy of an already minimally-sized reserve and adversely affecting the tortoise population;
- f. Degrading habitats that would not otherwise be disturbed;
- g. Resulting in the spread of exotic and invasive plant species;
- h. Increasing the risk of fire, which has already decimated tortoise populations in the Reserve;
- i. Increasing the predation of tortoises by common ravens and coyotes;
- j. Possibly promoting disease and impairing tortoise health by introducing chemicals and toxicants associated with vehicles; and
- k. Increasing access to reserve areas that could result in poaching and vandalism of tortoises.

4.7.2.2 Indirect Impacts

BLM and USFWS should evaluate the effects of the following indirect impacts associated with the Northern Corridor Highway and consider whether these indirect impacts would jeopardize the continued survival of the threatened Mojave desert tortoise in Zone 3 and in the larger Red Cliffs Desert Reserve and Upper Virgin River Recovery Unit:

- a. Human access
- b. Garbage and litter
- c. Choking related to ingestion of litter
- d. Ravens, predators and subsidized predator populations via road kills, discarded food items, and above-ground utilities (which may provide raven perch sites)
- e. Increased risk of poaching, harassment, killing
- f. Increased risk of dogs off leash
- g. Catastrophic wildfires caused by introducing vehicle traffic into a dedicated Reserve. Tossing of cigarettes, dragging tow chains, vehicle collisions, etc. should be considered.
- h. Toxicants
- i. Sound and light pollution
- j. Invasive plants and habitat shift
- k. Loss of native plants, including those necessary for maintaining PEP (potassium excretion potential) balance
- l. Fire
- m. Altered hydrology, including but not limited to: changes to stormwater run-off and increased potential for localized flooding of tortoise habitat, drowning of

tortoises in burrows, and/or increased soil erosion that would diminish habitat quality

n. The Road Effect Zone

The indirect impacts of a freeway or highway extend to as much as 4,250 meters on each side⁹⁰. Indirect impacts, when calculated at 4,250 meters on each side of the approximately 5-mile long NCH, would mean that 5,152 acres of critical tortoise habitat would be impacted by the highway to some degree. Of the 6,800 acres of mitigation being offered in Zone 6, over half those acres are BLM and are already protected for threatened and endangered species including the Mojave desert tortoise and Dwarf Bear-Poppy. The remaining 3,200 acres or so (the actual acreage has not been shared) are SITLA, and even on these lands, the threatened tortoise cannot be taken without first adhering to the provisions of the current HCP.

Request for inclusion in DEIS:

BLM and USFWS must take a hard look at the impacts (direct, indirect, cumulative and residual) of the alternatives on desert tortoise. The agencies must calculate the actual mitigation value of Zone 6 and objectively compare it to the actual NCH's adverse impacts in Zone 3.

4.7.2.3 Cumulative Impacts

BLM and USFWS must analyze cumulative impacts associated with the NCH and consider whether these cumulative impacts would jeopardize the continued survival of the threatened Mojave desert tortoise in the Red Cliffs Desert Reserve/NCA and the large Upper Virgin River Recovery Unit (UVVRU). Additionally, if the UVVRU is compromised, what would be the impact on the species' range-wide recovery?

- a. Habitat loss, alteration, degradation and fragmentation;
- b. Increased genetic isolation;
- c. Loss of genetic diversity;
- d. Extirpation;
- e. Small population and stochastic effects;
- f. Restricted home range
- g. Fence pacing;
- h. Loss of shelter, breeding and nesting sites;
- i. Effects of freeway contaminants (applicable to all wildlife);
- j. The failure of translocation to mitigate cumulative effects, given that the practice has not proven successful in much of the tortoises' range;⁹¹
- k. Value of contiguous habitat as it relates to climate change and the needs of TDSD (Temperature Dependent Sex Determination) reptiles for contiguous, connected habitat;

⁹⁰ Seckendorff, Hoff, K. and Marlow, R.W. 2002

⁹¹ <http://basinandrangewatch.org/TortoiseTranslocation.html>

Request for inclusion in DEIS:

- 4- Impacts Adding to Human Growth/Development:** The DEIS must address impacts related to development of BLM-NCA and Reserve lands that add cumulatively to the human growth and development in the region, including:
- a. **Past projects.** The DEIS should disclose the number of taken tortoises associated with the expansion of Red Hills Parkway from 2 to 4 lanes, *and* for all projects that have been approved inside the Reserve/NCA since 1995.
 - b. **Past projects.** The HCP has facilitated rapid growth and development in Washington County. The number of take acres developed since the implementation of the HCP needs to be disclosed.
 - c. **Recent projects.** Recent development in Sienna Hills caused multiple tortoises to be removed in in 2018. The DEIS must disclose the take of tortoises in other recent developments.
 - d. **Current projects.** Special attention must be given to construction of the Washington Parkway Extension (WPE) which would link to the NCH if the NCH ROW is granted. Take for this WPE project must be monitored and documented.
 - e. **Future projects.** These include, but are not limited to: continued development on a number of acres yet to be determined during 2020 HCP renewal; the proposed Lake Powell Pipeline; paving of the Babylon Road through Zone 4 where over 485 tortoises have been translocated since 1995; and construction of the Western Corridor and extensions of Navajo Dr. and Green Valley Dr. that would impact or fragment Zone 6.
 - f. **Future projects** including addition of utilities to the NCH ROW. Projects like the proposed Dominion Energy Gas Line that would have co-located a natural gas pipeline in the NCH ROW are concerning.
 - g. **Future** impacts from maintaining the NCH ROW.

4.7.2.4 Building the NCH in Phases

BLM and USFWS should consider the phased nature of this project, the roadways connected to it, and how these future actions will directly, indirectly and cumulatively impact the threatened Mojave desert tortoise:

- a. Associated infrastructure and future plans to widen the NCH would cause additional habitat loss. UDOT's Plan of Development states that: "At full build-out, the roadway would be an approximately 4.5-mile-long, four-lane divided highway with two 12-foot-wide travel lanes in each direction. Other features would include a median, drainage swales, bicycle and pedestrian trails, and associated signage."
- b. The Washington City Master Transportation Plan shows the Washington Parkway Extension (which would connect to the NCH) being 6 lanes at full build-out. If the NCH was likewise increased from 4 to 6 lanes, that would cause major damage.
- c. We note that there are no provisions for either underground or aboveground linear facilities in the project description. The DEIS must disclose plans for future utilities.
- d. Roadway projects associated with the NCH including improvements to Cottonwood Road

We are concerned that on January 6, 2020 (according to verbal testimony at 12-17-19 DTEC meeting) UDOT will begin constructing the Washington Parkway Extension from I-15 Exit 13 to the boundary of the Red Cliffs Desert Reserve/National Conservation Area., We believe this was a presumptuous pre-decisional planning effort that assumed subsequent development of the NCH. This occurred before and despite three other planning documents, including potential amendments to two BLM resource management plans and the habitat conservation plan (HCP), have been considered by the public and finalized. We are concerned that the regulatory agencies have already decided that the NCH would be developed regardless of it violating existing agreements and while discouraging public input into the planning and NEPA process and decisions; otherwise the Washington Parkway Extension would not have been rushed forward for premature development.

Given the above concerns, we disagree with the statement on page 1 of UDOT's Draft Plan of Development (UDOT 2019) that "The Northern Corridor (UDOT project number S-R499(324)) and Washington Parkway (Green Spring Drive to I-15) (UDOT project number F-R499(326)) are separate projects in the Statewide Transportation Improvement Program (STIP) (UDOT 2018a;" see UDOT 2019 for references stated therein). *But for* the NCH, there would be little need for the Washington Parkway Extension to be constructed. We also contend that development of the Washington Parkway Extension on private lands does not necessitate development of the NCH on public lands, particularly since those Bureau of Land Management (BLM) lands are already designated for protection and conservation of tortoises *in perpetuity* by the Washington County HCP and the existing Red Cliffs NCA RMP.

Request for inclusion in DEIS:

4-Impact due to NCH Phasing: The DEIS must address impacts related to the NCH being built in phases, the roadways connected to it, and plans for future infrastructure including utilities.

4.7.2.5 Residual Impacts

In addition to direct, indirect, and cumulative impacts, the DEIS must analyze and disclose the residual impacts that will occur in spite of and following implementation of protective mitigation measures. For example, even though there will likely be tortoise-proof fences constructed along the NCH, there will still be larger animals, like rabbits and coyotes, that can climb over the fences, be crushed by vehicles, and thereby provide subsidized food sources for both ravens and coyotes, which are known predators of desert tortoises. We also do not believe that there is any way to curtail incidences of poaching and vandalism that are likely to occur with the enhanced access provided by the NCH, which constitutes a residual impact.

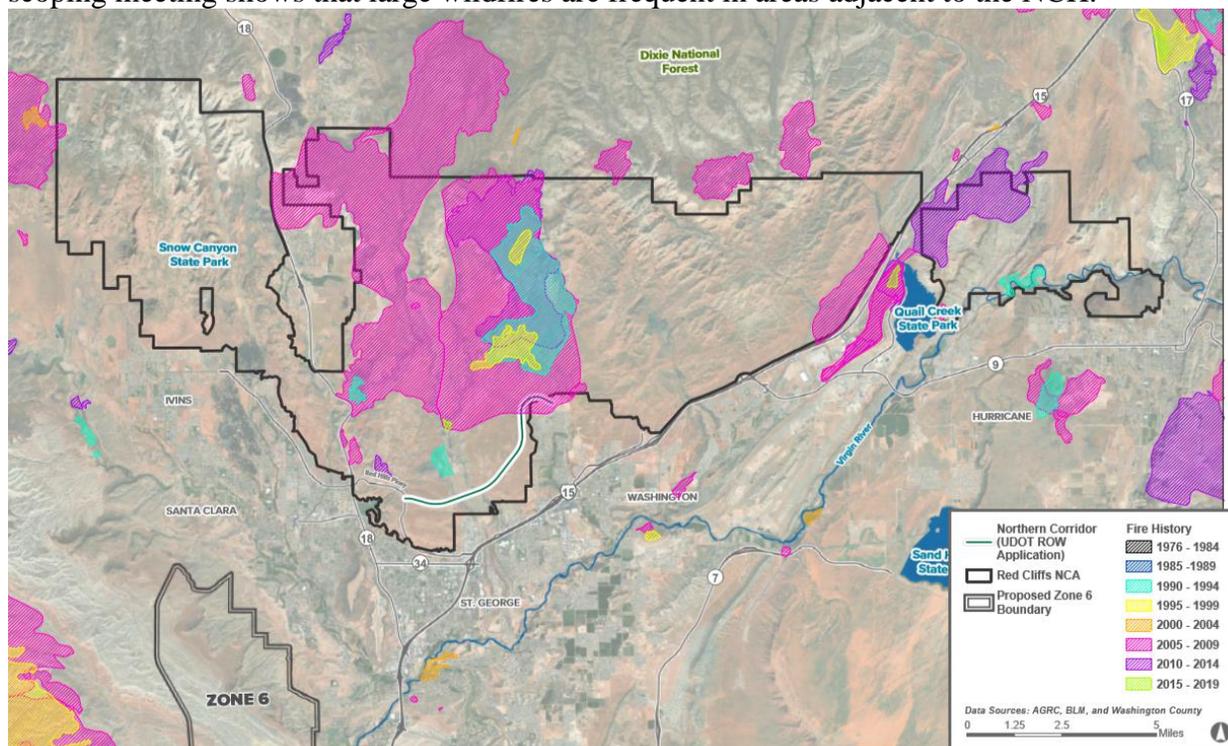
Catastrophic Wildfire

Please also analyze the residual impacts related to the increased chance of catastrophic wildfire introduced by the highway. The DMPO predicts that 32-46 thousand vehicles per day⁹² will travel on the NCH. Vehicle collisions, dragging tow chains that cause sparks,

⁹² Washington Parkway Cost Benefit Study

and tossed cigarette butts are only some of the ways that vehicle traffic inside the NCA will increase the risk of wildfire.

It is important to note that the eastern terminus of the NCH is routed less than 1 mile from critical tortoise habitat that has burned 4 times (1993, 1998, 2005 and 2012) between 1992 and 2014. The first quarter mile of the NCH is routed through an area that burned in 2005. The BLM Wildland Fire History Map shared at the 12-17-19 public scoping meeting shows that large wildfires are frequent in areas adjacent to the NCH.



Wildfire and Climate Change

The BLM notes that “elevated temperatures and altered precipitation patterns may cause valuable water sources to dry up seasonally or completely....Climate space trend modeling generated as part of the Mojave REA (Nature Serve 2013) showed that statistically significant increases in temperatures have already occurred and are predicted to continue to occur.” BLM must consider residual impacts to the tortoise related to the intersection of climate change, drought and devastating wildfire regimes. Higher temperatures and increased aridity could lead to more frequent and intense wildfires that put the threatened Mojave tortoise at great risk. The NCH would greatly exacerbate the risk for wildfire in Zone 3 of the Reserve/NCA.

Exotic Annuals Percent Cover

Wildland fire history, when considered alongside exotic annuals percent cover data, paints a startling picture about the risk for wildfire in the NCA. Exotic annuals percent cover is greater than 10% at the point where the NCH would enter Red Cliffs above Green Springs. The NCH then travels into areas of 5-30% cover.⁹³ On-the-ground observations taken from the Cottontail Trail show even higher percent cover than those documented in the 2015 RMP. High concentrations of brome grasses like those found in

⁹³ Red Cliffs NCA DRMP pg. 492

the alignment of the NCH act as fine fuel to carry fire. BLM must consider the role of the NCH in present and future wildfire regimes in the Red Cliffs NCA.

The DEIS must incorporate new data and present new analyses on the percent cover of brome grasses, Sahara mustard and other invasive plant species in and adjacent to the NCH.

The NCH Will Not Act as a Fire Break

The NCH, or any highway for that matter, will *not* function as an effective firebreak in the Red Cliffs NCA/Reserve. Recent brushfires in California have demonstrated that 8 and 12 lane highways cannot stop the path of fire on windy days.⁹⁴

Request for inclusion in DEIS:

4-Residual Impacts: The DEIS must provide data and address residual impacts related to predator subsidies, poaching, vandalism, catastrophic wildfire (including the failure of highways to act as fire breaks), climate change, and invasion of exotic annuals.

⁹⁴ <https://www.nbcnews.com/storyline/western-wildfires/cars-catch-fire-after-california-brush-fire-jumps-freeway-n394241>

4.7.3 Impacts to Ecological Resource Values

First and foremost, the goals and guidance included in the current Red Cliffs National Conservation Area Resource Management Plan must be followed in order to protect and maintain the resources for which the National Conservation Area was established. Because the Red Cliffs National Conservation Area was legislatively formed, the intent of Congress to protect this unique landscape for the long term should not be weakened by any downgrading in management for conservation.

The purpose of this planning process has been to satisfy specific mandates from the Omnibus Public Land Management Act of 2009 (16 U.S.C 7202, Public Law 111-11), hereinafter referred to as OPLMA. Title I, Subtitle O of OPLMA concerns public lands managed by the BLM in Washington County, Utah (Appendix A). Congress established the Beaver Dam Wash NCA and the Red Cliffs NCA in Washington County when, on March 30, 2009, President Barack Obama signed OPLMA into law. Sections 1974 and 1975 of Title I, Subtitle O designated the two NCAs and directed the Secretary of the Interior (Secretary), through BLM, to develop comprehensive plans for the long-term management of each NCA (Red Cliffs NCA ROD at 11).

Section 1974 (d) (1) identifies the following Congressionally-defined purposes for the Red Cliffs NCA:

To conserve, protect, and enhance for the benefit and enjoyment of present and future generations the ecological, scenic, wildlife, recreational, cultural, historical, natural, educational, and scientific resources of the National Conservation Area; and

To protect each species that is located in the National Conservation Area; and listed as a threatened or endangered species on the list of threatened species or the list of endangered species published under... the Endangered Species Act of 1973 (OPLMA Section 1974 (a)).

Land use planning goals, objectives, and management decisions approved in the RMP and any amendments for the Red Cliffs NCA must be consistent with the designation purposes, authorized uses, and other direction in OPLMA that relates to this NCA. A major highway and utility corridor is not consistent with the purposes of the law and original designation of the Red Cliffs National Conservation Area.

4.7.3.1 Hydrologic Conditions

The DEIS must address the hydrologic resources of the project area. Much of the NCH is routed across the only primary recharge surface for the critical groundwater aquifer (Navajo Sandstone Formation and the underlying Kayenta Formation) which is the primary source of potable water for the municipalities of the St. George basin as well as providing spring/seep discharge water to numerous springs in the St George city limits. This primary aquifer which consists of sandstone units is highly permeable because of porous spaces between the sand grains.

In its DEIS, BLM must examine the direct, indirect and cumulative impacts of construction activities of a 4-lane highway, residue from dust abatement water, petroleum derivatives from asphalt, compaction of road base material and the altering of natural flood ravines. Most important is the cumulative effect of ongoing precipitation surface run-off with the significant loads of highway particulates, vehicle emissions, and petroleum spills. These pollutants are easily broken down into water soluble compounds such as benzene, toluene, and nepheline, and then absorbed quickly into the surrounding aquifer recharge surface. Ground water movement will then carry these mutagenic, carcinogenic, chemicals through the aquifer and will become part of the municipality water supply, as well as the openly accessible untreated spring and seep discharges, posing public health hazards. BLM must *cumulatively* account for altering aquifer recharge abilities, altering flood plains and drainages, and accounting for damage to water resources for human consumption.

Request for Inclusion in DEIS:

4- Impacts to hydrologic conditions: The DEIS must address NCH impacts related to highway construction, emissions and pollutants.

4- Please include the following reports in your analysis:

a- THE NAVAJO AQUIFER SYSTEM OF SOUTHWESTERN UTAH Geological Society of America 2002 Rocky Mountain Section Annual Meeting Cedar City, Utah May 6, 2002. <https://pubs.usgs.gov/of/2002/0172/pdf/chap3.pdf>

b- Highway Runoff Quality, Environmental Impacts and Control. <https://www.sciencedirect.com/science/article/pii/S0166111608700839>

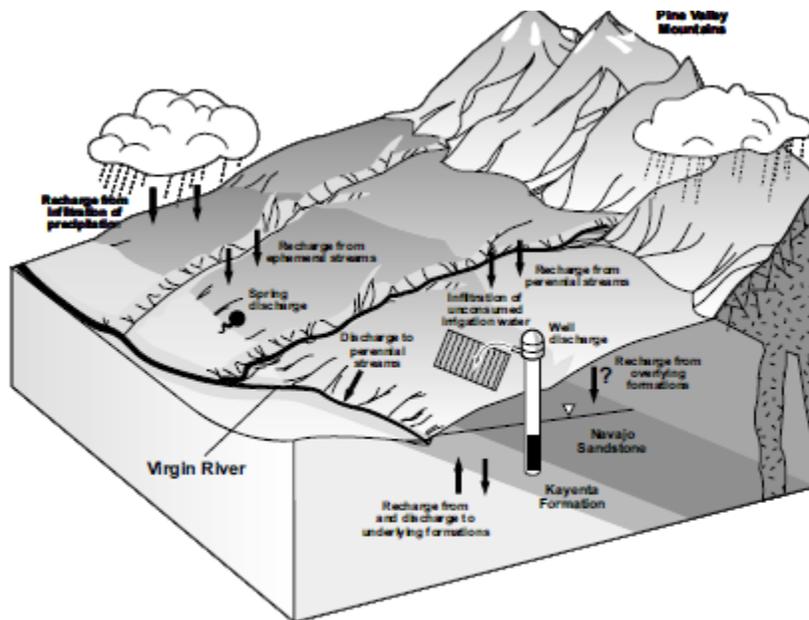


Figure 3. Generalized diagram showing sources of recharge to and discharge from the Navajo aquifer within the central Virgin River basin area, Utah.

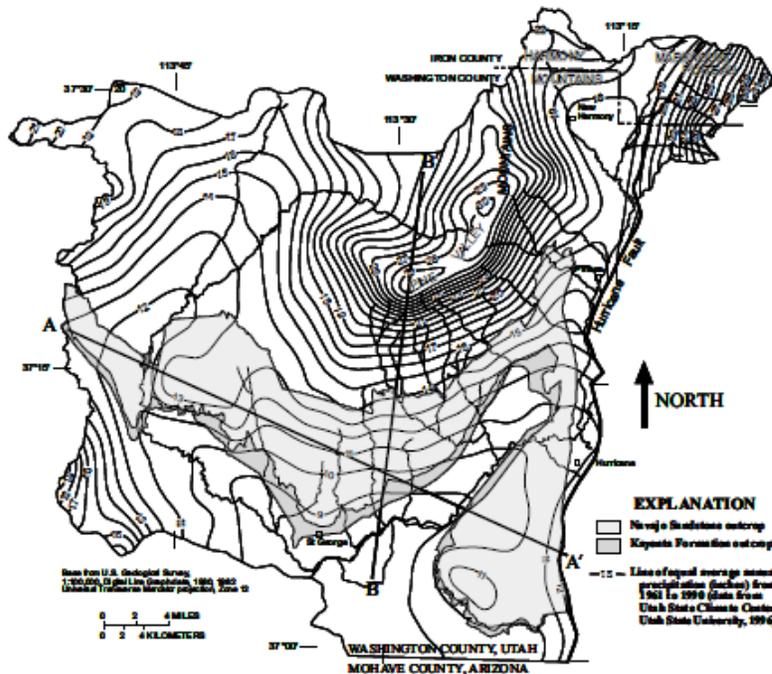


Figure 1. Average annual precipitation contours (1961-1990), location of the Navajo Sandstone and Kayenta Formation outcrops, and location of cross sections (see figure 1) for the central Virgin River basin area, Utah.

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4.7.3.2 Water Resources

According to the governing land use plan, BLM is required to attach best management practices and “other site-specific mitigation measures to maintain soil stability, minimize wind and water erosion, and ensure that surface disturbances do not cause accelerated sedimentation in surface water sources⁹⁵. In addition, the Red Cliffs RMP requires that “[s]alinity and sediment loads in the Virgin River do not increase as a result of land uses and authorized activities on public lands in the NCA⁹⁶.

Request for Inclusion in DEIS:

4- Impacts to water resources: We specifically request BLM include the following analysis of items 1 - 8 in its DEIS:

1. How will the construction of the proposed NCH maintain soil stability, minimize wind and water erosion, and ensure that road-building surface disturbances do not increase sedimentation to waterways of the Virgin River watershed?
2. Where will construction water for the highway will come from, and how many gallons or acre-feet per month. Will groundwater be pumped in area wells for use in construction, or will water be trucked in from another source?
3. All streams, dry washes, springs, seeps, and riparian areas that will be directly, indirectly, or cumulatively impacted by the NCH must be mapped and examined.

⁹⁵ Red Cliffs NCA ROD at 11.

⁹⁶ *ibid.* at 25

4. BLM must identify and discuss all avoidance measures, mitigation measures, and best management practices to prevent significant impacts to these water resources.
5. BLM must complete a conceptual groundwater model of quantity recharge of springs, seeps, and surface flows within and adjacent to the NCA, and BLM must examine and discuss this model as a basis for an impact analysis for the NCH.
6. BLM must examine and discuss how will climate change potentially affect precipitation and groundwater in the area?
7. BLM must also describe how the NCH will be built to weather flash floods and surface water flow through washes, canyons, and sheet-flow across the desert during extreme storm events, so that natural resources in the NCA are not damaged. Will the construction of a highway through this desert result in significant impacts to natural resources due to flash flood damage? Culverts should be described in detail, with respect to size and design, to avoid flood debris clogging, blow-outs, and damage to highway infrastructure which could impact adjacent natural resources. Culvert design should consider how best to potentially facilitate movement of tortoises and other wildlife species under the NCH in both directions. Species isolated to limited habitats by the NCH are likely to suffer from inbreeding depression over time that may lead to localized extirpation.
8. The analyses of hydrology and water quality need to identify and analyze all of the project's impacts. The DEIS must include avoidance, minimization and, if necessary, mitigation measures, to offset any impacts.

4.7.3.3 Watershed

The NCH will increase the risk of severe wildfire caused by discarded cigarettes, vehicle sparks, collision, etc. The impact of fire on water resources and watersheds must be considered.

The NCH is routed through the Gould Wash-Virgin River watershed which drains to and recharges the Virgin River system. How will increased erosion caused by the highway and disturbance of soil crust along both sides of the highway contribute to increased sedimentation in major and minor tributaries and the Virgin River? How would this increased sedimentation affect the ESA listed and special status fish species in the Virgin River?

The BLM should analyze how increased sedimentation in the watershed caused by the NCH will exacerbate existing challenges that are already being experienced in our watershed due to the impacts of climate change: These include elevated temperatures and altered precipitation patterns that may cause valuable water sources to dry up seasonally or completely, and may also change stream flow and the recharge of groundwater basins.

Small changes in water temperature could reduce viability of native fish populations and other aquatic species.

How will vehicle travel on the NCH affect acceptable levels for turbidity, pH, trace metals, salinity and total dissolved solids, bacterial levels and sediment loads in the Virgin River?

What effects will the NCH have on the 2 ephemeral washes it will cross: Middleton Wash and the unnamed wash east of Cottonwood Springs Road, locally called Chisel?

What about creeks the Washington Parkway Extension (connected to the NCH and construction due to begin Jan. 6, 2020) will cross: Middleton Creek and others?

The BLM admits that construction of a multi-lane highway in the new utility and transportation corridor could alter drainage patterns, directly or indirectly impacting surface water sources located downstream on state and private lands.⁹⁷

Road runoff is a major source of heavy metals to stream systems, especially Pb, Zn, Cu, Cr, and Cd (16,50, 64, 137). Fish mortality in streams has been related to high concentrations of Al, Mn, Cu, Fe, or Zn, with effects on populations recorded as far as 8 km downstream. Both high traffic volume and high metal concentration in runoff have correlated with mortality of fish and other aquatic organisms. Floodplain soil near bridges may have high heavy-metal concentrations.

Ephemeral and intermittent streams provide the same ecological and hydrological functions as perennial streams by moving water, nutrients, and sediment throughout the watershed. When functioning properly, these streams provide landscape hydrologic connections; stream energy dissipation during high-water flows to reduce erosion and improve water quality; surface and subsurface water storage and exchange; ground-water recharge and discharge; sediment transport, storage, and deposition to aid in floodplain maintenance and development; nutrient storage and cycling; wildlife habitat and migration corridors; support for vegetation communities to help stabilize stream banks and provide wildlife services; and water supply and water-quality filtering. They provide a wide array of ecological functions including forage, cover, nesting, and movement corridors for wildlife. Because of the relatively higher moisture content in arid and semi-arid region streams, vegetation and wildlife abundance and diversity in and near them is proportionally higher than in the surrounding uplands. In the rapidly developing southwest, land management decisions must employ a watershed-scale approach that addresses overall watershed function and water quality. Ephemeral and intermittent stream systems comprise a large portion of southwestern watersheds, and contribute to the hydrological, biogeochemical, and ecological health of a watershed. Given their

⁹⁷ Red Cliffs NCA DRMP pg. 748

importance and vast extent, an individual ephemeral or intermittent stream segment should not be examined in isolation.⁹⁸

Request for Inclusion in DEIS:

4- Impacts to watershed: The DEIS must address NCH impacts related to wildfire, erosion, increased sedimentation, runoff and heavy metals to all ephemeral washes, creeks, and streams in the project area.

4.7.3.4 Air Quality

Road-building, heavy machinery use, and highway construction activities could significantly disturb soil surfaces, including delicate biological soil crusts which hold soil surfaces intact. The DEIS should analyze how construction activities will potentially result in dust plumes and lowered air quality.

The creation of a new highway will also likely result in growth-inducing impacts in the general area. The DEIS must provide a good faith analysis of the Project's impacts to Air Quality, analyzing the project in relation to the current regional, state, and federal standards. The DEIS must also be prepared with a sufficient level of analysis to provide decision-makers with the information needed to make an intelligent decision concerning a project's environmental consequences.

Request for Inclusion in DEIS:

4- Impacts to air quality: The DEIS must address NCH impacts related to construction, vehicle travel, and long-term air quality.

4.7.3.5 Cave and Karst Resources

Surveys for any new cave and karst resources should be undertaken along the proposed corridor and a buffer zone, to ensure no unidentified resources are impacted.

4.7.3.6 Soil Resources

The Red Cliffs National Conservation Area Record of Decision and Approved Resource Management Plan requires that “[s]oil crusts are conserved, protected, and restored to perform vital functions such as enhancing infiltration, maintaining soil stability, and facilitating plant growth or re-establishment.”

Biological soil crusts are a vital part of current living desert ecosystems, and they function to hold soil surfaces intact in the face of wind and water erosion, prevent dust storms, keep out invasive species such as cheatgrass, and retain soil moisture. How will the construction of the highway avoid or mitigate the destruction of biological soil crusts?

About 40% of the proposed NCH is routed through Harrisburg-Rock land soil. It is subject to medium runoff and the hazard of erosion is moderate. BLM must consider erosion controls that would address the cumulative effects of road surfaces, altering

⁹⁸ The Ecological and Hydrological Significance of Ephemeral and Intermittent Streams in the Arid and Semi-arid American Southwest by Lainie R. Levick, David C. Goodrich and Mariano Hernandez

drainages, sediment transportation, and how those erosion effects will alter wildlife habitat, introduce weeds, and degradation of soil health.

The NCH is also routed through Harrisburg fine sandy loam, Harrisburg rock-land association, stony colluvial, and winkel-gravelly fine sandy loam soil types. Since soil erosion is one mechanism through which salinity levels of the Virgin River (and ultimately Colorado river) are increased, care needs to be taken to help minimize runoff that contributes to TDS levels of the Virgin River. BLM must analyze salinity displacement due to the disturbance of these soils, and address the impacts of altering the existing drainages that would be traversed by the NCH which include but are not limited to:

Mill Creek, Middleton Wash, Chisel Wash (local name for the major wash immediately west of Cottonwood Springs Rd), City Creek *and* the smaller, unnamed feeder creeks and washes.

Request for Inclusion in DEIS:

4- Impacts to cave, karst and soil resources: The DEIS must address NCH impacts related to cave, karst, biological soil crust, soil types, soil health, and related salinity displacement.

4.7.3.7 Climate Conditions

BLM must cumulatively analyze the overall impact of the proposed NCH being exacerbated by climate factors such as: less winter precipitation, increased summer temperatures, severe Monsoon episodes patterns, (leading to sharp inundation rainfall patterns), increased acidification in rainfall, increased salinization in surface water run-off, decreases in soil moisture thereby resulting in the loss of vegetation cover which holds the soil down, increasing erosion. All these climate factors are not being considered by BLM, specifically how these additional climate pressures on a natural landscape will be amplified with the additional pressures from the proposed NCH.

Request for Inclusion in DEIS:

4- Cumulative impacts associated with climate: The DEIS must address the potential for climate conditions to exacerbate NCH impacts.

4.7.3.8 Native Vegetation Communities

The Red Cliffs National Conservation Area Record of Decision and Approved Resource Management Plan requires BLM to “ensure that the biodiversity, ecological integrity, and ecosystem resilience are conserved, protected, and restored in the unique native vegetation communities created by the convergence of the Mojave Desert, Great Basin, and Colorado Plateau ecoregions. These actions will also manage riparian areas to sustain productive and diverse ecosystems and properly functioning watersheds⁹⁹.

How will the construction of a proposed highway meet the goals of the 2016 approved Red Cliffs NCA RMP?

⁹⁹ Red Cliffs NCA ROD at 11

All vegetation communities should be mapped and described, such as creosote bush, blackbrush, saltbush, biological soil crust, riparian, and other plant communities using nomenclature established by the U.S. National Vegetation Classification system¹⁰⁰. An up-to-date inventory of the on-site vegetation resources in both the proposed project area as well as any mitigation areas need to be completed and used as a basis for analysis of impacts and mitigation. Impacts to specific vegetation types and soil crusts must be mitigated adequately by type. Specific management prescriptions then need to be developed and included in the DEIS to conserve and protect project area resources and where enhancement of resources is necessary for mitigation purposes.

Thorough, seasonal surveys must be performed for sensitive plant species and vegetation communities, under the direction and supervision of the BLM and resource agencies such as the USFWS and UDNR. Surveys for the plants and plant communities should follow accepted plant survey guidelines.¹⁰¹ A full floral inventory of all species encountered needs to be documented and used as a basis for avoidance and impact analysis. All rare species surveys should follow agency-adopted protocols.¹⁰²

Vegetation mapping must be done in the proposed project and all proposed mitigation areas, in order for the public and decisionmakers to be adequately informed of the impacts and mitigation adequacy. The mapping must be at a large enough scale to disclose unique microhabitats. Upland vegetation, riparian areas and other unusual plant assemblages should be mapped at such a scale to provide an accurate accounting of the proposed impacts and mitigation. A half-acre minimum mapping unit size is recommended, such as has been used for other development projects.

Current surveys must be implemented and utilized in combination with existing data in order to evaluate the existing on-site conditions. Ongoing seasonally appropriate vegetation surveys and monitoring will also need to be implemented as part of the mitigation and management requirements at least every 5 years.

While we generally support collection of local native seeds as part of a mitigation strategy to help assure successful revegetation, we do not consider seed collection of native plants for future mitigation of development projects to be a stand-alone successful mitigation measure.

The DEIS must include clear and measurable success criteria for any proposed revegetation.

4.7.3.9 Riparian Vegetation

The Red Cliffs NCA RMP directs BLM to manage the Virgin River, Quail, and Leeds Creeks to provide aquatic habitat for the threatened and endangered native fish of the Virgin River system, as well as the riparian Zones along these streams that support diverse native species and migratory birds.

¹⁰⁰ <http://usnvc.org/>

¹⁰¹ <http://usnvc.org/resources/>

¹⁰² <https://www.fws.gov/mountain-prairie/es/protocols.php>

The DEIS should inventory riparian areas to establish baseline data on functioning conditions, trends in native plant composition, and infestations of noxious weeds and invasive species, before any highway construction activities occur. The results of the riparian area inventories need to be presented in the DEIS and used as a basis for avoiding and minimizing impacts to these very rare plant communities. If impacts are still anticipated, clear mitigation requirements need to be included that align with the objectives of the RMP.

Objectives of the RMP should be followed: Healthy riparian areas are conserved and protected through land use restrictions, protective measures, and other management actions.¹⁰³

4.7.3.10 ES&R and Other Vegetation Community Restoration

The DEIS should detail all native vegetation revegetation activities associated with mitigation of construction activities. Only locally-sourced native seeds should be used. Please describe the impacts to the Mojave desert tortoise.

If revegetation efforts are proposed to be used as mitigation, the DEIS must include clear and measurable revegetation success criteria that include a clear and measurable time-frame for establishment, maintenance, monitoring and ultimately a fully functional revegetation site.

Request for Inclusion in DEIS:

4- Native and Riparian Vegetation and Restoration: The DEIS must address NCH impacts to native and riparian vegetation communities by inventorying and providing management prescriptions for each community and by planning for revegetation projects using locally-sourced native seeds.

4.7.3.11 Fire and Fuels Management

As BLM is well aware, wildland fire in arid regions can drastically alter the ecological processes and function of the landscape. For native vegetation communities that did not evolve with fire, fire can eliminate them resulting in total “type conversion” to a different and often non-native vegetation community. “Type conversions” after fire often result in elimination of important wildlife habitat because native resources upon which wildlife depend are no longer available.

The DEIS should describe the presently known ecosystem processes of vegetation communities in the NCA and all proposed mitigation areas, as well as natural cycles and anthropogenic factors that affect the fire return intervals. How will construction of a highway disrupt these ecosystem processes, considering potential fire ignition sources from the highway, vehicles and drivers?

4.7.3.12 Noxious Weeds and Invasive Species

An Integrated Weed Management Plan should be developed as part of the NEPA process and included in the DEIS, so that the public may participate in reviewing this important document. We have seen numerous non-native invasive plant species including Sahara

¹⁰³ Red Cliffs NCA ROD at 27

mustard (*Brassica tournefortii*), cheatgrass (*Bromus tectorum*), and red brome (*B. rubens*) growing in the Red Cliffs Desert Tortoise Preserve.

Construction and heavy equipment will disturb soils and allow invasions of these invasive weeds. Biological soil crusts that are broken up can allow seeds of cheatgrass to get a foothold and increase. The DEIS should describe all avoidance, best management practices and mitigation measures towards halting any increase of introduced plants and noxious weeds. The DEIS must clearly analyze how construction and maintenance of the NCH would add to the introduction and spread of invasive and noxious weeds.¹⁰⁴ This is especially important because of the nature of this area being Mojave desert tortoise habitat.

4.7.3.13 Vegetation Resource Uses: Livestock Grazing

Livestock grazing can be detrimental to Mojave desert tortoise habitat and survival, including direct effects from crushing and burrow collapse, and indirect effects from reduction of shared forb and grass forage.¹⁰⁵ Water facilities for livestock, and dead calves can attract ravens, which are serious predators to desert tortoise juveniles and adults as well as other wildlife. The permanent retirement of all grazing permits in the NCA, or making the last remaining allotments unavailable for livestock grazing (Sand Wash and Veyo), should be analyzed and included as a mitigation measure for any project activities and highway development.

Any livestock grazing in proposed mitigation areas should be analyzed for impacts to desert tortoise, and permit retirement strongly considered.

Request for Inclusion in DEIS:

4- Impacts to Native Vegetation Communities: The DEIS must address NCH impacts related to fire, fuels, noxious and invasive weeds and grazing.

4.7.3.14 Special Status Plant Species – including Threatened, Endangered, Candidate, and Species Proposed for Listing under ESA

Critical habitat for the endangered Shivwits milkvetch (*Astragalus ampullarioides*), a small native plant that grows only in Washington County on specific soil types is found in the Red Cliffs NCA. Only five populations of Shivwits milkvetch are known to exist.¹⁰⁶ Holmgren milk-vetch (*Astragalus holmgreniorum*) is another rare plant known from only six populations in Washington County and also in Mohave County (AZ), but all within ten miles of St. George.¹⁰⁷

¹⁰⁴ <https://ag.utah.gov/farmers/plants-industry/noxious-weed-control-resources/state-of-utah-noxious-weed-list/>

¹⁰⁵ Boarman, W. I. 2002. Threats to Desert Tortoise Populations: A Critical Review of the Literature. U. S. Geological Survey, Western Ecological Research Center. Prepared for West Mojave Planning Team, Bureau of Land management, August 9, 2002.

¹⁰⁶ <https://www.fws.gov/mountain-prairie/es/milkvetch.php>;
https://plants.usda.gov/plantguide/pdf/pg_asam14.pdf

¹⁰⁷ https://www.plants.usda.gov/plantguide/pdf/pg_asho5.pdf

Surveys for the federally endangered Dwarf bear-poppy (*Arctomecon humilis*), one of the rarest poppies in the world (endemic to Washington County, Utah) and among the first listed species under the Endangered Species Act,¹⁰⁸ should be undertaken across the corridor proposal and a buffer, as well as in Zone 6.

The DEIS must identify and analyze how highway construction will directly and indirectly impact these rare plants, their federally designated critical habitat and their potential for recovery¹⁰⁹. We are concerned that direct destruction of populations could occur, as well as indirect impacts such as ground disturbance leading to an increase of competitive invasive weeds, fire and increased ORV use, all of which are known threats to the species. Will herbicides be used during highway construction activities, and right-of-way maintenance? How will this impact rare plant populations into the future? Will dust palliatives be used during construction? How will these impact the rare plants, seedbanks and pollinators?

4.7.3.15 Other Bees

Bees are most commonly the effective pollinators of the vast majority of rare (and of course many other) plant species. Bees do not like to cross roads, especially if the speed limit will be greater than say 25 mph. Bees are greatly impacted by dust, pesticides, other chemical sprays, and more. Most commonly, bees live in the ground and could be impacted by road noise and vibrations. Native bees typically do not live immediately proximate to plant species that they visit but rather, depending on the size of the bees, have a homing distance of anywhere from 0.5 to 3 miles and can have a foraging distance that is much greater (5 miles or more).

4.7.3.16 BLM Sensitive Plant Species

The DEIS should analyze how any corridor construction will directly or indirectly impact any ecologically intact core areas of sensitive species habitats that are conserved and protected from fragmentation in the NCA. The DEIS should also identify BLM sensitive species that occur in any proposed mitigation lands and evaluate direct or indirect impacts associated with the proposed project.

In addition to the federally listed plant species discussed above, Utah BLM Sensitive Plant Species¹¹⁰ known to occur in Washington County include:

Scientific Name	Common Name
<i>Astragalus striatiflorus</i>	Escarpment Milkvetch
<i>Camissonia bairdii</i>	Baird's camissonia
<i>Camissonia gouldii</i>	Diamond Valley suncup
<i>Cirsium virginensis</i>	Virgin River thistle
<i>Pediomelum aromaticum</i> var. <i>barnebyi</i>	Barneby's aromatic scurfpea
<i>Petalonyx parryii</i>	Parry's sandpaper plant
<i>Sphaeralcea gierischii</i>	Gierisch's globemallow

¹⁰⁸ https://www.fws.gov/mountain-prairie/factsheets/Dwarf%20Bear%20Poppy%20Fact%20Sheet_061913.pdf

¹⁰⁹ https://ecos.fws.gov/docs/recovery_plan/060929.pdf

¹¹⁰ <https://www.unps.org/miscpdf/blmspslFeb2011.pdf>

Request for Inclusion in DEIS:

4- Impacts to Special Status Plant species and Bees: The DEIS must address NCH impacts to special status plant species, BLM sensitive plant species, and pollinators including, but not limited, to bees.

4.7.3.17 Ecotone and Edge Effect

The Mojave Desert, Great Basin and Colorado Plateau converge in the Red Cliffs NCA, producing great species diversity and richness, but also fragility. BLM should consider the cumulative effects of the NCH on plant and animal species living at the extremes of their historic ranges within physiographic and ecoregional transition zones. Species like these tend to have less stable populations than those closer to the centers of their ranges.

The highly negative "edge effects" of the NCH through this ecotone should also be analyzed. The NCH would push those edge effects somewhat significantly northward. The area between the NCH and the southern border of the Red Cliffs NCA/DR would be significantly degraded and could ultimately lead to creation of a "death zone" south of the NCH.

Request for Inclusion in DEIS:

4- Impacts to Ecotone: The DEIS must address cumulative and residual NCH impacts to ecotone plant and animal species living at the historic edges of their ranges.

4.7.3.18 Impacts to Visual Resources/ Scenic Quality

BLM is directed by federal statutes and BLM policies to protect visual resources.¹¹¹ FLPMA directs BLM to prepare and maintain inventories of the visual values of all public lands¹¹² and manage public lands "in a manner that will protect the quality of . . . scenic . . . values,"¹¹³. NEPA further requires BLM to "assure for all Americans . . . aesthetically . . . pleasing surroundings."¹¹⁴ BLM has interpreted these mandates as a "stewardship responsibility" to "protect visual values on public lands" by managing all BLM-administered lands "in a manner which will protect the quality of the scenic (visual) values."¹¹⁵

¹¹¹ Visual resources must be protected under the Federal Land Policy and Management Act of 1976, 43 U.S.C. 1701 et. seq. Section 102 (a)(8) states that "...the public lands be managed in a manner that will protect the quality of the...scenic...values...." Section 103 (c). identifies "scenic values" as one of the resources for which public land should be managed. Section 201 (a) states that "The Secretary shall prepare and maintain on a continuing basis an inventory of all public lands and their resources and other values (including...scenic values)..." Section 505 (a) requires that "Each right-of-way shall contain terms and conditions which will... minimize damage to the scenic and esthetic values...." The National Environmental Policy Act of 1969, 43 U.S.C. 4321 et. seq. also requires protection of scenic resources. Section 101 (b) requires measures be taken to " ...assure for all American...esthetically pleasing surroundings...." Section 102 requires agencies to "Utilize a systematic, interdisciplinary approach which will ensure the integrated use of...Environmental Design Arts in the planning and decision making...."

¹¹² 43 U.S.C. § 1711(a)

¹¹³ §1701(a)(8)

¹¹⁴ 42 U.S.C. § 4331(b)(2)

¹¹⁵ BLM, BLM Manual 8400 – Visual Resource Management .02, .06(A).

BLM utilizes visual resource inventories during the RMP process to establish management objectives, organized into four classes. These objectives are as binding as any other resource objectives contained in the RMP.¹¹⁶ BLM may not permit any actions that fail to comply with these objectives. Within the Red Cliffs NCA, BLM is to ensure that “open spaces, natural aesthetics, and scenic vistas of the NCA are protected for social, economic, and environmental benefits.” Red Cliffs NCA RMP, 54.

Red Cliffs NCA VRM Classes are designated in the following acreages:

- VRM Class I: 19,989 acres
- VRM Class II: 18,525 acres
- VRM Class III: 6,160 acres
- VRM Class IV: 183 acres

The three most impacted VRM Classes are defined¹¹⁷:

Class I Objective: The existing character of the landscape is preserved. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

Class II Objective: The existing character of the landscape is retained. The level of change to the characteristic landscape should be low. Changes can be seen but should not attract the attention of the casual viewer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

Class III Objective: The existing character of the landscape is partially retained. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

These statutory and regulatory responsibilities are especially important to the areas managed by the BLM St. George Field Office and *particularly* critical in the Red Cliffs NCA, which includes lands world famous for their scenic vistas.

The management parameters of each of these VRM classes are clearly defined in the Red Cliffs NCA RMP¹¹⁸:

VRM-1: Use architectural design standards that create a unique and recognizable identity for the NCA. The standards would include, but are not limited to: fencing design, signage requirements, vegetative screening, siting requirements, and the height, shape, and color of proposed structures.

¹¹⁶ See *Southern Utah Wilderness Alliance*, 144 IBLA 70, 84 (1998).

¹¹⁷ Red Cliffs NCA RMP, 54-55.

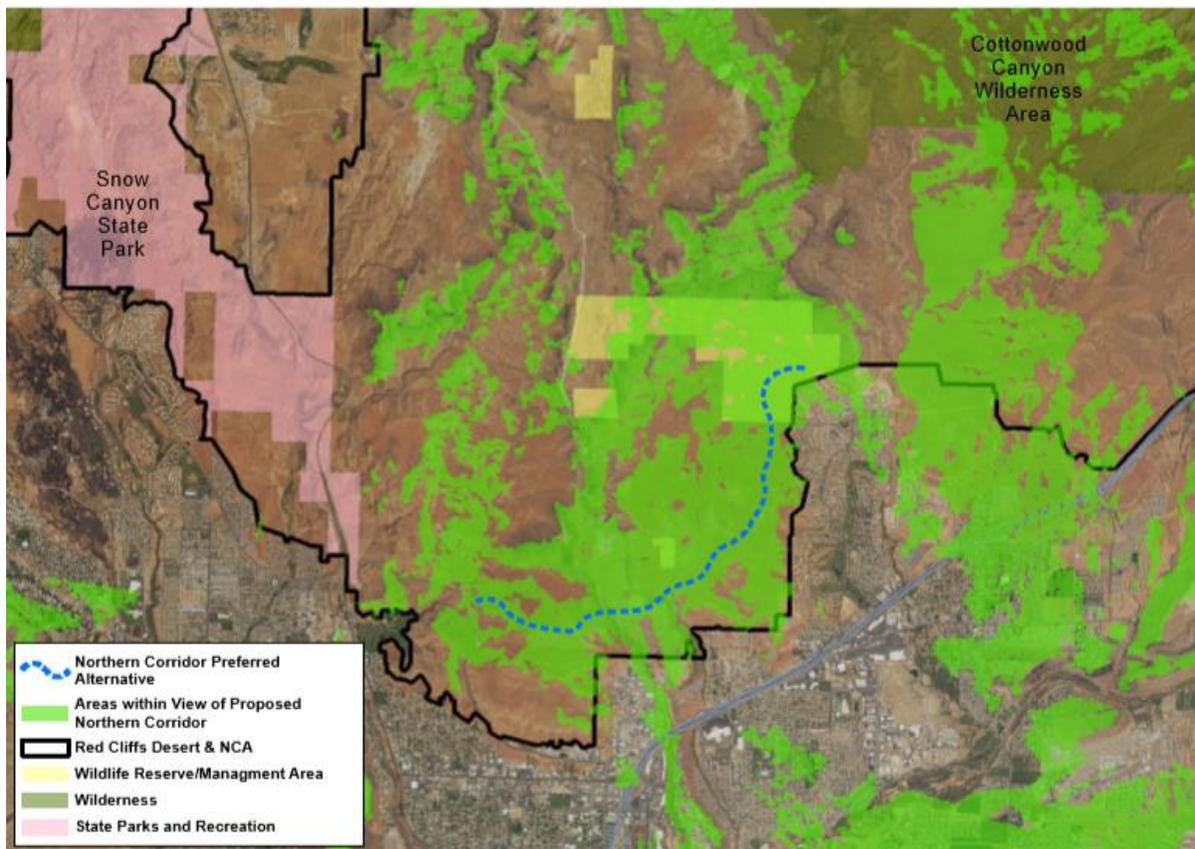
¹¹⁸ Red Cliffs NCA RMP, 55.

VRM-2: Incorporate visual and architectural design considerations during the project design phase for all new surface disturbing projects or activities, regardless of size or potential impact.

VRM-3: Conduct ecosystem restoration projects that meet VRM objectives for the NCA over the long-term (over the anticipated life of the restoration project). In the short term (5 years or less) or the mid-term (5-10 years), VRM objectives for restoration projects in the NCA would not have to be met.

Notably, none of these existing VRM classes within or surrounding the proposed Northern Corridor Highway ROW would allow the level of change that would be necessary for constructing and maintaining the NCH. Allowing such a large impact within the boundary of the National Conservation Area would be inconsistent with even VRM Class III, as such a change would not “repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.”

The proposed Northern Corridor Highway ROW is within an area with an extremely expansive viewshed, and so the ROW itself and immediately adjacent areas are far from the only places that would have their scenic quality impacted if the NCH was approved. For example, using GIS data to map viewshed impacts, the highway ROW would be visible from a total of 10,516 acres within the overall Red Cliffs NCA (shown in green on the viewshed map below). This includes over 1,200 acres of VRM Class I scenery within the Cottonwood Canyon Wilderness, and over 2,700 acres of Class II scenery.



See this map in Appendix J.

These wide-ranging viewshed impacts on areas specifically protected in large part due to their spectacular scenic quality are unacceptable, and BLM cannot continue to properly manage the Cottonwood Canyon Wilderness Area or the Red Cliffs NCA while allowing such a high degree of harm to these areas' scenic quality.

BLM must analyze the direct, indirect, and cumulative impacts of the proposed ROW and NCH to visual resources. BLM must consider alternatives that do not degrade the current level of visual resources on affected public lands. VRM Class II areas must be managed to retain the existing character of the landscape and management activities in VRM Class III areas may only moderately change the character of the landscape.

Any alternative that fails to meet current VRM Class management objectives would require BLM to amend both the St. George Field Office RMP and the Red Cliffs NCA RMP to downgrade affected areas to at least VRM Class IV, if not lower. This directly contravenes the purpose of the Red Cliffs NCA as established by Congress in 2008, which is to “conserve, protect, enhance, and restore the ecological, *scenic*, wildlife, recreational, cultural, historical, natural, educational, and scientific resources of the Red Cliffs NCA, for the benefit and enjoyment of present and future generations.” Red Cliffs NCA RMP, 3 (emphasis added).

Request for Inclusion in DEIS:

4- Impacts to Scenic and Visual Resources: The DEIS must address NCH impacts to viewshed, scenery and designated wilderness, and must consider VRM management objectives.

Additionally, allowing the proposed highway ROW and NCH within the Red Cliffs NCA and its associated and unavoidable impacts on scenic resources would also directly impact recreational resources, another purpose for which Red Cliffs was established. The following non-motorized trails would be fragmented by or located within one mile of the proposed highway corridor:

- Mustang Pass
- Ice House
- Cottontail
- Middleton Powerline
- T-bone
- Pioneer Hills
- Pioneer Rim
- City Creek
- Owen's Loop



View from Mustang Pass



View from Ice House



View from Cottontail



View from Middleton Powerline



Photo credit: Isabelle Katantzes

View from T-bone



View from T-bone



View from Pioneer Hills

Request for Inclusion in DEIS:

4- Impacts to Recreation related to Scenery: The DEIS must address NCH impacts to scenery and visitor experience on the 9 trails listed above.

The following non-motorized trails would be located within one mile of the Washington Parkway Extension which would connect to the proposed highway corridor:

- Mill Creek
- Bone Wash
- Elephant Arch
- Sand Hill
- Dino Cliffs
- Grapevine



View from Mill Creek



View from Bone Wash



View from Sand Hill



View from Dino Cliffs showing Green Springs



View from Grapevine showing Green Springs

Request for Inclusion in DEIS:

4- Impacts to Recreation related to Scenery 2: The DEIS must address cumulative NCH/Washington Parkway Extension impacts to scenery and visitor experience on the 6 trails listed above.

Simply put, BLM cannot reduce scenic quality or existing VRM classes and meet its Congressionally-delegated purpose and management objectives for the Red Cliffs NCA.

Even if BLM were somehow able to downgrade existing VRM classifications within the Red Cliffs NCA and still meet its legal obligations to protect the NCA's scenic and recreational resources, this cannot be done arbitrarily. BLM would only be able to amend its VRM classifications after it conducts a brand-new Visual Resource Inventory (VRI)

for the entire planning area and determines that the properly-conducted VRI warrants the establishment of new or amended VRM classifications. Just as when the determinations were made initially during both the St. George RMP planning process and the Red Cliffs NCA RMP planning process, VRM classifications must reflect the results of BLM's VRI.

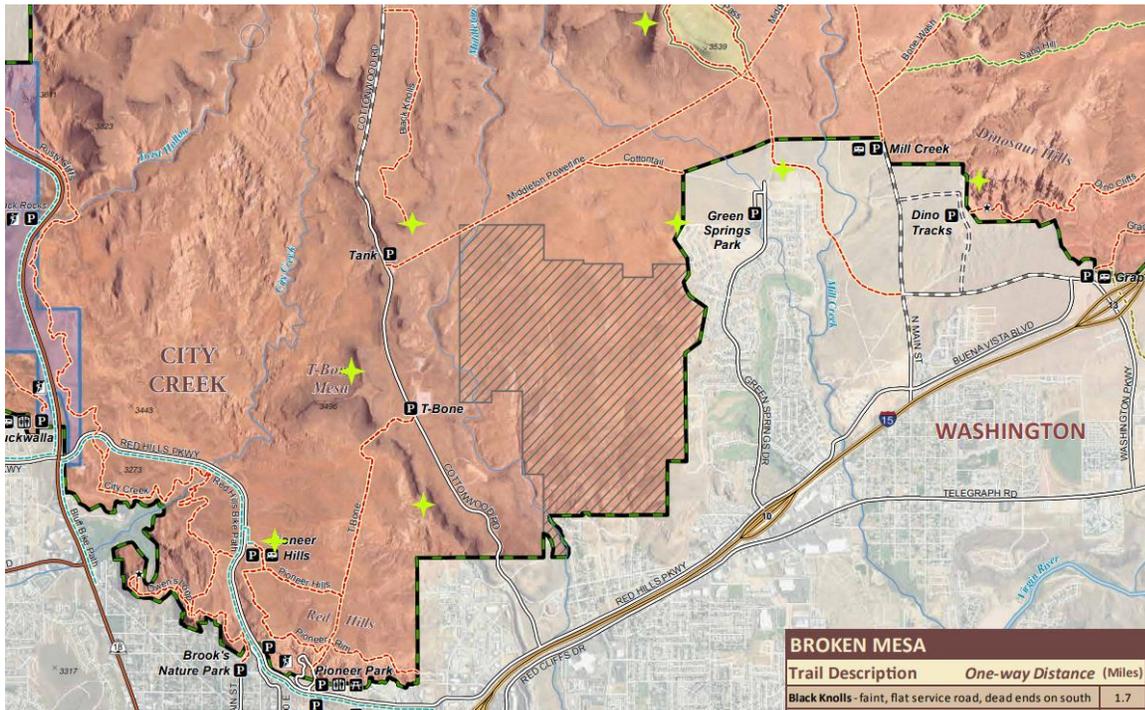
A proper VRI requires that BLM:

- Assess and rate the intrinsic quality of a particular tract of land, through the Scenic Quality Rating process;
- Measure the public concern for the scenic quality of the tract, through the Sensitivity Level Analysis; and
- Classify the distance from which the landscape is most commonly viewed, through delineation of distance zones. (Nearly all distance zones within the Red Cliffs NCA/DR would be impacted by the proposed highway and should be analyzed in the DEIS.)

Additionally, any tenable VRI analyses requires the identification and location of an appropriate number of Key Observation Points (KOP), which permit an analysis of simulated impacts on visual resources. BLM must establish the following KOP simulations in the DEIS:

- Simulations that show the view from all designated wilderness areas at different times of day from different seasons.
- Simulations that show what the view would look like from the close communities like Green Springs and Middleton that would be negatively impacted by the highway view from different times of day in different seasons.
- Simulations of what construction activity would look like including potential fugitive dust.
- Night- time and dark sky simulations with contrasts of headlights and traveling vehicles similar to the below images.
- Simulations depicting glint and glare from moving vehicles, as depicted below.
- Prepare visual contrast rating sheets to document potential effects





Green stars are suggested KOP's.

Request for Inclusion in DEIS:

4- Key Observation Points: VRM analyses in the DEIS must rely on multiple, carefully-chosen KOP's.

4.7.4 Impacts to Wildlife Resources

4.7.4.1 Special Status Wildlife Species, including Threatened, Endangered, Candidate, and Species Proposed for Listing under Endangered Species Act

The Red Cliffs National Conservation Area Record of Decision and Approved Resource Management Plan requires that “habitats for listed species are conserved, protected, and restored to support viable populations that no longer require listing protection under the Endangered Species Act (ESA) and habitats for species proposed for listing under the ESA are conserved, protected, and restored to support viable populations, precluding the need to list these species. (Red Cliffs NCA ROD at 11).

Request for Inclusion in DEIS:

4-General Impacts to Special Status Wildlife Species: The DEIS must address direct, indirect, cumulative, and residual NCH impacts related to items 1- 5 below:

1. The DEIS should list and analyze all dust palliatives, herbicides, and other chemicals used during construction, as well as the risk for spills of oil, fuels, toxic chemicals, and all hazardous materials that could wash onto adjacent wildlife habitat during rain events and flooding. Spills from accidents on a highway should also be analyzed into the future.
2. Will truck shipments of mining materials, toxic chemicals, fossil fuels, or other hazardous materials be allowed to drive on the Northern Corridor through a high-value NCA? This should be analyzed in the DEIS.
3. The potential for road mortality of animal species attempting to cross a new highway should be analyzed, as well as these road mortalities attracting scavengers such as ravens and coyotes. Such subsidy of predators can lead to increased predation on native species such as Mojave desert tortoise, other reptiles, mammals and nesting birds. The DEIS should analyze how predators that likely cause mortality in special status wildlife species can and would be controlled.
4. The DEIS should disclose and analyze what NEPA compliance may be needed for raven or other predator control measures to reduce tortoise mortality, and the relative timeliness and priority of completing that NEPA in light of other workload priorities. We believe that the protection and recovery of the ESA listed tortoise and other special status species and the completion of any associated required NEPA compliance should be a very high priority and not put “on the back burner” when BLM is faced with other proposed actions, especially those that arguably conflict with the ESA, HCP, and Red Cliffs NCA Plan.
5. The DEIS needs to include an inventory of existing wildlife corridors in the NCA and all proposed mitigation lands in order to evaluate the effect of the proposed highway on local wildlife movements. With ongoing climate change, these critical wildlife movement corridors are essential to be maintained and protected to the fullest extent possible in order to allow wildlife to migrate to suitable habitat as climate change proceeds. Some species may need to move seasonally, generally from higher to lower elevations and back again. Other species may need to move based on the temporary location of surface water sources to drink, or to breed for amphibians, or when fires destroy habitat and they must move to find forage and survive.

4.7.4.2 Special Status Bird Species: Southwestern Willow Flycatcher, Western Yellow-Billed Cuckoo, and Other Riparian-Dependent Special Status Species

The potential for road mortality of animal species attempting to cross a new highway should be analyzed, as well as attracting scavengers such as ravens and coyotes. Such

subsidy of predators can lead to increased predation on native species such as nesting birds.

How will the highway project impact the Southwestern willow flycatcher (*Empidonax traillii extimus*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), and other riparian dependent special status bird species populations that utilize habitats in the NCA? This should be analyzed in the DEIS. Surveys for these species should be undertaken along the proposed course of the corridor, all alternatives, and a buffer area.

4.7.4.3 Special Status Bird Species: California Condor

The potential for road mortality of animal species attempting to cross a new highway should be analyzed, as well as these road mortalities attracting scavengers such as California condors. All potential impacts to the California condor (*Gymnogyps californianus*) should be analyzed.

For example, could people discarding micro-trash items along the NCH over the years increase the risk of adult condors (that are highly attracted to shiny small objects) consuming those items and then feeding them to their condor chicks, thereby increasing the chances for chick mortality? If the condors are outside the ESA 10(j) experimental population area that ends on the east side of Interstate 15, what additional level of analysis and protection do they require when in the Red Cliffs NCA or Zone 6?

Since condors have begun successful breeding in Zion National Park and are frequently seen in the Kolob unit of this park, what is the likelihood that as the condor population expands some condors may begin nesting in rocky ledges in the Red Cliffs NCA or in the higher elevations of the nearby Pine Valley Mountains area of the Dixie National Forest? If condors increase their future presence and use in these more proximate areas, how could the NCH related road kills and other impacts affect them?

Request for Inclusion in DEIS:

4- Impacts to Birds: The DEIS must address direct, indirect, cumulative, and residual NCH impacts to all special status bird species.

4.7.4.4 Special Status Species: [Mojave desert tortoise](#)

4.7.4.5 Special Status Fish Species: Woundfin Minnow and Virgin River Chub

The Red Cliffs NCA RMP directs BLM to manage the Virgin River, Quail, and Leeds Creeks to provide aquatic habitat for the threatened and endangered native fish of the Virgin River system: the federally endangered Virgin River chub, and the federally endangered Woundfin. All potential NCH impacts to Woundfin minnow (*Plagopterus argentissimus*) and Virgin River chub (*Gila seminuda*) populations that utilize the Virgin River system within the NCA and outside it should be analyzed in the DEIS.

How will highway construction activities cause erosion and increased sedimentation of streams, washes, and the Virgin River? The DEIS should list and analyze all dust palliatives, herbicides, and other chemicals used during construction, as well as the risk for spills of oil, fuels, toxic chemicals, and all hazardous materials that could wash onto adjacent wildlife habitat during rain events and flooding. Spills from accidents on a highway should also be analyzed into the future.

Will truck shipments of mining materials, toxic chemicals, fossil fuels, or other hazardous materials be allowed to drive on the Northern Corridor through a high-value NCA? This should be analyzed in the DEIS.

Request for Inclusion in DEIS:

4- Impacts to Fish: The DEIS must address direct, indirect, cumulative, and residual NCH impacts to all special status fish species.

4.7.4.6 BLM Sensitive Species

The DEIS should analyze how any NCH construction will impact any ecologically intact core areas of sensitive species habitats that are conserved and protected from fragmentation in the NCA. How would this NCH affect the current level of protection for these species and their habitats, as well as the prospects for their future recovery?

4.7.4.7 BLM Sensitive Native Fish Species

The Red Cliffs NCA RMP directs BLM to manage the Virgin River, Quail, and Leeds Creeks to provide aquatic habitat for the threatened and endangered native fish of the Virgin River system.

Aquatic habitats in Leeds Creek and the Virgin River support populations of BLM sensitive fish species including Virgin spinedace (*Lepidomeda mollispinis*), desert sucker (*Catostomus clarki*), and flannelmouth sucker (*Catostomus latipinnis*). The DEIS should analyze any impacts to these fish species from development of a highway, including erosion, water quality degradation, groundwater pumping, habitat degradation, sedimentation, or other threats.

4.7.4.8 BLM Sensitive Raptor Species

BLM sensitive raptor species present in the NCA include: bald eagle (*Haliaeetus leucocephalus*), burrowing owl (*Athene cunicularia*), ferruginous hawk (*Buteo regalis*), northern goshawk (*Accipiter gentilis*), and short eared owl (*Asio flammeus*).

How will road construction, road mortality, and collisions impact these species?

Burrowing owls are declining across parts of their range due to habitat destruction, fragmentation, and the loss of burrow-makers such as Mojave desert tortoise and desert kit fox. The DEIS should analyze how a highway through burrowing owl and tortoise habitat will impact these species. Will burrowing owls be passively relocated during construction activities? What compensatory mitigation will be used to offset the loss of burrowing owl nesting and foraging ranges?

4.7.4.9 Migratory Birds and Birds of Conservation Concern

133 migratory birds and Birds of Conservation Concern that have been observed in Red Cliffs NCA. See Appendix L. The Red Cliffs NCA RMP (at 44) directs that BLM should only authorize actions that would not adversely impact nesting migratory birds (BCC-1). How will construction of a major highway disrupt nesting birds? The DEIS should describe all pre-construction surveys for birds, as well as monitoring during construction for nesting birds. How will bird nests be avoided under the Migratory Bird Treaty Act?

BLM should detail how surveys will be conducted for the federally threatened Mexican spotted owl, which is known to nest in cliffs and could be in the Red Cliffs area. How will road mortality, scavenging activities, and vehicle collision impact this species?

Utah's portion of the Mojave Desert is quite small and any degradation of habitat in the area in question could result in a reduction in the number of Mojave Desert bird species and the population sizes present in Utah

The resulting degradation of habitat utilized by birds will occur in the face of 3 Billion of the world's birds already lost in the last 30 years.¹¹⁹

4.7.4.10 BLM Sensitive Mammal Species

Sensitive mammals present in the NCA include: desert kit fox (*Vulpes macrotis*), Allen's big-eared bat (*Idionycteris phyllotis*), big free-tailed bat (*Nyctinomops macrotis*), fringed myotis (*Myotis thysanodes*), spotted bat (*Euderma maculatum*), Townsend's big-eared bat (*Corynorhinus townsendii*), and western red bat (*Lasiurus blossevillii*).

The DEIS should analyze how these species will be impacted by construction and operation of a major highway through a natural area, including direct and indirect mortality.

The DEIS should analyze the effects of transient artificial light sources from vehicles during nighttime travel. Artificial light from constant vehicle traffic is a significant source of light pollution, easily disrupting wildlife behavior. This light pollution would impact foraging patterns of several BLM Listed Sensitive species of Bats, create aversion for night pollinators (insects) and nighttime migration of birds, and unnatural elevated levels of predation on rodents. BLM needs to conduct baseline inventories of current bat populations, along with gathering metrics on nighttime light levels, and model the impact of artificial light scatter, along with incorporating a cumulative analysis compiling the aggregate of all the other impacts with the prospect of long duration light pollution.

The DEIS should be especially sensitive to the impacts of construction on desert kit foxes, which have suffered from disease outbreaks in the California Mojave Desert.¹²⁰ The DEIS should include a plan for avoiding diseases such as canine distemper in kit foxes, such as control of dogs on construction sites. A detailed plan is needed for how the project proponent will relocate kit foxes out of their burrows—passively or actively? What mitigation measures will be developed for kit fox loss of breeding pairs, burrows, and home ranges? Could increased public access provided by the NCH increase the current problem of dogs off leashes in the Reserve/NCA and thereby increase the risk of distemper or transmission of other diseases to kit foxes or other vulnerable species as well as the potential for increased stress on and predation of those species?

¹¹⁹ <https://www.smithsonianmag.com/science-nature/north-america-has-lost-nearly-3-billion-birds-180973178/>

¹²⁰ <https://cdfgnews.wordpress.com/2012/01/24/dfg-investigates-first-cases-of-canine-distemper-in-wild-desert-kit-foxes/>

4.7.4.11 Sensitive Reptile and Amphibian Species

Sensitive reptiles and amphibians present in the NCA include the common chuckwalla (*Sauromalus ater*), Gila monster (*Heloderma suspectum*), zebra-tailed lizard (*Callisaurus draconoides*), western banded gecko (*Coleonyx variegatus*), desert iguana (*Dipsosaurus dorsalis*), desert night lizard (*Xantusia vigilis*), western thread-snake (*Leptotyphlops humilis*), sidewinder (*Crotalus cerastes*), speckled rattlesnake (*Crotalus mitchellii*), Arizona toad (*Bufo microscaphus*), Great Plains toad (*Bufo cognatus*), and Western toad (*Bufo boreas*).

Road mortality could be a serious threat to these species, and we know of no mitigation strategy to prevent these small reptiles from crossing a highway with high-speed traffic. Highway impacts to these species from habitat destruction and fragmentation, noxious weeds, subsidized predators such as ravens, and direct collision should be analyzed in the DEIS

Chuckwallas have declined and become extirpated in other populations, and this should be analyzed in the DEIS with respect to effects from the NCH. .

BLM should describe what pre-construction surveys will be undertaken for Gila monsters, as well as protocols for translocating any Gila monsters found during excavation activities. Gila monsters spend 90% of their time in burrows underground, and construction could unearth individuals of these species. A translocation plan should be developed before project approval for public review.

The DEIS should also analyze how monsoonal events and rainy years may bring out migrations of Arizona toads that could potentially cross roads and highways, resulting in mortality. Source populations should be surveyed for and mapped prior to construction, and this should be detailed in a protocol available to the public before project approval.

For Arizona toads and other amphibian species, the DEIS should analyze how the NCH may affect current stormwater runoff and hydrological patterns that currently provide the temporary pond or pool refugia used by these species for breeding. Could some of these temporary refugia be reduced or eliminated by changes brought by the NCH, such as associated drains and culverts that may divert water that normally fills these refugia? Could nearby paved NCH surfaces and vehicle traffic increase surface temperatures and the evaporation rate thereby drying out these refugia prematurely and decreasing the minimum time needed for survival of the baby toads? How could NCH related road kills subsidize ravens, coyotes, and other predators of these amphibian species, including their young in the temporary aquatic refugia?

Request for Inclusion in DEIS:

4- Impacts to Fish: The DEIS must address direct, indirect, cumulative, and residual NCH impacts to all BLM sensitive species, including fish, raptors, migratory birds and birds of conservation concern, mammals, reptiles and amphibians.

4.7.4.12 Other Fish and Wildlife Habitat

The Red Cliffs NCA was created in part to conserve the rich ecological diversity resulting from the convergence of three major ecoregions: the Mojave Desert, Colorado Plateau and Great Basin.

The Red Cliffs National Conservation Area Record of Decision and Approved Resource Management Plan requires BLM to “manage fish and wildlife habitat to provide high quality forage or a high-quality prey base, as well as water, space, cover, and breeding areas, thereby sustaining viable populations and overall ecosystem biodiversity and resilience. Multi-species habitat connectivity, migration routes, and movement corridors are conserved and protected between ecological Zones to facilitate species persistence, adaptation, and overall biodiversity under predicted climate change scenarios.”¹²¹

Roads and highways can significantly impact migration routes and connectivity of biological populations. Highways can lead to habitat fragmentation. In this already relatively small NCA, how will BLM ensure that the proposed Northern Corridor not fragment and cut off movement for Mojave desert tortoise and other species? Will tortoise exclusion fencing be installed along the highway right-of-way? Will wildlife under-crossings be designed for and built into the highway, and how will movement of wildlife species be monitored?

Rocky Mountain mule deer could be significantly impacted by a highway that could create a barrier between crucial deer winter range and year-long substantial range along the Virgin River. Will wildlife under-crossings and wildlife over-crossing bridges be constructed to allow movement of deer and other wildlife?

Request for Inclusion in DEIS:

4- Impacts to other fish and wildlife habitat: The DEIS must address direct, indirect, cumulative, and residual NCH impacts related to multi-species habitat connectivity and migration routes for all wildlife.

4.7.4.13 Growth-Inducing Effects

How will the construction of a new highway allow the potential for more growth in the St. George area, including future additional demands to develop more of the Red Cliffs NCA? For example, could the NCH increase the potential that the large blocks of SITLA land in the Reserve/NCA may be developed in a manner that not only would violate the current HCP and NCA Plan, but also increase the pressure on BLM and FWS to allow even more future utility and other development in the Reserve/NCA? In other words, could constructing the NCH end up being a new stimulus for more harmful and incompatible development in the Reserve/NCA? History has shown that new highways generally lead to new developments, which, in turn, create the need for more roads and highways. This predictable pattern may be acceptable on private lands but it should not be acceptable in a HCP created Reserve and a federal statutory BLM NCA.

4.7.4.14 Cumulative Impacts

¹²¹ Red Cliffs NCA ROD at 11.

The DEIS should analyze other current and planned projects in the region, including the 7,200-acre Gemini Solar Project which will pinch off connectivity for many species, most especially the Mojave desert tortoise.

Other projects impacting the tortoise, burrowing owl, desert kit fox, Gila monster, golden eagle, and rare plants, include the proposed approximately 2,000-acre Eagle Shadow Mountain Solar Project, the approximately 2,000-acre operating Moapa Solar Project, and existing and proposed utility-scale solar projects in the Apex region, Dry Lake Solar Energy Zone and proposed expansion of that Zone. In addition, several large high-voltage transmission projects are proposed for the southern Utah-Nevada area: the TransWest Express transmission project is proposed from the Chokecherry Wind Energy Project in Wyoming, through Utah and Nevada, to California.

These projects have a very large negative cumulative impact on the Mojave desert tortoise, including direct mortality, indirect impacts, and blocking of genetic connectivity between recovery units in Nevada and southwestern Utah. The Northern Corridor would add more significant impacts to the tortoise and other declining and sensitive species. These cumulative effects must be fully disclosed and analyzed in the DEIS.

We believe that the magnitude of these cumulative effects continues to grow and worsen, and become “death by a thousand cuts” in terms of preventing the effective conservation and the potential for future recovery of the listed Mojave desert tortoise and other vulnerable species. Indeed, despite the tortoise being ESA listed for about three decades, and the USFWS knowing that most tortoise populations continue to dramatically decline, the USFWS continues to approve projects that will undermine tortoise conservation and recovery, often with unproven or weak mitigation measures that may ultimately be largely unsuccessful. Unless the USFWS changes its propensity and pattern for these project approvals, the tortoise populations will continue to decline toward regional extirpations and ultimate extinction in the wild.

Request for Inclusion in DEIS:

4- Growth-Inducing and Cumulative Impacts: The DEIS must address future development demand in the Red Cliffs NCA/DR facilitated by the NCH and it must address the cumulative impacts of other large-scale projects in critical tortoise (and other vulnerable species) habitat.

4.7.4.15 Additional Concerns

Request for Inclusion in DEIS:

4- Additional Impacts: The DEIS should address NCH related impacts for items 1-5 below:

1. The impacts of habitat fragmentation on each of the species listed above.
2. The impacts of ROW maintenance on each of the species listed above.
3. Analysis of impacts to species found at the extremes of their historic ranges in the NCA because of its unique position at the meeting place of three ecoregional transition Zones

4. Analysis of the relationship between habitat fragmentation and climate change, including the need for connected, contiguous swaths of protected land for wildlife.
5. Analysis of habitat fragmentation on reptiles with temperature-dependent sex determination, including the Mojave desert tortoise.

4.7.5 Impacts to Recreational Resources

4.7.5.1 Introduction

The Red Cliffs NCA and Desert Reserve have become a recreational asset to a growing Washington County. Locals and visitors can experience bird and wildlife watching, hiking, biking, trail running, horse riding, climbing and the annual spring flower blooms all while setting aside a protected area for the threatened Mojave desert tortoise. In fact, an encounter with one of the desert tortoises while recreating is an experience to be remembered that encourages visitors to return with family and friends, again and again.

Request for Inclusion in DEIS:

4- Recreation Quality and Visitor Experience Impacts: The DEIS must address the following NCH related impacts, concerns, and issues listed in items 1- 22:

1. Direct, indirect and cumulative impacts to recreation on the T-bone trail which would be fragmented by the Project. This is an easily-accessed, local favorite for hiking and trail running which has experienced an increase in use from 745 visits in 2015 to 910 in 2019¹.
2. Direct, indirect and cumulative impacts to recreation on the Cottontail trail which would be fragmented by the Project. This trail is very popular with residents of Green Springs who use it to access Middleton Powerline, Mustang Pass and Ice House trails. A trail counter should be placed on this trail to record annual usage.
3. Direct, indirect and cumulative impacts to recreation on the Pioneer Rim and Pioneer Hills trails which are sandwiched between Red Hills Parkway and the Project. These trails would be changed forever by the sights, sounds and inevitable highway litter and vehicle emissions which would come from the additional highway. In an area favored by families and children because of its proximity to the “Sugarloaf,” this would be a completely different experience. The Pioneer Hills trailhead use has nearly doubled from 2015 to 2019, increasing from 504 visits to 1050 visits.¹²²
4. Direct, indirect and cumulative impacts to recreation on the Owen’s Loop and City Creek trails. These trails may be on the other side of the Red Hills Parkway, but the added congestion at the interchange

¹²² BLM Recreation Management System Visits and Visitor Days By RMA, Fiscal Years Range of October 2014-2015 and October 2018-2019

- of that highway and the Project would impact visitor experience there as well. City Creek trail system is considered an Intensive Use Area and visits in 2015 of 7,065 have increased to 9,200 in 2019.
5. Direct, indirect and cumulative impacts to recreation on the Broken Mesa Trail. Hikers or mountain bikers coming down off of Broken Mesa would have an experience of heading into the highway area with associated noise, litter and visual disturbance.
 6. Direct, indirect and cumulative impacts to recreation on the Ice House, Mustang Pass and Middleton Powerline trails which are all within one mile of the proposed highway with disturbances similar to those mentioned for Broken Mesa trail.
 7. Direct, indirect and cumulative impacts to recreation quality related to increased noise pollution. 32-46 thousand vehicles per day¹²³ would travel at minimum speeds of 55 mph through the heart of the NCA by the year 2040, producing an average of 70-80 decibels of traffic noise continuously. Studies have shown that that level of noise will increase heart rate, blood pressure and cortisol. Visitors to Red Cliffs seek an experience of natural quiet and solitude in a designated NCA, not highway noise.
 8. Direct, indirect and cumulative impacts to recreation quality related to increased ease of access that will likely cause new social trails and trampling of the vegetation.
 9. Direct, indirect and cumulative impacts to recreation quality related to increased air pollution caused by vehicle emissions.
 10. Direct, indirect and cumulative impacts to recreation quality related to the Project's connection to the Washington Parkway Extension (WPE) which would negatively impact recreation experience on the Mill Creek, Bone Wash, Sand Hill, Dino Cliffs, and Grapevine Trails.
 11. Direct, indirect and cumulative impacts to recreation quality on trails that lead to the Cottonwood Canyon Wilderness which is managed for unconfined and primitive recreation and to preserve natural quiet, dark night skies and the experience of solitude. These trails include: Ice House, Mustang Pass, Middleton Powerline, Millcreek and Bone Wash.
 12. Direct, indirect and cumulative impacts to recreation quality related to visual disturbance on all 15 listed above.
 13. Direct, indirect and cumulative impacts to recreation quality related to viewshed destruction because of the increased threat of catastrophic wildfire caused by vehicle sparks on dry grasses or the careless toss of a lit cigarette from a vehicle window traveling on the NCH.

¹²³ Washington Parkway Corridor Alternatives Cost/Benefit Analysis. (Vehicles include cars, freight and dump trucks).

14. Direct, indirect and cumulative impacts caused by direct habitat loss that would change visitor experience of a familiar and much-loved landscape. These include loss of soil crust, increased erosion, loss of native vegetation and wildlife, more invasive and exotic weeds, higher risk of catastrophic wildfire, destruction of highly-scenic viewsheds, and more litter, noise and air pollution.
15. Direct, indirect and cumulative impacts caused by loss of access to recreation in quiet, natural spaces. Time spent in nature has been proven to reduce the stress hormone cortisol and increase physical, mental and emotional health.¹²⁴ As Washington County's rapid growth continues, the health benefits that come from having an easily-accessible, 130-mile network of trails protected in our Red Cliffs NCA must be protected. There is a strong sense of local ownership and commitment to stewardship by local residents who do not want to see their trails and their sanctuary compromised
16. Mitigation measures, if any, for damage to visitor experience of natural quiet, dark night skies, solitude and exposure to natural landscapes.
17. Mitigation measures analyzed should include highway speed limits of 30 mph or less; under or overpasses for fragmented trails; organization of regular litter pick-ups on the 15 trails impacted by the highways; AND
18. Mitigation measures, if any, for diminished recreation experience on trails directly and indirectly affected by the highway.
19. How will hikers and bikers continue traveling north-south on the T-bone trail and east-west on the Cottontail Trail?
20. How will the BLM keep lands adjacent to the highway clean and free from litter? Litter released by open dump trucks and vehicles on Red Hills Parkway, the other 4-lane highway through the NCA, spreads into the NCA and accumulates on roadsides, subsidizing tortoise predators and diminishing scenic qualities.
21. How will the BLM mitigate for increased noise and air pollution experienced by recreators?
22. How will north-south travel on Cottonwood Springs Road be maintained if the NCH is built? This is an existing motorized road that is commonly used by trail runners and that provides access to the Yellow Knolls Heritage Site and many other trails in the NCA.

4.7.5.2 Impacts to Equestrian Recreation

¹²⁴ <https://www.sciencedaily.com/releases/2019/04/190404074915.htm>

Request for Inclusion in DEIS:

4- Equestrian Recreation Impacts: The DEIS must address the following NCH related impacts, concerns, and issues listed in items 1- 7:

1. Impacts to the Mill Creek Trail which provides access to Elephant Arch, Mustang Pass, Ice House, Sand Hill and Dino Cliffs Trails, all popularly used by equestrians.
2. Impacts to the Pioneer Hills Trailhead and the nearby Pioneer Hills and Pioneer Rim Trails.
3. Impacts to the experience of quiet recreation by equestrians
4. Mitigation measures, if any, for equestrian experience that would be damaged by the spewing of exhaust, dust, and never-ending noise caused by the four-lane highway.
5. Mitigation measures, if any, for insulating horses and riders against any of those pollutants.
6. How the NCH would negatively impact equestrian experience in the nearby Cottonwood Canyon Wilderness Area which is located approximately 1 mile from the eastern terminus of the NCH. The Wilderness Act of 1964 directed that designated wilderness areas “shall be administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness, and so as to provide for the protection of these areas, the preservation of their wilderness character,...” The Act recognized the value of preserving “an area where the earth and its community of life are untrammelled by man.”
7. Impacts to the long-standing efforts of Back Country Horsemen of Utah Southwest Chapter, who have dedicated extensive volunteer time to maintaining and stewarding trails in the Red Cliffs NCA/DR. These projects include trail identification and marking; trailhead cleanup; installation of metal stepovers found at several trailheads to keep the tortoises within the boundaries while allowing for non-motorized access; and cleanup of tumbleweed piled almost 5 feet tall that had strangled the access road to the Cottonwood trailhead.

4.7.6 Impacts to Cultural Resources

One of the purposes of the Red Cliffs NCA is to conserve, protect and enhance cultural and historical resources (together referred to by the BLM as “heritage resources”). Heritage resources include physical items, but have been more broadly defined to include areas where significant events occurred (although evidence of the event may no longer remain) and places that may be of traditional cultural importance or religious significance. In these contexts, natural landscapes with particular cultural importance are also included within the definition of cultural resources.

The Red Cliffs NCA Draft RMP notes that cultural resource Class III investigations had been conducted on 12.51% of the land in the Red Cliffs National Conservation Area in 2015. 263 prehistoric and historic period archaeological sites were documented. Since

there is a huge amount of land that has not been surveyed yet, we don't know exactly how many cultural sites are located in the path of the NCH. The BLM notes that when they do project-specific inventories for linear projects like highways, there are usually "high prehistoric site densities."¹²⁵

Request for Inclusion in DEIS:

4-Impacts to Cultural Resources: The DEIS must address the following NCH related impacts, concerns and issues listed in items 1- 8:

1. Inventory of cultural resources in the NCH alignment and any other alignments considered.
2. Impacts to TCP (traditional cultural properties) and heritage resources.
3. Impacts to TEK (tradition ecological knowledge)
4. BLM must consult with the Shivwits Band on these impacts as the NCH crosses their ancestral homelands. The Band should be given the opportunity, and provided compensation, for input (and ethnography) on the land and its resources.
5. Impacts to cultural plants that provide food and medicine, including but not limited to the following (common name, Southern Paiute name, Shivwits dialect used when available)
 - Creosote (*yatumb*)
 - Indian rice grass
 - Indian tea (*tu'tup*)
 - Utah agave (*yaant*)
 - Engelmann prickly pear (*Manav*)
 - Seepwillow (*Kanave*)
 - Other willow and riparian species found in washes crossed by the NCH
 - Desert Sage
 - Yucca
 - Globemallow
6. Impacts to cultural animals related to habitat fragmentation, loss and direct mortality
 - Tortoise (*pika'aya*)
 - Cultural history, knowledge and value pertaining to tortoise
 - Horned toad and lizard (*mukaw'chuts and sixuupits*)
 - Mule Deer (*tuiits*)
 - Roadrunner (*aots*)
 - Quail (*karam*)
 - Jack Rabbit and cottontail (*kamunts and tavuts*)
 - Hawk (*kusuvi*)
 - Golden Eagle and Bald Eagle (*kwanants and pa'si*)
 - Owl (*muupits*)

¹²⁵ Red Cliffs NCA Draft Resource Management Plan, Pg. 519

- Fox and Coyote (*ontsi'ats and sunangwavi*)
 - Bat (*pawchuts*)
 - Chipmunk and squirrel (*tavats and skuts*)
7. There is a known petroglyph site in the NCH corridor northeast of Middleton Wash (approx. 20' by 10'). There are likely other sites nearby.
 8. What will happen to this petroglyph panel? Conserve Southwest Utah has location details.





4.7.7 Impacts to Historical Resources

The DEIS must consider all historic resources in or adjacent to the proposed NCH. We are aware of resources that are adjacent (possibly within) the NCH ROW and can provide location details.

Request for Inclusion in DEIS:

4-Impacts to Historical Resources: The DEIS must include inventory of historical resources in the NCH alignment and any other alignments, including inventory of the “Pioneer engravings” in basalt rock northeast of the T-bone Trail.

4.7.8 Impacts to Natural Resource Values

The NCH would impact visitor experience of designated wilderness areas, solitude, unconfined recreation, dark night skies and natural quiet. These values are regionally and nationally significant. Natural values provide opportunities for recreation, health and wellness located just minutes from one of the fastest-growing metropolitan areas in the nation.¹²⁶

Request for Inclusion in DEIS:

4-Impacts to Natural Resources: The DEIS must address NCH related impacts to designated wilderness, dark night skies, and natural soundscapes listed in items 1 – 15 below.

Designated Wilderness

1. The southeast portion of the 11,668-acre Cottonwood Canyon Wilderness is located one mile from the proposed NCH, and portions of the Mustang Pass and Mill Creek trails used to access the wilderness are located less than ½ mile from the highway. How will the increased noise, air pollution, litter and visual/scenic disruption impact visitor experience in-route to, and inside, this wilderness area?
2. The Cottonwood Canyon Wilderness shares a common boundary with Dixie National Forest Cottonwood Forest Wilderness which is adjacent to the Pine Valley Wilderness. This patchwork of connected, protected land ranges in elevation from roughly 2,800 feet at the southern boundary of the Red Cliffs NCA up to 10,300 feet in the Pine Valley Wilderness. We believe that it is critically important to protect this connected natural landscape from harmful fragmentation. Large contiguous swaths of land function as crucial wildlife corridors and will become increasingly important to the survival of many species that may need to migrate to higher elevations to cope with climate change.

Dark Night Skies

3. Starry night skies and natural darkness are important components of National Conservation Lands. Many NCAs are some of the last remaining harbors of

¹²⁶ <https://www.thespectrum.com/story/news/2019/04/18/st-george-utah-population-growth/3511212002/>

darkness and provide excellent opportunities for the public to experience this endangered resource. The Red Cliffs NCA is adjacent to one of the fastest-growing metro areas in the nation. The DEIS must analyze impacts of light pollution on the residents of Green Springs, on wildlife (including bats and nocturnal animals), and on visitors to the NCA.

4. Starry skies are important to Washington County residents who are actively working to combat light pollution and gain Dark Sky status for their cities. The towns of Virgin, Rockville, Springdale and Ivins are engaged in these efforts in order to benefit wildlife, health, economy, heritage and posterity.¹²⁷ Dark night skies are integral to the historical fabric of Washington County. As light pollution from urbanized areas in Washington County increases, the idea of protecting remaining dark skies increases. The DEIS must analyze the NCH related impacts loss of starry skies will cause to the community.
5. Light pollution is visible from many locations within the NCA already, even in the Cottonwood Canyon and Red Mountain Wilderness Areas. Introducing a 4-lane highway will only increase this light pollution.
6. Unshielded highway lights would have an especially large impact on residents of the Green Springs whose homes are located between 700 and 1500 feet of the highway. Artificial light is known to suppress the hormone melatonin and increase the risk for certain types of cancers and Type II Diabetes.¹²⁸
7. Preserving dark night skies is also important to the health of nocturnal animals like the ring-tailed cat, kitfox, bobcat, Townsend's big-eared bat, lyre snake, western-banded gecko. These species rely on darkness for navigation, to cue behaviors, to hide from predators, and to hunt and light pollution from the highway could disrupt these activities.

¹²⁷ <https://ivinsnightsky.org/>

¹²⁸ <https://www.webmd.com/sleep-disorders/news/20110119/light-exposure-may-cut-production-of-melatonin>

8. The DEIS must analyze the degree to which light pollution already impacts locations throughout the NCA and how light from the NCH would add to this baseline.
9. The DEIS must analyze how highway lighting disrupts the foraging and commuting routes of bats and interferes with their feeding behavior. Over 13 species of bat, including the BLM-sensitive Fringed Myotis and the rare Spotted Bat and Yuma Myotis, have been identified near the proposed route of the NCH.

Natural Soundscapes

10. 32-46 thousand vehicles per day are projected to travel on the Northern Corridor in 2040, dramatically increasing noise levels in the southern portion of the NCA. BLM must study the encroachment and cumulative impact of artificial sound-levels resulting from the NCH. Vehicle noise would be transmitted for miles in all directions disrupting the natural soundscape. With the expected St. George population growth, vehicle noise pollution would intensify over time.
11. The potential for noise pollution to induce modified wildlife behavior such as aversion to highway surroundings, thereby reducing the total usable habitat and foraging.
11. A full analysis requires: baseline metrics of current sound pressure levels, a noise-level modeling study, an analysis on the failure of wildlife to adapt to the noise pollution and a cumulative assessment of long duration and escalating sound levels on landscape health.
12. The DEIS must analyze the impacts of highway traffic noise to residents, visitors and wildlife.¹²⁹
13. Traffic noise degrades the calming effect we experience when we spend time in wild places, diminishing visitor experience and adversely affect wildlife survival rates and distribution. The DEIS must analyze the impacts of highway noise on recreation experience.
14. The DEIS should incorporate recent studies which show that human-caused noise has doubled the level of environmental sound in 63 percent of U.S. protected areas, and produced a tenfold or greater increase in 21

¹²⁹ https://www.keepsandiegomoving.com/Libraries/I805-Corridor/doc/SAN_I805S_FS_Traffic_Noise_Basics_Fact_Sheet_062915.sflb.ashx

percent of protected areas.¹³⁰ In general, a growing number of studies indicate that animals, like humans, are stressed by noisy environments.¹³¹

15. The DEIS should include analysis of NCH noise-related impacts to human physiological, physical and mental health

4.7.9 Impacts to Educational Resources

The Red Cliffs NCA protects significant educational resources including opportunities for “broad-based scientific, academic, and community partnerships, volunteer programs, youth and veteran training and employment initiatives, developed to enhance public appreciation and citizen stewardship of the NCA resources and values.”¹³² Conserve Southwest Utah partners with BLM to manage Southwest Utah National Conservation Lands Friends (SUNCLF) which includes a robust site steward program and multiple community outreach events each year including many events offered to students in the Washington County School District.

Request for Inclusion in DEIS:

4-Impacts to Educational Resources: The DEIS must address NCH related impacts to educational resources, community learning and cohesion listed below in items 1 – 3:

1. Impacts to the volunteer site steward program and the stewards who currently monitor sites inside the Red Cliffs NCA. Routing the NCH through one known petroglyph panel (and an as-of-yet unknown number of other precious sites) undermines the efforts of site stewards who volunteer their time to monitor and guard heritage resources protected inside the Red Cliffs NCA.
2. Impacts to a decade of educational efforts focused on conservation of the special status species and 9 resource values protected in the NCA. Since 2009, Conserve Southwest Utah staff and SUNCLF members have spent thousands of hours providing outreach, stewardship, habitat restoration, litter pick-ups, guided hikes, and community building events focused on the Red Cliffs NCA and its value to our community. Current education efforts focus on welcoming all members of our diverse and growing community to experience and advocate for conservation of the 9 resource values protected inside the NCA. The NCH undermines great effort to connect our community to stewardship, education and appreciation of *their* NCA.

¹³⁰ <https://www.pbs.org/newshour/nation/noise-pollution-humans-wreaking-havoc-u-s-wildlife>

¹³¹ https://www.nps.gov/subjects/sound/effects_wildlife.htm

¹³² Red Cliffs NCA Draft Resource Management Plan, pg. 16

3. Conserve Southwest Utah currently has over 2,000 members, and SUNCLF over 40 site stewards, who are dedicated to protecting the Red Cliffs NCA's resources. The NCH undermines their efforts as well.

4.7.10 Impacts to Scientific Resources

Scientific resources protected in the Red Cliffs NCA are significant from a regional and national perspective because they afford opportunities for scientific study of Early and Middle Jurassic age paleo-environments and opportunities for conservation, protection, restoration, scientific study, public use and interpretation of an array of Jurassic-age paleontological resources including scientifically important plant fossils, bone beds, and track sites.

Additionally, the Red Cliffs NCA protects a legacy of scientific research centered on the threatened Mojave desert tortoise living in the northeastern extent of its range in Washington County. This research has occurred in Paradise Canyon, City Creek and other locations in the NCA since the 1950's, providing a wealth of data valuable to protection and recovery of the species. This unbroken research should not be compromised by projects like the NCH. Given that one purpose of the NCA is to foster scientific partnerships with universities and researchers, it is important to consider how the NCH could destroy opportunities for future research and collaborations focused on the tortoise and the other values protected inside the NCA.

Request for Inclusion in DEIS:

4-Impacts to Scientific Research: The DEIS must address NCH related impacts to the legacy of Mojave desert tortoise research inside Red Cliffs NCA/DR and to opportunities for future research.

Geological and Paleontological Resources

One of the most important and significant resources found in the Red Cliffs area beside the federally threatened Mojave desert tortoise, is the rich paleontological resources found in the St. George region in siltstones and sandstones. Globally important dinosaur tracks and trackways (including tracks interpreted as swimming dinosaurs), trace fossils made by invertebrates and a diverse array of vertebrates, fossil bone beds, plant fossils, and petrified wood deposits are found in the St. George, Utah, area, from the late Triassic transition to early Jurassic Kayenta Formation and Navajo Sandstone. The level of preservation is very high, increasing its importance to science. The paleontological finds here give an unparalleled glimpse into lost worlds 200-175 million years old. Numerous dinosaur track taxa have been described, such as *Eubrontes* and *Grallator*. These represent theropod, early sauropod, and possibly ornithomimid dinosaurs; other tracks represent crocodylomorphs. Even ancient bacterial mats are represented as fossils, giving clues as to early ecosystem functions and climates in fossil lake habitats. The Red Cliffs Dinosaur Tracksite is found in the NCA, and has interpretive trails to provide for public education¹³³. The St. George Dinosaur Discovery Site museum interprets the regional

¹³³ <https://www.blm.gov/visit/search-details/16387/2>

dinosaur paleontology to the public, and has been described as one of the ten best dinosaur tracksites in the world.¹³⁴

These unique fossil sites were meant to be conserved and protected under the Omnibus Public Land Management Act of 2009 (16 U.S.C 7202, Public Law 111-11) that established the Red Cliffs National Conservation Area.

The Red Cliffs National Conservation Area Record of Decision and Approved Resource Management Plan has a goal of conserving and protecting valuable paleontological and geological features:

Paleontological resources, unique geologic features, and examples of geologic processes are conserved and protected for the benefit and enjoyment of present and future generations, consistent with the mandates of OPLMA and the legislative purposes for which the Red Cliffs NCA was Congressionally-designated (Red Cliffs RMP ROD at 23).

And again:

Paleontological surveys will be conducted in areas with high potential for scientifically important fossil localities to increase the knowledge of these resources consistent with the mandates of OPLMA and the legislative purposes for which the Red Cliffs NCA was Congressionally-designated (*ibid.* at 11).

Request for Inclusions in the DEIS:

4- Paleo/Geological Survey: A complete inventory of currently-known and potential fossil sites should be analyzed by BLM, especially any potential new fossil beds in the path of the corridor right-of-way. The DEIS should describe a protocol of surveys for important paleontological and geological resources in the proposed corridor and a buffer around it, in order to avoid damage to these unique resources. A Paleontological Resource Mitigation Plan should be prepared during the environmental review process, where the public can comment and participate in the protection of these public lands scientific wonders and ensure they are fully documented.

Furthermore, it is concerning that there are at least 3 known paleo resources documented near the proposed NCH in the same geologic unit (Jn) that some nearby Eubrontes tracks are found. These tracks are located on the popular Dino Cliffs Trail adjacent to the Washington Parkway Extension that would connect with the proposed NCH.

4.7.11 Socioeconomics

A. Select Alternative Maximizing protections/enhancements of nonmarket values

The DEIS analysis of the socio-economic impacts of the NCH must be thorough and accurate. We have included with these comments in Appendix G, *Socio-Economic*

¹³⁴ <https://utahdinosaurs.com>, <https://blogs.plos.org/paleocomm/2016/05/31/track-makers-in-southern-utah-the-st-george-dinosaur-discovery-site/>, <http://www.sunstar.com/sunstar/geology/JuraTracks/BasalJurassic.htm>

Framework for Public Land Management Planning: Indicators for the West's Economy, which details our expectations for the baseline analysis of the region's economy. This analysis should be of the potential impacts of the NCH and any associated RMP or HCP amendments as well as analysis of transportation alternatives to the NCH. The analysis of socioeconomic considerations should follow the approach set out in this document, as well as the more specific considerations detailed below.

These comments focus specifically on how BLM should evaluate the costs and benefits of conservation alternatives versus development alternatives within the NCA. Past analyses of conservation alternatives have tended to focus only on the costs; the agency needs to fully evaluate all the benefits as well for these alternatives. On the other hand, analyses of development alternatives tend to emphasize the benefits and ignore the costs. For these alternatives the agency must fully evaluate all the costs.

Request for Inclusion in DEIS:

4-Socio-Economic Framework: BLM should use Appendix G, *Socio-Economic Framework for Public Land Management Planning: Indicators for the West's Economy* in determining the baseline analysis of the region's economy.

B. General Considerations

In general, when looking at the economic implications of various management alternatives, BLM should do a full accounting of the costs and benefits. To facilitate informed investment decisions about publicly owned wildlands, economic analysis must take into consideration both market and nonmarket benefits and costs. Loomis, 1993.

Request for Inclusion in DEIS:

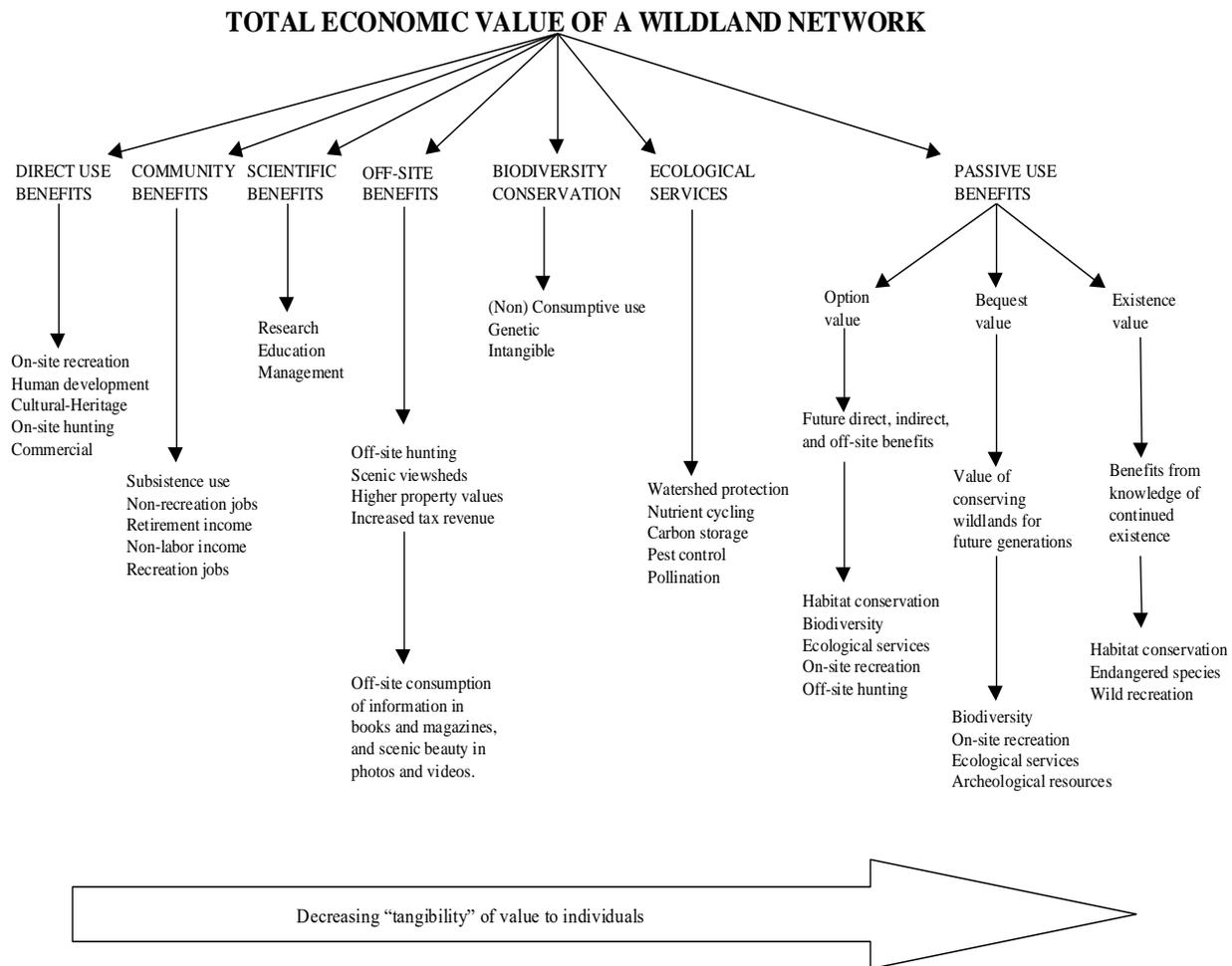
4-Evaluating Alternatives: BLM should utilize a Total Economic Valuation Framework for evaluating alternatives.

To account for the full array of market and nonmarket wildland benefits, economists have derived the total economic valuation framework.¹³⁵ The total economic valuation framework (TEV) is the appropriate measure to use generally when evaluating alternatives, and specifically for evaluating the benefits of protecting the values of the NCA as legislatively enacted.

All Americans own Federal public lands and the scope of the economic analysis should therefore look beyond the employment and income impacts on local communities to include all Americans. Taking a narrow "regional accounting stance" that only includes local counties will ignore the benefits and costs that accrue to Americans outside the region from management of public land. Because public lands are owned by all Americans, we recommend the BLM take a national accounting stance when estimating the benefits and costs of management alternatives in the EIS. In other words, since all Americans "own" these BLM Red Cliffs NCA lands, the economic analysis should focus on potential effects at the local, regional, and national levels.

¹³⁵ Peterson and Sorg 1987; Morton 1999, 2000a

To provide an analytic framework (see figure below) for such an analysis, economists have developed the total economic valuation concept that includes non-market benefits¹³⁶. Under this approach, non-market benefits of a primitive and wild landscape may be substantial¹³⁷. Researchers have consistently found that passive use benefits of wildlands, including the benefits of retaining the option to visit wilderness, simply knowing wilderness exists, and being able to pass it on to future generations (known to economists as option, existence, and bequest benefits), are greater than other wildland benefits. BLM planners must derive and fully utilize a total economic valuation framework when evaluating land management alternatives. It is the appropriate framework for evaluating management alternatives for public land.



Total Economic Valuation Framework for Wilderness Quality Lands. Morton 1999.

Request for Inclusion in DEIS:

4-Avoid IMPLAN: BLM should avoid IMPLAN or other input-output models that are grounded in Economic Base Theory when estimating jobs-income for each alternative.

¹³⁶ Randall and Stoll 1983; Peterson and Sorg 1987; Loomis and Walsh 1992.

¹³⁷ Morton 1999.

The IMPLAN model is an economic model used by the Forest Service and the BLM to project jobs and income from proposed actions. While the IMPLAN model can be useful as a static analysis of the regional economy, communities must be aware of the shortcomings and poor track record of the model. A more accurate, dynamic, and complimentary approach examines regional trends in jobs and income. We recommend that BLM use the EPS model developed by, and available free from, the Sonoran Institute.

In general, models like IMPLAN are grounded in economic base theory. These models assume that an economy is static (i.e. it does not change) – which everyone knows is not true. IMPLAN models also do not consider the impacts of many important variables that affect regional growth in the rural west, such as regional amenities like high quality hunting, fishing and recreational opportunities, open space, scenic beauty, clean air and clean water, a sense of community, and our overall high quality of life. Many of these amenities are associated with attracting new migrants as well as retaining long-time residents.

Many long-time residents and new residents earn retirement and investment income. As shown by an analysis of economic trends, retirement and investment income is becoming increasingly important to rural economies of the west. Unfortunately, most IMPLAN models completely fail to consider the important economic role of retirement and investment in the economy of a community – which can be a fatal flaw of the model.

Our more specific concerns have to do with the technical assumptions used in most IMPLAN models. These questionable assumptions include: no changes in relative prices, no input substitution or technological change in the production processes; no labor mobility; no change in products or tastes; no regional migration; and no changes in state and local tax laws.

In a review of 23 studies that empirically tested the economic base hypothesis, Krikelas (1991) found only four studies that provided any evidence in support of economic base theory as a long run theory of economic growth -- a dismal track record. History is replete with cases of communities and areas that lost their export base and continued as reasonably successful economies with their social capital intact. The local-serving sectors of the economy were the persistent ones, as new exports were substituted for the old.

Economists with the Forest Service and Office of Technology Assessment concluded that while IMPLAN is useful for appraising the total economic impacts of a management plan, the model is insufficient for evaluating the economic impacts for communities.¹³⁸ According to the OTA (1992), IMPLAN has an additional shortcoming for assessing community impacts: the economic data used to construct IMPLAN do not provide comparable details for all resource-based sectors of the economy.

The concern over the accuracy of regional growth models like IMPLAN combined with concern over the use of these models for planning, suggests that it is not only inappropriate but a disservice to rural communities to rely on IMPLAN to estimate the

¹³⁸ Hoekstra et. al, 1990; OTA 1992.

economic impacts of public land management alternatives on rural communities. If the BLM decides to use IMPLAN for this DEIS analysis, we insist that the BLM fully discuss the assumptions, the shortcomings, and the poor track record of the model.. At the same time, the BLM must also complete a trend analysis of regional jobs and income – to provide a better and more complete understanding of their economic past and their economic future. We recommend the Economic Profile System that is available free from the Sonoran Institute.

Request for Inclusion in DEIS:

4-Total Personal Income: BLM should use Total Personal Income as a basis for examining economic impacts.

For the analysis of regional economic trends, BLM should include an analysis of all sources of income, rather than relying solely on employment – which will dramatically overstate the importance of oil and gas industries to the local economy. A full accounting of income is necessary to an understanding of the important role that transfer payments and other sources of non-labor income, such as interest payments, rents, and profits have upon the regional economy. An economic impact analysis that excludes non-labor income is totally inadequate and misleading.

Request for Inclusion in DEIS:

4-Examination of Historic Trends: To provide socio-economic context, BLM should examine historic trends in county income and employment.

A growing number of economists are recognizing that protecting the quality of the natural environment is key to attracting new residents and business and therefore the environment is the engine propelling the regional economy. Completing an analysis of income and employment trends and the role of wildlands in those trends is especially relevant given the growing body of literature suggesting that the future diversification of rural economies is dependent on the ecological and amenity services provided by public lands in the west¹³⁹. These services (e.g. watershed protection, wildlife habitat, recreation opportunities, and scenic vistas) improve the quality of life, which in turn attracts new businesses and capital to rural communities.

Public lands in the west represent natural assets that provide communities with a comparative advantage over other rural areas in diversifying their economies. Public land management can contribute to decreasing dependence/specialization and diversifying local economies by de-emphasizing resource extraction and emphasizing management and budgets on providing high-quality recreation and conserving habitat for the region's biological resources.

As noted by Freudenburg and Gramling (1994):

It needs to be recognized as a serious empirical possibility that the future economic hope for resource-dependent communities of...the United States could

¹³⁹ Power 1996; Rasker 1994; Haynes and Horne 1997; Rasker et al. 2004.

have less to do with the consumption of natural resources than with their preservation.

Resource managers, economic planners and community leaders must become aware of this potential. We therefore request that our concerns be fully addressed as part of the DEIS analysis. We believe that if BLM and USFWS approve the NCH, it may ultimately cause more negative than positive economic effects because it will harm the many resource values and compatible uses in the Red Cliffs NCA, reduce the high quality of life and related recreational opportunities and public health benefits, and undermine public and market confidence in the county's willingness to uphold conservation agreements and maintain open space and wildlife habitats.

In this context, it is important to remember that outdoor recreation and related tourism are large and growing components of the local and regional economies, including for jobs in associated businesses like outfitters, motels, and restaurants. Indeed, substantial public funds are used to advertise the world-class scenery and outdoor recreational activities in the BLM Red Cliffs NCA and other locations, to attract tourists from around the nation and world. Would it be economically prudent to build the NCH and thereby undermine these resource values, public uses, and advertising investment, especially given the potential for much better and less damaging alternatives?

C. The Value of Ecosystem Services

The importance of an analysis of the value of ecosystem services cannot be underestimated in the DEIS analysis. Ecosystem services are those services provided by the ecosystem, seemingly for free. These ecosystem services include such tangible things as food, clean water, and carbon sequestering; but also include intangible services such as beauty, cultural heritage, and a place for solitude and quiet. Because it appears difficult to calculate the value of ecosystem services and because this variety of services has appeared to be free, their loss frequently does not get properly evaluated in the economic DEIS analysis. However, it is critical to note that these services do have economic value, that value can be calculated, and the loss of those values can be significant.

Seemingly the loss of an ecosystem service would bring the value of that service to \$0. However, the loss of a service actually brings the value of the service into a minus value, because if that service must be restored, then there is an actual cost to return the ecosystem to its previous functioning state.

BLM has current guidance on estimating nonmarket environmental values and analyzing those values in land use planning.¹⁴⁰ IM 2013-131 directs BLM to “utilize estimates of nonmarket environmental values in NEPA analysis supporting planning and other decision-making.” Nonmarket values are described as values that “reflect the benefits individuals attribute to experiences of the environment, uses of natural resources, or the existence of particular ecological conditions that do not involve market transactions and therefore lack prices.”

¹⁴⁰ IM 2013-131, available at: http://www.blm.gov/wo/st/en/info/regulations/Instruction_Memos_and_Bulletins/national_instruction/2013/IM_2013-131_Ch1.print.html.

IM 2013-131 explains that “Ecosystem goods and services”:

Include a range of human benefits resulting from appropriate ecosystem structure and function, such as flood control from intact wetlands and carbon sequestration from healthy forests. Some involve commodities sold in markets, for example, timber production. Others, such as wetlands protection and carbon sequestration, do not commonly involve markets, and thus reflect nonmarket values.

BLM’s guidance directs the agency to analyze nonmarket values for each alternative and adopt management decisions that are informed by that analysis:

In framing information for management decisions, focus on the *difference in changes to nonmarket values* between action alternatives. Such information can highlight tradeoffs.

Request for Inclusion in DEIS:

4-Ecosystem Services and Nonmarket Values: BLM should complete quantitative analysis of nonmarket values to the extent possible, particularly to help the public understand the economic benefits that could be realized by visitation to the NCA.

4.7.12 Northern Corridor Cost-Benefit Analysis

We are concerned a higher priority is being given to a highway and not to the priceless outdoor wilderness experience that people cherish in the Red Cliffs NCA.

Request for Inclusion in DEIS:

4-Cost-Benefit Analysis: The DEIS must include cost-benefit analysis of the NCH and must address the following concerns and issues listed below in items 1 – 6:

1. Cost-benefit analysis of the NCH inside the Red Cliffs NCA versus road improvements *outside* of the NCA.
2. The DEIS must disclose the amount of federal funds that would or may be used to construct the NCH. We are concerned that UDOT may use a combination of comingled funds in a manner that makes it difficult to determine whether or how much federal funding may be used for the NCH. We believe that it is important to know whether or how much federal funds may be used for the NCH for several reasons. For example, the DOT and FHWA have a legal obligation to not use federal highway funds in a manner that may harm so-called Section 4(f) conservation lands unless no feasible alternatives exist. We believe that the Red Cliffs NCA/DR clearly qualifies for protection under Section 4(f), and therefore we need to know whether any federal highway funds may be used for the NCH.
3. Cost Calculation for the Northern Corridor Highway
The DEIS must account for the full cost of the proposed NCH, which includes, but is not limited to the following:
 4. Known Costs

- The cost of the Northern Corridor Highway, built in 2 phases with interchange and ROW application support, totals at least \$135.6 million according to the DMPO's 2019-2050 RTP.
- The cost of the Washington Parkway Extension, without which, the Northern Corridor Highway would not function in moving east-west traffic across northern St. George. This cost, according to the DMPO's 2019-2050 RTP, is \$4.6 million.
- The cost of upgrading Cottonwood Springs Road and linking it to the Northern Corridor, which, according to the DMPO's 2019-2050 RTP, is \$8.64 million.
- Total cost of Northern Corridor-related projects is \$144,240,000.
- Inflation must be factored in.

5. Unknown Costs

- The cost of establishing Zone 6 Mitigation, including
 - Fencing
 - Law Enforcement
 - Outreach and Education
 - Additional Staff
 - Closure of trails
 - Major Clean-up and habitat restoration
- The yearly cost of managing and maintaining proposed Zone 6 mitigation from year 1 to year 25 (proposed HCP duration)
- The cost of acquiring the approximately 3,200 acres of SITLA land in Zone 6
 - The DEIS must disclose the appraisal and assessed value of the SITLA acres in Zone 6

6. Past Costs (Also Unknown)

- Trips to Washington DC to lobby for passage of HR 5597/S 3297, The Desert Tortoise Habitat Conservation Plan Expansion Act
- Cost of Studies used to Justify Need for the Northern Corridor
- Washington Parkway Study: Integration of East West Transportation Alternatives
- Washington Parkway Cost/Benefit Analysis
- Cost of survey work (for tortoise) in NCH route
- Cost of survey work in Zone 6
- Staff time devoted to NCH
- HCP staff (5 staff devoting considerable time to this project for a period longer than 10 years)
- HCAC member time and travel to 10-12 meetings per year for more than 10 years
- TC member time and travel to 10-12 meetings per year for more than 10 years

- Consultant Cost, including SWCA, Jacobs, others
- Engineering
- Attorney
- Agency cost including BLM, FWS, UDWR
- Cost of delaying renewal of HCP
- Cost of special and private meetings, travel and meals

4.7.13 Real Estate

BLM must study the economic harm and social environment injustice that would result from the placement of the NHC at its proposed location. Implementation of the NHC would compromise real estate values in very real dollars to the current property owners situated with a prime view of the Red Cliffs NCA/DR. These homes would lose market appeal as their former view of desert red rock landscapes would be converted to a sprawling 4 lane highway. BLM needs to assess the damage to property values for each impacted property, the economic harm to current residents, and justify the real loss of dollars, and loss of opportunity to these private landowners.

Request for Inclusion in DEIS:

4-Real Estate: The DEIS must address NCH related impacts to real estate, especially in the communities of Green Springs and Middleton.

4.7.14 Nonmarket Values

“The term nonmarket values” refers to the benefits individuals attribute to experiences of the environment or uses of natural and cultural resources that do not involve market transactions and therefore lack prices. Nonmarket values capture a wide range of benefits (or costs), including those associated with the direct use of a resource (for example, the benefits received from hiking in a wilderness), as well as those associated with indirect uses of a resource (e.g., flood prevention provided by a wetland). These are collectively referred to as use values. Nonmarket values also include what are referred to as passive use values, which include the benefits provided by leaving a natural resource in a particular condition for future generations (bequest value) or the benefits provided by knowing that a resource exists in a particular condition (existence value). Because these values are not generally expressed in the marketplace, they are difficult to estimate but nonetheless BLM guidance calls for efforts to be made to identify and assess impacts to nonmarket values in the planning process.”¹⁴¹

Request for Inclusion in DEIS:

4-Nonmarket Values: The DEIS must address NCH related impacts to nonmarket values, including the following impacts, concerns and issues listed below in items 1 – 15:

1. Health and wellness, including physical, physiological, mental and cognitive
2. The value of world-class recreation including climbing, hiking, trail running, biking and equestrian recreation
3. The quality of life that attracts new residents and businesses to our area and supports the health of long-term residents

¹⁴¹ BLM Instruction Memorandum No. 2013-131, Guidance on Estimating Nonmarket Environmental Values, May 31, 2013

4. The value of scenic open space
5. The value of a highly-rated, aesthetically-pleasing viewsheds which are adjacent to one of the fastest growing metro areas in the nation
6. Real estate value
7. The passive value of the NCA appreciated by people who plan to visit in the future
8. The passive value of the NCA appreciated by people who value protection of threatened and endangered species and the larger system National Conservation Lands
9. The value of abundant wildlife and habitat
10. Ecosystem return services
11. The value of intact landscapes
12. The unpriced benefits to present and future generations related to protecting the NCA's purposes
13. The value of carbon sequestered by undisturbed vegetation
14. The value of being able to conduct scientific research and environmental education activities for adults and school children in such close proximity to a rapidly growing metropolitan area
15. According to Table 3-42 in the Red Cliffs NCA DRMP, Red Cliffs has high visitor use and provides many amenities for the public, including hiking, mountain biking, camping, equestrian activities, rock scrambling, and rock climbing, among others. BLM must identify and employ a tenable methodology for determining the non-market values of these activities, together with a tenable methodology for assessing the costs to the activities associated with the construction and siting of the NCH.

4.7.15 Value of Scenery

Request for Inclusion in DEIS:

4-Scenic Values related to tourism and major events: The DEIS must address NCH related impacts to scenic values, including the following impacts, concerns and issues listed below in items 1 – 2:

1. The DEIS should incorporate analysis of market and nonmarket values related to the scenic values of the Red Cliffs NCA.
2. The scenic beauty of our public lands in Washington County is world-renowned and drives our economy, providing thousands of jobs in hospitality and tourism. Red cliffs circle our community and support our transition to a future grounded in tourism and outdoor recreation, an industry that provided 110,000 direct jobs and \$3.9 billion in wages in the state of Utah in 2017. The St. George Area Sports Commission calculated that in 2017, 42 major athletic events brought more than 62,000 participants and over 116,000 out of town visitors to the area resulting in \$78 million in direct economic impact. Iron Man 70.3 brought in \$7 million in 2017. In 2018, the Huntsman World Senior Games had an estimated \$17 million

economic impact. In 2017, the St. George Marathon brought in \$3.2 million from athletes and their entourages spending \$175 per day in our community. All of these major athletic events appeal to participants with advertising that features the Red Cliffs area.¹⁴²

How would the NCH and its growth-inducing effects impact the scenic qualities of Washington County?

4.7.16 Health Benefits

Request for Inclusion in DEIS:

4-Health Benefits: The DEIS must address NCH related impacts to health, including the following impacts, concerns and issues listed below in items 1 – 3:

1. The value of open space, scenery and recreation to community health.
2. Most trailheads in Red Cliffs are located between 5 and 15 minutes from downtown St. George. The Centers for Disease Control and Prevention (CDC) reports that greater access to parks leads to 25% more people exercising three or more days per week.
3. By preserving Red Cliffs, natural soundscapes are preserved. Freedom from excessive human-caused noise, including highway noise, is beneficial to health. Studies have shown highway noise increases heart rate, blood pressure, cortisol and have adverse cardiovascular consequences. Chronic exposure to excess noise leads to chronic stress, heart disease and stroke.¹⁴³

¹⁴² <https://www.stgeorgeutah.com/news/archive/2019/11/04/Its-letter-to-the-editor-save-washington-countys-scenic-beauty-say-no-to-northern-corridor-highway#.Xgm0y25FxPY>

¹⁴³ <https://www.sciencedaily.com/releases/2018/11/181105081749.htm>

5. St. George Field Office Resource Management Plan Amendment

In its NOI, BLM noted that it was considering amending its existing St. George Field Office Resource Management Plan to permit the construction and siting of the Northern Corridor Highway within the Red Cliffs NCA. Currently, construction and siting of the NCH in the Red Cliffs NCA would run afoul of the SGFO RMP. Indeed, under the current SGFO RMP, BLM is required to conserve, protect and enhance for the benefit and enjoyment of present and future generations the ecological, scenic, wildlife, recreational, cultural, historical, natural, educational and scientific resources of the Red Cliffs National Conservation Area.

The SGFO RMP also designates new areas of critical environmental concern, including the Red Bluffs ACEC. The NCH and proposed Zone 6 mitigation would be in conflict with these statutory requirements and associated RMP amendments. Zone 6 fails to mitigate for the direct, indirect, cumulative, and residual impacts the NCH would cause to the threatened Mojave desert tortoise in Zone 3. Furthermore, Zone 6 could damage the Red Bluffs ACEC through introduction of increased visitation, high levels of recreation, and other incompatible lands uses as a result of its inclusion in the Red Cliffs Desert Reserve as part of Zone 6.

Furthermore, we do not believe that the addition of Zone 6 mitigates for the direct, indirect, cumulative, and residual impacts the NCH would cause to the purposes of the Red Cliffs NCA.

5.1. Recreation

The Zone 6 area is famous for its variety of recreational uses. The Bear Claw Poppy Trail, Stucki Spring and the Zen trail are mountain biking destinations as well as open for hikers. Every April the endangered Bear Claw Poppies make their appearance in the gypsum soils of the Bear Claw Poppy Trail. These rare plants are also found in scattered locations near the Stucki Springs trail. Of note are the wooden fences which have been placed to try to keep bikers on the trails and off the areas where the plants are growing.

Numerous side trails are present weaving through the desert hills. The Third Ravine hiking trail is known for its' scrambles up to an area with "caves" in the boulders which are enjoyed by children and adults alike. In the Gap, you'll find climbers' routes of varying difficulty along with commercial zip lines on occasion. In the area of Moe's Valley, bouldering problem-solvers come from around the world to test their skills. You'll find some of these users camping alongside the ravines that define this area along with the OHV campers on the backroads heading out from the Southern Bear Claw Poppy trailhead area.

Hiking in the Gap, you may come across old campfire rings often with associated trash. Target shooting of old appliances and toilets have been found in many areas. When walking the area, you could come across makeshift structures in washes and evidence that long term residences have been taken up.

Tortoises do live here but it's definitely no one's idea of a protected area. Extensive established recreation use will make any changes very hard to enforce. Law Enforcement provided by the County will be costly to be effective and even at that will be unlikely to

succeed. The high usage and associated litter will increase raven predation of tortoises. There are no established studies cited that find the opposite is true.

Request for Inclusion in the DEIS:

5- Zone 6 Recreation: address the following issues with recreation types in Zone 6 that would not contribute to the protection or recovery of the threatened Mojave desert tortoise:

- a. Commercial zip lines. The DEIS must also disclose a full list of all other special recreation permits and commercial recreation types that are currently offered or occurring in Zone 6.
- b. Off-trail mountain biking. Will fences be constructed around critical tortoise foraging, sheltering, breeding, and nesting grounds to protect them?
- c. Increasing recreation on the Bear Claw Poppy Trail System. Visits increased from 19,389 to 26,985 from the fiscal year ending Sept 30th 2015 to fiscal year ending Sept 30th 2019.¹⁴⁴
- d. Increasing recreation at the Gap trailhead. Visits increased from 7,506 to 8,600 for the same time period as above.
- d. The DEIS must disclose plans for managing wide-spread dispersed camping across Zone 6
- e. The DEIS must disclose the areas where designated camping will be allowed in Zone 6 and how designated campsites will be monitored to prevent litter and predator subsidies, poaching, vandalism and dogs-off-leash. If designated camping will be open to motorized campers, travel trailers and RV's, the DEIS must disclose plans for any dump stations, showers or electric hookups.



Mountain Bikers on the Bear Claw Poppy Trail System approximately ½ mile west of the Trail Head on Navajo Drive. What is the “Desert Habitat Reserve”? Notice that the sign is riddled with bullet holes.

¹⁴⁴ RMA report from the BLM Recreation Management System



Off-trail mountain bike scars through biological soil crust on BLM lands in zone 6.

5.2 Long-standing Land Uses

Request for Inclusion in the DEIS:

5- Long-standing Zone 6 Issues: The DEIS must address the following issues with long-standing land uses in Zone 6 that would not contribute to the protection or recovery of the threatened Mojave desert tortoise:

- a. Target shooting is pervasive across Zone 6. Members of these organizations have documented bullet casings outside tortoise burrows in Zone 6 and have had live rounds pass over their heads while walking in Zone 6. Target shooting in Zone 6 is a danger to recreators and wildlife. The DEIS should include a detailed plan of community outreach and law enforcement for curtailing target shooting in Zone 6. Additional Law Enforcement officers would need to be hired.
- b. Illegal dumping. Since 2018, 3 major clean-ups on SITLA lands in Zone 6 have been organized by Washington County's Give Your Land a Hand group. Each time, a 50-yard dumpster has been filled to the brim with appliances, target shooting trash, debris, and general trash. These major clean-ups have barely made a dent in the pervasive illegal dumping problem in Zone 6.
- c. Pallet burning, bonfires, and pervasive campfire rings
- d. Long-term residences and permanent trailer camping

- e. Widespread, off-trail OHV, ATV, dirt bike, and vehicle use. The DEIS should reveal the total number of miles of motorized routes and illegal social trails. See BLM graphic below.
- f. The DEIS should provide mapping that overlays the road and route map below with tortoise observations and sign.
- g. The DEIS should analyze the impacts to tortoise health and physiology related to high levels of sound and vibration recreation uses like OHV, ATV, and competitive sporting events.



OHV scars on SITLA lands in Zone 6



SITLA lands in Zone 6 are heavily-recreated by OHV/ATV and dirt bike users. There are many miles of trail. Some tracks have been found in fragile desert washes.



Broken glass on SITLA lands in Zone 6. Note Bear Claw Poppy and biological soil crust.



Illegal dumping plus fire pit on SITLA lands in Zone 6



Landscaping waste dumped on SITLA lands in Zone 6.



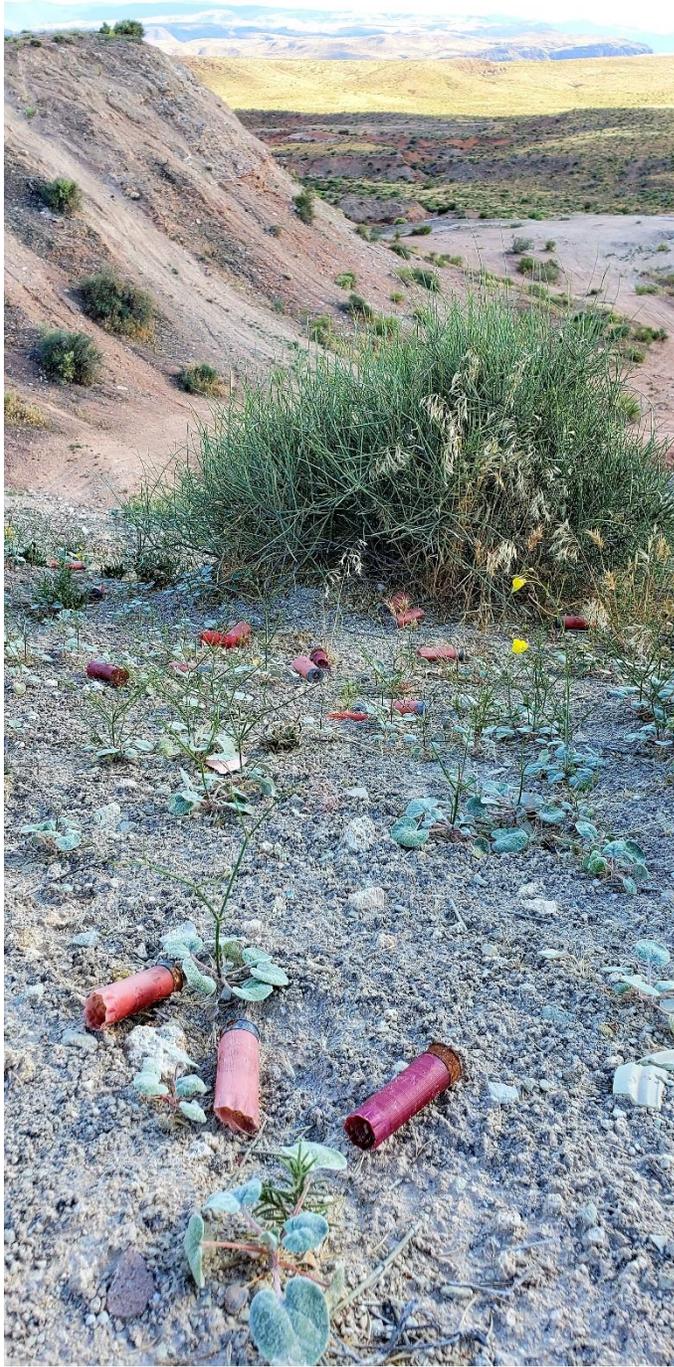
Illegal dumping on SITLA lands in Zone 6



Target shooting debris in Zone 6



Target shooting debris in Zone 6



Target shooting debris in Zone 6



This is one of the largest free-for-all target shooting sites on SITLA lands in Zone 6. Shooters place targets in front of bluff and shoot in all directions. The organizations have participated in 3 clean-ups of this site and the debris keeps returning. Note the scars from regularly used fire rings.



Clay pigeon beside endangered Dwarf Bear Claw Poppy



Bullet casing outside tortoise burrow. Old scat found nearby.



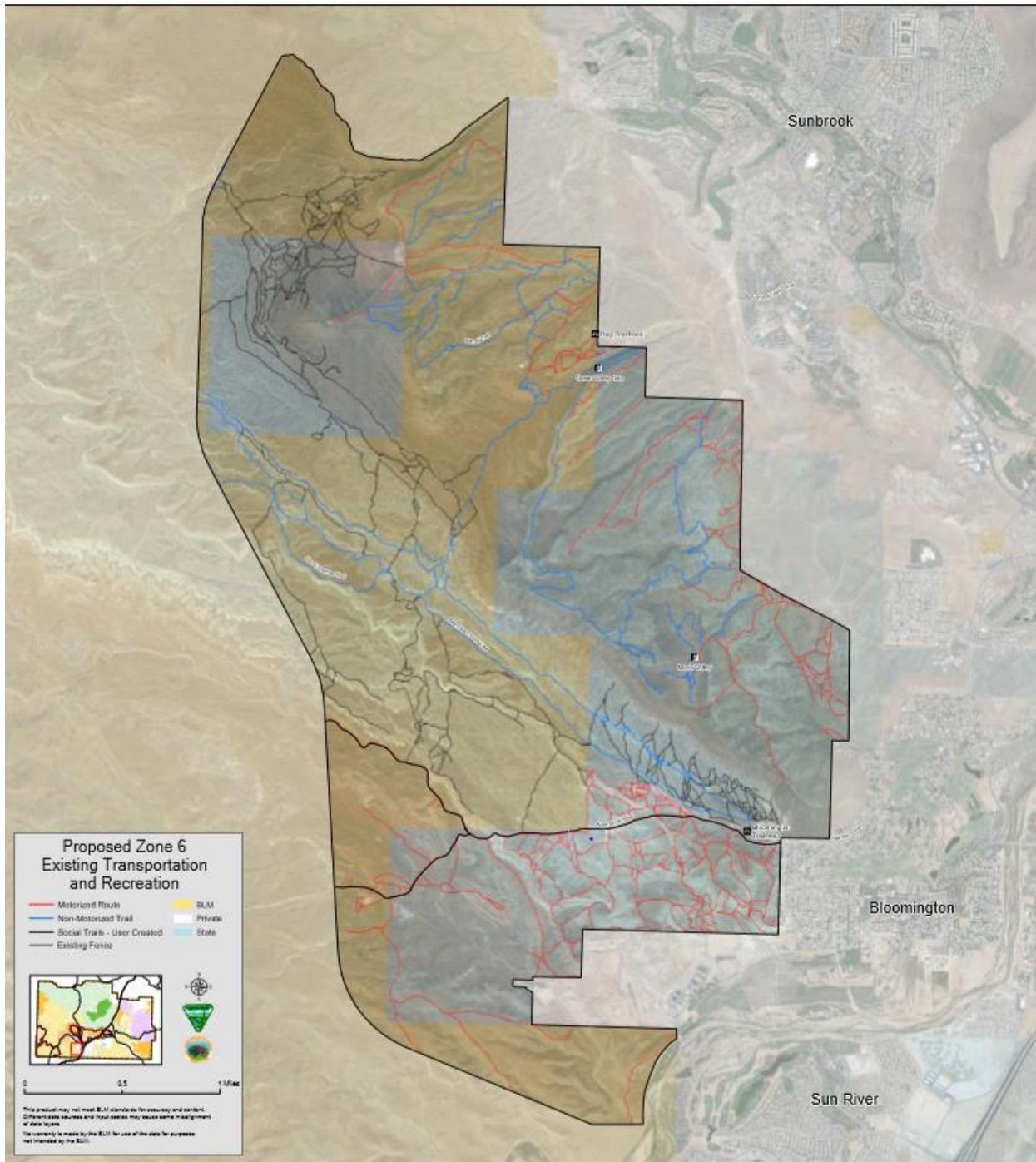
Camper in Zone 6. Some people camp long-term, or even permanently, on SITLA lands in Zone 6.



New signs on SITLA lands in Zone 6.
Signs in Zone 6 must be frequently replaced due to target shooting.



Typical signage on SITLA lands in Zone 6



5.3 Competitive sporting events

We are aware of at least 4 competitive sporting events that attract thousands of annual visitors to Zone 6. These events must be assessed for their compatibility with protection and recovery of the threatened Mojave desert tortoise:

- a. True Grit Epic
- b. The Red Rock Rampage
- c. The Huntsman World Senior Games
- d. National Interscholastic Cycling Association High School Championship.

Requests for Inclusion in the DEIS Scope:

- 5- Visitor Impacts:** The DEIS should analyze the number of visitors to each of these events and the most common negative impacts of visitation, i.e., litter, off-trail travel, poaching, vandalism, etc.
- 5- Event Timing:** The DEIS should analyze the timing of these events in relation to critical tortoise life events like nesting and hatching of hatchlings. If events that attract thousands of visitors are hosted at the same time as nesting or hatching of hatchlings, this could appreciably reduce survivorship of the tortoises over a long period of time.
- 5- Event Supervision:** The DEIS should disclose a plan for event supervision and clean-up/litter pick-up after each of these events, including funding sources for the extra staff time.
- 5- Event Economic Impact:** The DEIS should also disclose the economic impact to Washington County from each of these events.
- 5- Constraints on Events:** If competitive events are allowed to continue in Zone 6, this should not open the way for competitive events in other Reserve Zones 1-5.

5.4 Livestock Grazing

Requests for Inclusion in the DEIS Scope:

- 5- Grazing Permit Management:** plans for management of existing grazing permits on BLM lands in Zone 6, including Box Canyon Allotment, Curly Hollow Allotment Holding Pasture, and Curly Hollow Allotment River Pasture.
- 5- Fencing Plans:** Plans for fencing if grazing is permitted to continue in Zone 6. Will BLM fence the allotments after removing and translocating tortoises? Will USFWS acknowledge that livestock grazing is an identified threat to the conservation and recovery of tortoises in the original and updated USFWS MDT recovery plans? If so, on what logical basis could USFWS continue to approve livestock grazing in tortoise habitat, whether under a revised HCP or one or more Biological Opinions pursuant to ESA Section 7 consultations? If livestock grazing is prohibited on BLM tortoise habitats in Clark County Nevada (with allotments unavailable for grazing and permits bought out), why is this grazing still permissible on BLM tortoise habitats across the biologically arbitrary state line in Washington County Utah?

Since the BLM SGFO will be considering proposed weakening amendments to the Red Cliffs NCA Plan and SGFO RMP to facilitate the harmful NCH, we request that BLM likewise consider proposed amendments to strengthen these plans to increase protection for tortoises and their habitats by, among other things, phasing out current livestock grazing in tortoise habitats as has already been done in Clark County Nevada.

Requests for Inclusion in the DEIS Scope:

- 5- Grazing Allotments Purchase Plans:** Plans for buying out grazing allotments if sellers are willing
- 5- Grazing Impacts:** Analysis of grazing impacts on vegetation needed by the tortoise for shelter and food
- 5- Grazing Impacts on Invasive Species:** Analysis of grazing impacts on the spread of invasive brome grasses in tortoise habitat

5.5 Roads and Routes

Requests for Inclusion in the DEIS:

5- Impact of Planned Road Projects on Zone 6: The DEIS should analyze the impacts of multiple road projects listed in the DMPO's 2019-2050 Regional Transportation Plan that would fragment, impact, or increase traffic on roads in or adjacent to Zone 6.

- The DEIS should disclose plans for future utility development in Zone 6
- The DEIS should disclose plans for future co-location of utilities in the Western Corridor or extensions of Navajo and Green Valley Drive
- Utility development should not be permitted in Zone 6 if added to the Reserve.

5.6 Mining

Requests for Inclusion in the DEIS:

5- GEM Mine Impacts: The DEIS should analyze the direct, indirect and cumulative impacts of future work at the GEM mine on BLM land near Zone 6, five miles north of Sun River:

- The cumulative impacts of mineral extraction on the threatened Mojave desert tortoise, including air and noise pollution, dust accumulation affecting vegetation growth, and increased traffic on roads like the Western Corridor and potentially the extensions of Navajo Drive and Green Valley Drive inside Zone 6 to accommodate the "hauling" of gypsum and other minerals.
- As the market allows, hauling traffic could increase to 100,000 tons per year, or 15-19 hauls per day using roads that fragment or impact tortoise habitat in Zone 6.

5.7 DiVario Development

DiVario is a 730-acre master planned community that will be built in phases at the northeastern border of the proposed Zone 6.



Requests for Inclusion in the DEIS:

5- DiVario Impacts: The DEIS must analyze the direct, indirect and cumulative impacts of adjacent developments like DiVario on the tortoise, including the risk of increased habitat disturbance from greater local recreational pressures, predator subsidies from nearby trash, outside pet food, and artificial water sources, poaching, and predation of tortoises by pets.

5.8 Adventure Park and Shooting Range

BLM has considered the proposed development of an Adventure Park and shooting range north of Zone 6. If the Adventure Park is approved, it could provide parking and toilets for one or more trails into Zone 6. The proposed Shooting Range included plans for a long-distance rifle range that may have infringed on the Red Bluffs ACEC.

Requests for Inclusion in the DEIS:

5- Adventure Park/Shooting Impacts: The DEIS must analyze the impacts of these associated developments on the efficacy of Zone 6 mitigation.

5.9 Holmgren Milkvetch

Requests for Inclusion in the DEIS:

5- Holmgren Milkvetch Protection: The DEIS should disclose the general locations of endangered Holmgren Milkvetch in Zone 6. What plans are there to fence-off or otherwise protect this endangered plant from rampant off-trail recreation, and the direct, indirect and cumulative impacts of the NCH and modification of the SGFO RMP on milkvetch?

5.10 Other Major Inadequacies of Zone 6

Requests for Inclusion in the DEIS:

5- Major Zone 6 Inadequacies: The DEIS must consider how the NCH and proposed Zone 6 fails to mitigate for damage to original mitigation; fails to mitigate for damage to the 9 resource values protected in the Red Cliffs NCA; and fails to meet DTRO criteria for Reserve design. It must address:

1. Providing mitigation for damage caused to the original 62,000-acre mitigation that is the Red Cliffs Desert Reserve undermines the Washington County HCP.
2. Off-site mitigation in Zone 6 fails to mitigate for damage caused to the purposes of the Red Cliffs NCA, including its 9 statutorily-designated resource values.
3. Zone 6 does not meet the Desert Tortoise Recovery Office Criteria for Reserve Design.¹⁴⁵ The seven criteria for reserve design are as follows:

¹⁴⁵ USFWS 1994, pp. 62B63

- (1) Reserves that are well distributed across a species' native range will be more successful in preventing extinction than reserves confined to small portions of a species' range.
- (2) Large blocks of habitat, containing large populations of the target species, are superior to small blocks of habitat containing small populations.
- (3) Blocks of habitat that are close together are better than blocks far apart.
- (4) Habitat that occurs in less fragmented, contiguous blocks is preferable to habitat that is fragmented.
- (5) Habitat patches that minimize edge to area ratios are superior to those that do not.
- (6) Interconnected blocks of habitat are better than isolated blocks, and corridors or linkages function better when the habitat within them is represented by protected, preferred habitat for the target species.
- (7) Blocks of habitat that are roadless or otherwise inaccessible to humans are better than roaded and accessible habitat blocks.

6. ITP and HCP Renewal

6.1 Introduction

The USFWS must deny any application for an incidental take permit to allow the construction and siting of the Northern Corridor Highway within the Red Cliffs NCA and Desert Reserve.¹⁴⁶ Specifically, the Endangered Species Act (“ESA”) prohibits the issuance of an ITP if the proposed taking will “reduce the likelihood of the survival and recovery of the species in the wild.”¹⁴⁷ Given the overall decline in Mojave desert tortoise populations since 1999, and the ongoing and persistent threats to MDT habitat from wildfires and other impacts, the taking of even a few individuals of MDT could reduce the likelihood of the survival and recovery of the species. There is no evidence that any taking of MDT can occur without reducing the likelihood of the survival and recovery of the species. Consequently, the issuance of an ITP for Mojave desert tortoise would violate the ESA and the FWS implementing regulations.

Moreover, USFWS must clarify whether they are renewing the existing take permit or issuing a new take permit; whether they are renewing or amending the WCHCP; how ITP renewal or issuance actions relate to renewal or amendment of the WCHCP; and what path FWS will take to renew/amend the WCHCP and update/issue a new ITP which may or may not include take related to the NCH. This is a complex process that must be laid out step by step, in language that is accessible *and understandable* to the general public.

We have many serious concerns about the current HCP and ITP. These key documents are nearly a quarter-century old. Much has changed over those many years, including with respect to increasing development pressures and larger threats posed by causes like cheatgrass fires, prolonged drought from climate change, upper respiratory tract disease, greater habitat fragmentation, and raven predation.

We believe that all resource inventories need updating. When updates are completed, provisions in the current HCP and ITP should then be carefully evaluated in light of the inventory data to determine whether those provisions remain relevant and appropriate. In most cases, we believe that strengthening revisions will be necessary to follow the law and best available science. We therefore believe that the new HCP and ITP should be much stronger and more effective at addressing increasing development pressures and growing threats. In this context, we believe that it will be impossible to permit the weakening of the HCP and ITP to allow construction and use of the NCH. In short, we need to take stronger strides forward and not do an about-face and go backward with the Northern Corridor.

FWS may not legally issue an incidental take permit to Washington County for take of the Mojave desert tortoise (*Gopherus agassizii*) associated with the NCH because Zone 6 fails to mitigate for direct, indirect and cumulative impacts caused by the NCH. It is well

¹⁴⁶ 1. https://eplanning.blm.gov/epl-front-office/projects/lup/1502103/20009659/250011316/2019-26287_Published_Notice_of_Intent.pdf

¹⁴⁷ 16 U.S.C. § 1539(a)(2)(B)(iv).

established, including by FWS's own documented research¹⁴⁸, that highways imperil the continued existence of the Mojave desert tortoise. Whether a covered activity or not, the NCH would severely compromise and fragment critical foraging, sheltering, breeding, and nesting habitat in the Reserve, part of the Upper Virgin River Recovery Unit (hereinafter "UVRU") which supports the densest population of tortoise left surviving anywhere in its range.¹⁴⁹ Given that tortoise populations are declining or barely hanging on in 4 of 5 recovery units¹⁵⁰, the species cannot withstand the threat of the NCH in the Red Cliffs Desert Reserve and larger UVRU. Any activities that impair the survival of the densest remaining population of tortoise range-wide will have profound consequences to the viability of the tortoise population both in the UVRU and range-wide, inhibiting recovery. Therefore, a "take" permit that allows for the NCH must not be issued under the guise of a renewed Washington County HCP for the Mojave desert tortoise.

The Red Cliffs Desert Reserve is a unique and irreplaceable piece of southwest Utah's natural heritage. The 62,000 acres of habitat is a hotspot of biological diversity that lies at the confluence of three major biogeographic regions – the Mojave Desert, the Great Basin, and the Colorado Plateau. Because of this convergence, this habitat is unique and includes plant and animal species from each of the three regions. These species live at the edges of their historic ranges, and are thus more vulnerable to impacts from projects like the NCH. The Reserve provides critical habitat for the threatened Mojave desert tortoise, and is also a haven for over 20 special status species including the burrowing owl, Gila monster, kit fox, and over 133 bird species of conservation concern. See Appendix L. Rare and endemic species like the endangered Shivwits Milkvetch and Virgin River Thistle are found here, in addition to intact portions of an at-risk native vegetation community in the Mojave Desert- the creosote-white bursage scrub community which provides habitat for dozens of special status species and is quickly being developed-out in Washington County. Hundreds of plant species have been identified in this region, and each species needs to be identified and mapped as part of the DEIS analysis.

The Reserve is surrounded by and integrated with other public protected land, including Snow Canyon State Park, Red Mountain Wilderness and Cottonwood Canyon Wilderness (inside) and the Cottonwood Forest Wilderness and Dixie National Forest to the north and northeast. The Reserve is a vital corridor connecting contiguous protected habitat ranging from 10,400 feet in the Pine Valley Mountains to 2,400 feet at the banks of the Virgin River. Located inside the larger Upper Virgin River Recovery Unit, the Reserve is approximately 12 miles from the eastern boundary of Northeast Mojave Recovery Unit.

We are aware that NCH proponents are excited by the idea of Zone 6, located between the Reserve and the Northeast Mojave Recovery Unit, increasing connectivity between the two recovery units. However, the connective efficacy of Zone 6 would be severely hindered by future development of the Western Corridor¹⁵¹, a 4-lane highway that would

¹⁴⁸ Revised Recovery Plan for the Mojave Population of the Desert Tortoise (*Gopherus agassizii*) Recovery Actions 2.1 and 2.5 and <https://pubs.er.usgs.gov/publication/70006435>

¹⁴⁹ https://www.fws.gov/nevada/desert_tortoise/documents/reports/2019/2018_RangewideMojaveDesertTortoiseMonitoring.pdf and Allison and McLuckie 2018. http://www.herpconbio.org/Volume_13/Issue_2/Allison_McLuckie_2018.pdf

¹⁵⁰ *Range wide surveys for Mojave desert tortoises* by Linda Allison

¹⁵¹ <https://dixiempo.files.wordpress.com/2010/10/westerncorridorsouth.pdf>

hug the western border of Zone 6, preventing free movement of tortoises into the Northeast Mojave Recovery Unit. Zone 6 fails to mitigate for construction of the NCH in the Reserve which would irrevocably and fundamentally alter the southwest Utah landscape by introducing a bustling highway and increased levels of litter, air, soil and noise pollution to a pristine landscape that attracts visitors from around the world.

Request for Inclusion in DEIS Scope:

6-Evidence of MDT Take Impact: evidence that any taking of MDT can occur without reducing the likelihood of the survival and recovery of the species.

6-Renewed or New Take Permit: USFWS must clarify whether they are renewing the existing take permit or issuing a new take permit.

6- Update of Threat Assessments: key documents are nearly a quarter-century old

6- Evaluate HCP/ITP in light of Updated Species Inventories: When updates are completed, provisions in the current HCP and ITP should then be carefully evaluated in light of the inventory data to determine whether those provisions remain relevant and appropriate.

6- Define how Zone 6 Mitigates NCH Impacts

6- Define how Planned Zone 6 Fragmentation supports MDT recovery

6.2 Primary Considerations

6.2.1 Minimization and Mitigation of Take

Under Section 10 of the ESA, an applicant for an ITP must establish that it has taken steps to minimize and mitigate take of covered species. Courts have struck down HCPs and ITPs for failing to ensure that their effects had been minimized and mitigated to the maximum extent practicable.¹⁵² Before the FWS can issue an ITP, the Service must first revise and amend the HCP to account for new information on the MDT populations and habitat, including:

- Identifying, mapping and discussing the most productive and biologically valuable habitat across its range for the tortoise, and protecting this habitat in the reserve system, (not damaged by projects like the NCH) including the tortoise's current and potential future distributions;
- Detailed mapping of vegetation communities (using agency accepted identification protocols) and wildlife habitats;
- The preserve design needs to be based on scientifically accepted principles of reserve design which do not support the fragmentation of critical habitat by projects like the NCH;
- Particular life-history requirements of the tortoise;
- All available scientific data need to be included when identifying the actual reserve;
- Connectivity must be assured not only from north to south, but also east to west, so that important habitats remain connected and/or can be reconnected;
- Baseline inventories on plant and animal species distribution, abundance and trend;

¹⁵² National Wildlife Federation v. Babbitt;1 Sierra Club v. Babbitt.2

- Consider and evaluate species for long-term monitoring (continue honoring the commitment to long-term monitoring by UDWR)
- Effects of invasive species on the habitats and covered species; and
- An accounting for past land management practices and other actions of the applicant that have limited the conservation and recovery of covered species.
- Each vegetation type that occurs in the planning area must be protected adequately in the preserve;
- Vegetation communities listed in the 2011 Landscape Conservation Forecasting¹ must be completely protected, including but not limited to creosote-white bursage scrub, warm season grassland, desert sand sagebrush, and blackbrush thermic.

In addition, for BLM’s sensitive plant species, including the 12 species found in Washington County, the USFWS must provide a robust analysis of the following factors:¹⁵³

- Assessment of current and potential future habitat/environmental conditions;
- Vegetation community and habitat mapping validation;
- Compilation of all existing data on species;

Furthermore, to fully understand the scope and breadth of potential impacts, the USFWS must undertake a full and thorough accounting of the take authorized in the original WCHCP which went into effect in December 1995 and continues in present day (in an act of good faith as agencies work toward renewal). These include:

- Take of tortoises from 1995-2019 that includes number of translocated tortoises, but also number of direct mortalities including construction related and roadkill mortalities, poaching, harassment, and illegal “adoption”; and number of ELISA-positive tortoises prevented from being released back into the Reserve.
- Take of critical habitat acres from 1995-2019 during the course of development in Washington County.
- Take of low, medium and high-density tortoise density acres (as identified in the 1995 WCHCP¹⁵⁴) in Washington County

In addition to complying with the substantive and procedural requirements of the ESA, the USFWS must also comply with the public notice and engagement requirements of NEPA, which requires that Federal, State and local agencies and the general public be provided with detailed information on the potentially significant environmental effects which a proposed project is likely to have, a list of ways which the significant environmental effects may be minimized to less than significant, and a range of alternatives to the project. In order for the public to meaningfully comment on the WCHCP and compare alternatives, detailed, specific, and *adequate* mitigation measures need to be included.

The USFWS must also fully explore and disclose whether the proposed addition of 6,800 acres of marginal tortoise habitat, over half of which is already managed for protection of special status species in the BLM Red Bluff Area of Critical Environmental Concern (ACEC) is adequate to minimize and mitigate take of MDT. Indeed, since the remaining

¹⁵³ <https://www.blm.gov/programs/fish-and-wildlife/threatened-and-endangered/state-te-data/utah>

¹⁵⁴ Red Cliffs NCA DRMP pg. 490-491

Zone 6 acres are State land (SITLA) that has been severely damaged by unregulated land uses such as illegal dumping, large bonfires, off-trail motorized and non-motorized recreation, target shooting and more, it appears very unlikely that any additional protections for Zone 6 can meet the ESA's statutory requirements. Because the addition of Zone 6 fails to mitigate for NCH-related take of tortoises in Zone 3 of the Reserve *or* for the HCP authorized take of tortoises that would occur outside the reserve system, it remains unlikely that any ITP allowing the construction of the NCH would be tenable.

Furthermore, we are concerned that if Zone 6 were added to the Reserve, it would be used as a "mitigation bank" for future projects, not limited to the NCH, that involve take of tortoises as described in the text of H.R. 5597 (115th): Desert Tortoise Habitat Conservation Plan Expansion Act, Washington County, Utah: "The Secretary shall manage the Red Cliffs Desert Reserve, Zone 6 as a land bank to provide mitigation credits for future disturbances of the Red Cliffs Desert Reserve, including utility disturbances and the construction of the Northern Transportation Corridor identified in section 5."

Specific mitigation measures must be provided for individual developments when the presence of a covered species is found on a development site. Individual developments related to the NCH would include the multiple phases of its construction, the associated highway projects that link to it¹⁵⁵, and any future utilities that would be constructed in the ROW and their yearly maintenance. Speculative future investigation and evaluations should not be included in the WCHCP. Language on future enhancement and restoration programs needs to be clear and specific, and include management, funding, responsible parties, timelines, and other issues.

The WCHCP needs to include detailed information about the process so the public can adequately determine the impact of a taking. To determine the extent of take under varying development scenarios, and therefore develop an HCP that minimizes and mitigates take to the maximum extent practicable, Washington County should be extensively surveyed by independent consultants, and the surveys performed according to scientifically recognized protocol for the tortoise, at the appropriate time of year, and for as many years as necessary for the tortoise, to identify the range of the species in the Reserve, in the proposed Zone 6 mitigation, and throughout Washington County. Biologically productive and valuable lands must be identified. A transparent process, including all recent and historic information collected on the Reserve, and on tortoises in Washington County, needs to be available to the public and is of paramount importance. Confidentiality agreements make suspect the transparency of the NEPA and HCP processes and should be disallowed in this process. The applicant needs to fund the studies necessary to the design of this HCP through a neutral party who oversees the data collection and dissemination of information.

Finally, the USFWS must strengthen the relationship between Utility Development Protocols and Mitigation. The USFWS developed and adopted so-called "Utility development protocols" ("UDP") as a part of the Washington County Habitat Conservation Plan (HCP) to avoid take and minimize potential adverse impacts to the

¹⁵⁵ <http://www.redcliffsdesertreserve.com/wp-content/uploads/2006/02/HCP-The-Plan-amended-11-3-09.pdf> pg. vi

Mojave desert tortoise in the Red Cliffs Desert Reserve from utility and road right-of-way projects, such as the installation and maintenance of water, sewer, and electric lines and roadway maintenance, while still enabling utilities to be placed within the Reserve. The protocols also provided protection to desert tortoise habitat and other sensitive species. Under these protocols, the entire Desert Reserve was considered an avoidance area for the location of new utilities, meaning that new utilities were encouraged to co-locate along existing infrastructure when practical.”¹⁵⁶

Based on the collapse in MDT populations since the adoption of the HCP, and the continued and growing threats to MDT habitat from wildfires and other threats, the USFWS must strengthen these protocols in the new HCP, and ensure their proper implementation ensured through monitoring and enforcement conducted by qualified, neutral parties who are not employed or paid by the county. Additional diligence in implementation is needed based on allegations of past violations of these protocols, documented by former HCP Administrator William Mader include the following:

- Washington County Water District violated UDPs by not coordinating with HCP staff when they drilled a well adjacent to Reserve Zone 4. They came into compliance when the current Reserve administrator notified them. The Water District was fully aware of the requirements before they drilled the well.
- Washington City did not forward HCP impact fees to Washington County until detected by an independent audit.
- A former county commissioner allegedly improperly diverted HCP funds for another purpose and without first notifying the HCP administrator or HCAC.
- We ask that the DEIS provide a full accounting of funds received and expended, including amounts, dates, and other pertinent data.

In light of the nearly 50% collapse in MDT populations since the 1990s, and the growing threats to tortoise habitat, the USFWS must strengthen these development protocols in the following ways:

- Establishing the Reserve as an avoidance area for new utilities;
- Visual resources in the Reserve must be maintained by requiring any new utility projects be underground when deemed appropriate and non-damaging to the tortoise;
- UDPs must have strong administrative guidelines to ensure approvals go through the proper process;
- Maintain or further reduce the maximum width limits for temporary disturbances such as roads, turn arounds, or parking areas;
- Increase the minimum set back distance for any blasting operations, from the nearest active or potential tortoise burrows and the blasting location. All burrows within a larger set back area should be scoped for tortoises before blasting, and the burrows should be checked immediately after blasting in case it caused any occupied burrows to collapse and entomb the tortoises. If so, those tortoises should be quickly rescued for subsequent relocation within or near their likely original home range;

¹⁵⁶ <http://www.redcliffsdesertreserve.com/wp-content/uploads/2006/02/UDP-2006.pdf>, pg. 3

- All utility personnel should receive thorough, regular tortoise conservation education and follow best practices;
- Measures should be put in place to supervise the travel of maintenance and utility vehicles on unfenced roads inside the Reserve during the active season; and
- There should be specific and serious penalties for any UDP violations against those who approve or cause the violations.

Request for Inclusion in DEIS Scope:

- 6- MDT Take Minimization and Mitigation:** clearly define and support with data how this condition is met
- 6- Plant Species Mapping:** Hundreds of plant species have been identified in this region, and each species needs to be identified and mapped as part of the DEIS analysis.
- 6- Accounting of the take authorized in the original WCHCP**
- 6- Dismiss the concept of using Zone 6 as a Mitigation Bank**
- 6- Analyze Zone 6 as mitigation considering acreage, quality, activities and fragmentation**
- 6- Ensure New Development Mitigation Measures**
- 6- “Take” Determination Process**

6.2.2 Measurable Biological Goals and Objectives

Biological goals and objectives for the tortoise are essential to ensure an amended HCP will minimize and mitigate take to the maximum extent practicable and ensure that permitted activities will not appreciably reduce the likelihood of survival and recovery of the tortoise.

In general, HCPs must contain biological goals and objectives according to the Secretary’s Final Addendum to the Handbook for Habitat Conservation Planning and Incidental Take Permitting Process (“Five-point policy”).¹⁵⁷ According to the policy, determination of the biological goals and objectives is integral to the development of the operating conservation program.¹⁵⁸ Biological goals and objectives are central to meeting the take permit applicant’s obligation that the HCP minimize and mitigate the harmful effects of take to the maximum extent practicable, and to ensure that permitted activities will not appreciably reduce the likelihood of survival and recovery of the tortoise.¹⁵⁹

Biological goals and objectives must address each species covered by the HCP, and “each covered species must be addressed as if it were listed and named on the permit. Although the goals and objectives may be stated in habitat terms, each covered species that falls under that goal or objective must be accounted for individually as it relates to that habitat.”¹⁶⁰

The WCHCP must contain a clearly articulated set of biological goals and objectives for the overall program and for the tortoise. Biological goals and objectives are necessary to

¹⁵⁷ Federal Register 65 at 35250-35252, June 1, 2000

¹⁵⁸ Id. at 35251

¹⁵⁹ Id. at 35251.

¹⁶⁰ Id. at 35251

guide both implementation of the WCHCP, and to provide a transparent process of WCHCP planning and implementation to maintain public trust. The WCHCP biological goals should be prepared by an independent body of scientists with proven expertise with the covered species, made available for public review and comment, and subsequently finalized prior to finalizing the WCHCP. Biological goals should be established in consideration of the rarity, endemism, population viability, and connectivity needs for the tortoise.

The WCHCP needs to provide measurable recovery goals for covered species in terms of population density targets or even population growth rates (i.e., $\lambda > 1$ over time). The WCHCP species accounts need to incorporate the goal of including within the reserve sufficient habitat to maintain populations of covered species within the planning area and demonstrate how the reserve will maintain those populations. We are concerned with the comparatively small size of the existing Reserve inside the smallest Critical Habitat Unit¹⁶¹ (CHU) (and the most vulnerable) of all CHUs in the tortoise's range.

Further, the WCHCP must not only maintain populations, but also aid in the recovery of covered species. The USFWS needs to complete a tenable Population Viability Analyses – widely utilized by the scientific community – for the tortoise to predict extinction probabilities under the WCHCP scenario. Critical demographic parameters as well as adequate distributional data will need to be collected for the tortoise covered under the WCHCP in order to unequivocally demonstrate the effectiveness of the conservation scenario. While preserving suitable habitat is absolutely necessary for conserving and recovering the species, it is extremely difficult to measure whether the WCHCP will or will not appreciably reduce the survival and recovery of the species without species-specific baseline demographic data, historic and current distribution data, and population viability data on all reserve lands before the plan is approved.

Merely protecting habitat does not account for edge effects, global climate change and other factors affecting population dynamics that are only measured through demographic studies. In addition, the determination that particular species are considered “conserved” by the WCHCP assumes that all the lands proposed for inclusion in the reserve will actually be protected, so such assurances need to be clearly identified.

The planning process should include general, community-level, and species-specific discussions and analyses of the likely or potential short-and long-term impacts of such factors as edge effects, insularization, species loss, non-indigenous species, disease, restriction of gene flow, fire intensity and frequency, reservoirs, and increased recreational impacts. Take cannot be minimized without first identifying, and then committing to protect, the most biologically valuable land – habitat in which a population is stable or increasing over time (this would include natural cyclical fluctuations in population due to extrinsic factors such as weather and intrinsic factors such as density dependence).

¹⁶¹ https://www.stgeorgeutah.com/wp-content/uploads/2014/11/20140210-FWS-Status-of-the-Desert-Tortoise-linked-on-fws.govnevadadesert_tortoise.pdf pg. 13

In sum, without adequate demographic and distributional data for the tortoise, and without adequate conservation of remaining vulnerable habitats, the USFWS cannot meet the ESA's conservation mandate. If insufficient data for a species are available to ensure that the WCHCP does not impair survival and recovery, or if an unacceptable amount of habitat for a species will be permitted for development, then the Service cannot lawfully grant an ITP allowing the "take" of MDT until such data are collected or until greater levels of habitat protection can be assured.

Request for Inclusion in DEIS Scope

6- Define Biological Goals and Objectives

6.2.3 Standard of Conservation

The rarest and/or narrowest range covered species require a higher standard of conservation than more common, wider ranging covered species. Risk of extinction is higher in small populations and for specialist species than for widespread habitat generalists¹⁶². Thus, particular attention should be paid to species with the smallest populations, most isolated populations, or those with the narrowest ranges. Each of these characteristics applies to the tortoise in the Reserve. The rarest and/or narrowest-range covered species need greater and more specific protective measures than others, and so should be provided more rigorous biological goals and objectives to ensure minimization and mitigation and no appreciable reduction of survival and recovery of covered species. Special population- and habitat-specific biological goals and objectives are necessary to ensure conservation and success of the WCHCP for desert tortoise conservation and recovery. Biological objectives should include species- and reserve area-specific population goals, protective management actions, and monitoring measures, as discussed in the Secretary's Five-point policy.¹⁶³

The rarest and/or narrowest range covered species, i.e. tortoise, should also be subject to rigorous biological objectives or HCP implementation standards for protection. These should include not only objectives and standards for population numbers, or amount and configuration of habitat which will be protected over the life of the permit, but also a clear articulation of those limited circumstances under which unavoidable impacts will be authorized as permitted activities proceed.

For covered species, all known populations should be included within reserve-system boundaries. The rarest and/or narrowest range covered species should also be the subject of intensive, seasonally appropriate surveys.

In addition, it is important to note that the smaller and more fragmented the reserve, the higher the management requirements will be¹⁶⁴. The Red Cliffs Desert Reserve/NCA is a subset of the smallest of all Critical Habitat Units, the UVRRU. In 2015, the Reserve was already fragmented by 25 existing utility ROW's totaling 310,695 feet (approximately 59 miles) in length.¹⁶⁵ The Reserve cannot withstand another ROW as large as the NCH.

¹⁶² (Conery et al. 1995, Fischer and Stocklin 1997, Fahrig 2002)

¹⁶³ 65 Federal Register at 35251

¹⁶⁴ see Noss et al. 1997)

¹⁶⁵ Draft Red Cliffs NCA RMP, table 3-47

Request for Inclusion in DEIS Scope

6- High Standard of Protection: Biological objectives should include species- and reserve area-specific population goals, protective management actions, and monitoring measures

6.2.4 Adaptive Management Program

While concrete, immediate conservation measures need to be the basis for the WCHCP, an adaptive management program is a component of many HCPs, and is a safety net to ensure full minimization and mitigation of all impacts from permitted activities, and that permitted activities will not appreciably reduce the likelihood of survival and recovery of covered species. Adaptive management while useful is not a substitute for specific, science-based conservation. Species- and reserve area-specific protective management planning is essential to success of HCPs.

Monitoring also is a mandatory element of all HCPs¹⁶⁶. The monitoring program plays an essential role of determining whether the chosen strategy(ies) is providing the desired outcome (i.e. achieving the biological goals of the HCP)¹⁶⁷. The monitoring plan should be a component of the HCP adaptive management program. We encourage the County to continue using and relying upon the services of the UDWR monitoring team in favor of monitoring led by the County.

The adaptive management plan must provide many of the essential HCP implementation details. The plans should address conservation of all known covered species populations and each sub-area of the reserve for the life of the permit, with an amendment process as new populations are discovered and additional reserve lands acquired. Management and monitoring plans should provide extensive detail on the following topics and others:

- HCP compliance
- Fire management, including emergency-response and prescribed fire
- Fencing, including a plan for immediate response to fence blow-outs caused by heavy precipitation events. This is crucial for preventing tortoises from entering roadways and being struck by vehicles. Rapid inspection of tortoise fences should occur promptly after each major storm or monsoonal event. Over time, it should be clear where most of the common blow outs occur.
- Signage that describes the criminal and civil consequences and fines for illegally taking a tortoise home or of allowing a dog to wander off-leash in the Reserve
- Exotic species control, including investigation and trial-use of pre and post emergent herbicides like Esplanade (if it is determined *not* to be detrimental to the tortoise) for combatting the spread of invasive brome grasses and Sahara mustard
- Revegetation (including use of more of the lower potassium native plant species so that tortoises can continue to eat them during extended drought periods)
- Seed banking
- Uses to be allowed in preserve
- Public access points, if any
- Reserve staff duties and licensing and education requirements
- Education, including neighborhood and school programs that are accessible to community members of all ages, races, ethnicities and socio-economic

¹⁶⁶ See 50 C.F.R. 17.22, 17.32, and 222.307.” Federal Register 65 at 35251

¹⁶⁷ Id. at 35253.

- backgrounds AND the supervision of new outreach staff AND mandatory creation of scientifically-sound, peer-reviewed Interpretation Plans to guide outreach efforts
- Monitoring of the condition of covered-species populations
- Monitoring of annual condition of the sub-areas of the reserve

The adaptive management plan should be prepared early, prior to approval of the program and distributed for public review and comment as a part of the total draft HCP package. The benefits of early preparation – sound science, certainty and public trust – by far outweigh the burden of increased HCP preparation costs.

Of course, early preparation of the adaptive management plan means it will only specifically address known covered species populations and existing reserve lands, with a general outline of how later-discovered populations will be managed and monitored. The plan should therefore be revisited periodically over the life of the permit, with a process for public and agency review and comment.

For example, since the relatively recent discovery of tortoises in Zone 6 was a surprise, what are the odds that tortoises may be found elsewhere in the county and perhaps threatened by imminent development?

Funding for implementation of protective management biological objectives and monitoring under the adaptive management plan should be assured for all HCPs as discussed in section c below. Funding should also be assured for staff time and other resources for implementation, as well as for *balanced* implementation oversight and compliance monitoring by the FWS, BLM, UDWR, County, and environmental representatives.

Request for Inclusion in DEIS Scope

6- Define an Adaptive Management Plan

6.2.5 Take commensurate with Conservation

The WCHCP must ensure conservation of covered species while allowing otherwise lawful activities to proceed. Take of covered species under the WCHCP should be commensurate with funding and implementation of conservation commitments – that is take of covered species and habitat should only proceed as concurrent conservation commitments are fulfilled. No harmful activities (e.g. urban developments, transportation projects, etc.) shall be allowed to proceed without guaranteeing that conservation will concurrently take place, with reserve lands to be set aside before the impact to species elsewhere occurs.

Determining Take Levels for the amended WCHCP

- How many tortoises have been taken and how many acres of occupied habitats have been developed since 1996? This is necessary to ascertain an appropriate term limit for renewed take authorization.
- We assume that the 2016 term limit was reached because the original take authorization was granted for 20 years, and therefore expired in 2016. Have the take limits of tortoises or the authorized loss of acreage been reached?

- The DEIS needs to analyze how much longer the current take authorization could have proceeded had the 20-year term limit not been reached. Once analyzed, the NEPA analysis may show that only a new term limit needs to be established, and not be a pre-decisional means to allow for the development of the NCH.
- Take must be determined, at least, in terms of acreage and the number of tortoises displaced, accidentally killed, etc. The DEIS analyses must document:
 - the number of acres, both occupied by tortoises and not occupied, that have been developed and therefore lost to future tortoise use since 1996 under the existing 10a permit; and
 - the number of tortoises that have been displaced, the locations of the translocations, and monitoring results that can be used to judge the efficacy of the translocations.
- The DEIS should map out losses of habitat accredited to the HCP and based on these data show how adjacent areas of varying tortoise densities could be developed with HCP renewal.

Request for Inclusion in DEIS Scope

6- Require Conservation Fulfillment prior to Take: take of covered species and habitat should only proceed as concurrent conservation commitments are fulfilled

6.2.6 Alternatives for HCP Renewal

We oppose any modification to the WCHCP that will remove existing protections for MDT populations and habitat, and the facts and evidence establish that the continued declining populations of MDT and burgeoning threats to MDT habitat require additional protections. At minimum, we believe the existing HCP and ITP can be extended without watering down any protections. Thus, the USFWS must consider one alternative that renews the HCP under its prior terms and extends the ITP without accommodating for the construction and siting of the NCH within the Reserve.

Prior to any renewal and issuance of a new ITP, the USFWS must first examine, disclose and discuss the number of acres have actually been developed since the ITP was adopted, and how many acres remain that have been authorized for development? The USFWS must also identify how many tortoises were taken under the original 10a permit and how many more can be taken? Additionally, the DEIS must divulge how many acres have been developed and how many tortoises displaced/accidentally killed since the 2016 extension of take authorization in the absence of the renewed permit. We contend that the agencies are intentionally revising these documents to accommodate the NCH, which is an unforeseen event in the context of the original take analyses, and a violation of the agreements reached in 1995.

Request for Inclusion in DEIS Scope

6- Analyze at Least 3 Alternatives: To avoid demonstrating pre-decisional bias and arbitrary and capriciousness, at least three alternatives must be carried forward for detailed analysis, beyond the required proposed action and no-action alternatives. We ask FWS to consider the following WCHCP alternatives for analysis in the DEIS:

1. proposed HCP renewal and updating without the "if/then" Northern Corridor/ Washington Parkway construction option;

2. proposed HCP renewal and updating without linking the establishment of Zone 6 as a condition for constructing the Northern Corridor/Washington Parkway; and
3. proposed BLM NCA and SGFO Plan amendments that relate to the UDOT application, without authorizing construction of the Northern Corridor/Washington Parkway, and with analysis of one or more highway alternatives outside of the Reserve/NCA.

6.2.7 Zone 6 - Invalid Mitigation

For the following reasons, we do not believe that Zone 6 mitigation will meet the requirements of the ESA to reduce and minimize take of MDT and otherwise ensure the likelihood of survival and recovery of the species. Any future analysis must discuss in detail these following concerns:

- The idea of Zone 6 functioning as mitigation for damage caused to the original 62,000-acre mitigation that is the Reserve is deeply flawed, undermines public trust, and violates the agreement of the 1995 WCHCP to protect tortoises in the Reserve in perpetuity.
- BLM and the USFWS have identified three 3 major highways projects in the future (Extensions of Navajo Dr., Green Valley Dr., and the construction of the Western Corridor) that will impact Zone 6, causing additional habitat fragmentation and reducing its value as a tortoise recovery area.¹⁶⁸
- Zone 6 is home to well-established recreational uses that are not compatible with recovery of threatened species and will be difficult or impossible to remedy, including uncontrolled target shooting; off-trail OHV, ATV, and dirt bike travel; off-trail mountain bike travel; 4 annual major competitive sporting events; a long history of illegal dumping that has not been remedied by signage, law enforcement presence or regular community clean-ups; a long history of pallet-burning and large bonfires; and widespread dispersed camping in sensitive areas and attempted long-term or permanent camping.
- Given its purported “high” density of tortoises, why was Zone 6 not included in the Reserve to begin with? Given the life expectancy of tortoises, the adults in Zone 6 were there when the Reserve was established and should have been included.
- BLM estimates that Zone 6 lands are one of the most heavily recreated locations in the county. The Bearclaw Poppy Trail Systems and the Green Valley Gap Area received 31,000 visits in 2018, or about 84 visits per day. How will high recreation use like this be brought into accordance with recovery of threatened species?
- Over half of the land in Zone 6 is *already* protected for special status species like the tortoise and the endangered Dwarf Bear Poppy on BLM land and in the BLM Red Bluffs Area of Critical Environmental Concern.
- The SITLA acres in Zone 6 would not be assured permanent protection. As a signatory of the HCP, SITLA could withdraw at any time. The DEIS must include plans for how the SITLA lands in Zone 6 would be purchased, exchanged, or transferred to BLM or Washington County.

¹⁶⁸ von Seckendorff Hoff, K. and Marlow, R.W. 2002..

- SITLA lands in the proposed Zone 6 area are not in danger of immediate development, due in part to the soil and topography of SITLA lands in Zone 6 makes them largely unsuitable for development. The amount of SITLA land adjacent to Zone 6 that is suitable for housing development is small, and much of it is already taken by the DiVario Development. The difficult terrain and soil make development cost-prohibitive, dangerous and unappealing, meaning that these lands are at the bottom of the list for developers.
- Biologists have determined that the Road Impact Zone extends to as much as 4,250 meters¹⁶⁹ on each side of a highway. This means that the approximately 5-mile long Northern Corridor Highway would impact, to some degree, at least 15,000 acres of tortoise habitat. The approximately 3,200 acres of SITLA land that would be incorporated in Zone 6 would fail to make up for disturbance to as many as 15,000 acres.
- Tortoises in Zone 3 of the Reserve cannot withstand the additional stress of the NCH. Habitats in the NCA are already stressed by recent wildfires that contributed to a 41% decline¹⁷⁰ in tortoise population. This vulnerable population needs to be proactively protected, not confronted with a new significant impact.

Request for Inclusion in DEIS Scope
6- Justify Zone 6 as Valid Mitigation

6.2.8 Global Climate Change Considerations

Global climate change will result in significant changes to the landscape and environment covered by the proposed HCP within its proposed 25-year coverage period. These changes, and their effects on the biological resources covered by this proposed permit, must be included in the DEIS analysis of the HCP. (Section 7.2, *infra*, for further discussion on Climate Change)

Request for Inclusion in DEIS Scope
6- Consider the Impacts of Climate Change

6.2.9 HCP Land Hard-line Component

Hard boundary lines for the WCHCP land conservation reserves – whereby the reserve boundary is delineated, and protection of all land within the reserve boundary is assured – are necessary to conserve covered species, focus and increase the efficiency of reserve and covered species management.

Request for Inclusion in DEIS Scope
6- Establish Definitive HCP Boundaries

6.2.10 HCP Lands – Free from Harmful Use

WCHCP needs to provide assurances and guidelines regarding management of the reserve system, including monitoring and adaptive management. Funding needs to be assured. Compatible, low-impact uses like hiking, bird-watching and photography may be appropriate on reserve lands, after appropriate environmental reviews to determine no

¹⁶⁹ Von Seckendorff, Hoff and Marlow, 2002

¹⁷⁰ McLuckie, A.M., M.A. Ratchford, and R.A. Fridell. 2012. Draft: Regional desert tortoise monitoring in the Red Cliffs Desert Reserve, 2011. Salt Lake City: UDWR, 12-13, p. 65.

significant impacts to species. But these lands should not be managed for multiple-use. Activities like ATV/OHV use, competitive sporting events, dispersed camping and target shooting should be banned. Specific management actions need to be outlined in the WCHCP. Some of the reserve areas may require seasonal restriction even to low-impact uses to protect resources and species during critical points in their lifecycles. Critical tortoise nesting and breeding locations should be documented and plans put in place to protect these areas at the appropriate times.

Request for Inclusion in DEIS Scope

6- Require Conservation-Minded Activity Control

6.2.11 Independent Scientific and Legal Review

To ensure openness and transparency, applicants for an Incidental Take Permit must consent to and fund independent scientific review of important HCP documents, such as those addressing biological goals and objectives, reserve design, adaptive management of covered species and the reserve system, the draft biological opinion, Section 10 findings, and implementing agreement among others. Independent scientific and legal review of an HCP is likely to contribute significantly to the building of public trust and support by ensuring the program has followed a rigorous scientific and legal process and will accomplish stated goals. The results of the independent scientific review should be provided as part of the public review package of the draft HCP and related documents.

Request for Inclusion in DEIS Scope

6- Require an Independent Review of HCP Documents

6.2.12 Public Engagement

Biological opinions, Section 10 findings and implementing agreements should be released for public review and comment. The FWS will need to prepare a biological opinion on the issuance of the WCHCP pursuant to Section 7 of the ESA. The FWS may *also* need to prepare a biological opinion on the issuance of the WCHCP associated with take specifically caused by the NCH if BLM grants the ROW, also pursuant to Section 7 of the ESA. The FWS must ensure that the WCHCP does not jeopardize the existence of any listed species or adversely modify critical habitat. FWS must identify all authorizations, including new or revised biological opinions, that would be needed to approve the NCH.

Request for Inclusion in DEIS Scope

6- Require an Independent Review of HCP Documents

6.2.13 HCP Implementation Funding

The WCHCP must include an assured funding source for program implementation.¹⁷¹ This requirement is central to the success of any conservation strategy, as courts have recognized.

It is essential that all funding needs, including the cost of adaptive management for the reserve and covered species, scientific and compliance monitoring and all other measures be clearly and specifically identified in WCHCP so that the amount of funding necessary to carry out promised measures may be assured. At a minimum, the WCHCP must create

¹⁷¹ 16 U.S.C. §1539(a)(2)(A)(iii).

a process for how future funding will be assured. A funding scenario must be outlined based on the premise of the NCH ROW *not* being granted. Funding for any longer-term conservation obligations should be placed in a trust for that specific purpose. FWS must include analysis that evaluates the efficacy of the existing fee structure (impact fees) and whether elevated rates are warranted.

Major funding for the WCHCP must not rely on future speculative sources, nor ultimately on the taxpayers, but be clearly identified as to the source of funding. It is the responsibility of the entity receiving the take permit for the covered species to fund and implement the conservation measures designed to avoid, minimize, and mitigate that taking.

We request the DEIS contain a plan for funding, in addition to the Reserve, the proposed Zone 6 mitigation. This plan must include how the following costs will be met in year 1 through year 25 of the WCHCP:

- A proposed budget that details how the additional costs for Zone 6 will be funded
- Fencing, of Zone 6 perimeter and all road ways that would continue being used inside Zone 6
- Law enforcement. We advocate for the presence of multiple law enforcement officers on ground 7 days/week due to the prevalence of dangerous recreation types in Zone 6 that include target shooting, dumping, bonfires, off-trail OHV use and others
- Outreach, including community education and involvement, such as organized school or other public events. This may help give local residents “ownership” of Zone 6 in terms of understanding and respecting the need for limits on recreational uses.
- Service clubs could also be encouraged to assist with clean up and habitat restoration projects.
- Signage
- Bi-annual monitoring of the tortoises by UDWR (that mirrors the survey efforts already used in the Reserve)
- Extra staff on site for supervision of the huge influx of visitors associated with the 4 competitive, organized sporting events that occur in Zone 6 each year
- Habitat restoration for areas disturbed by OHVs, target shooting, competitive events, trash dumping, fires, etc.
- Proactive herbicide treatments to limit the colonization and spread of invasive species
- Ongoing efforts to dismantle dump sites and remove trash
- Raven control
- Implementing redundant route closures with vertical mulching or other camouflaging techniques, and long-term monitoring
- Acquisition of SITLA lands through purchase or exchange for subsequent BLM management.

Generally, we are concerned that the management of recreational activities in Zone 6 will not be in accordance with the goals of protecting and enhancing MDT populations and habitat. We are concerned, specifically, with the continuation of major, competitive sporting events that draw many thousands of visitors each year and the use of off-

highway vehicles on designated roads and trails in Zone 6. These uses would not be compatible with the protection and recovery of the tortoise.

Request for Inclusion in DEIS Scope

6- Ensure Funding for HCP Implementation

6.2.14 Specification of Take Harmful Effects

The WCHCP must specify all harmful impacts which will likely result from permitted take of covered species.¹⁷² This information is essential as land development may proceed in some sensitive areas, possibly in a manner not contemplated by drafters of the original HCP. We are concerned about the potential for future development on private inholdings, SITLA inholdings, and County inholdings inside the Reserve. The proposed NCH is routed through all of these jurisdictions and would serve to aid development of the parcels. Harmful impacts must be specified, and the public needs to be able to adequately assess the potentially significant effects of the NCH to the WCHCP.

Further, the influence of edge-effects of development on individual species needs to be adequately specified in the WCHCP. For instance, small mammal and herptile populations can be severely impacted within a several kilometer area surrounding a cat's home base¹⁷³. Furthermore, the loss of a specified number of populations needs to be analyzed in terms of how these losses do not appreciably reduce the likelihood of survival and recovery in the wild. Other issues to consider include the spread of exotic weeds, increased incidence of fire, and "sink effect" of roads on adjacent populations. See Appendix A. Again, the public needs to be able to adequately assess the potentially significant effects on the WCHCP's ability to achieve its biological goals and objectives.

In addition, the effect of roads needs to be analyzed in the WCHCP and DEIS. Roads cause pollution, sedimentation, erosion, alteration of watershed hydrology, water quality degradation, long-term loss of soil and forest productivity, invasion by non-native species, and loss and fragmentation of wildlife habitat. We expect the DEIS to fully consider the extensive bibliography included in Appendix A of these comments, parts of which are summarized as follows.¹⁷⁴

Roads are a major source of habitat fragmentation, which has been cited as one of the greatest threats to biodiversity.¹⁷⁵ Roads also impact wildlife by killing animals during and after construction, causing noise pollution, and changing wildlife behavior.¹⁷⁶

For example, roads on stream terraces or that cross streams can cause significant mortality to slow-moving animals such as arroyo (*Bufo californicus*) and spadefoot (*Spea hammondi*) toads.¹⁷⁷ Vehicles on roads that cross through or near breeding pools for arroyo toads also kill eggs and juveniles.¹⁷⁸ Some animal species simply will not cross a road, essentially dividing the population in half.¹⁷⁹ An extensive network of roads

¹⁷² 16 U.S.C. § 1539(a)(2)(A)(i).

¹⁷³ Jennings and Hayes 1994

¹⁷⁴ Forman et al. 2003; 3 128 F. Supp. 2d 1293-95

¹⁷⁵ (Wilcove et al. 1986, Noss and Cooperrider 1994).

¹⁷⁶ (Noss and Cooperrider 1994).

¹⁷⁷ (Stephenson and Calcarone 1999).

¹⁷⁸ (Stephenson and Calcarone 1999).

¹⁷⁹ (Noss 1999).

will expose vulnerable species to inbreeding and genetic drift¹⁸⁰, potentially resulting in extinction of the local population¹⁸¹. We recommend a detailed analysis on the harmful effect of current and future roads on individual species covered under the WCHCP, particularly those that have been identified as negatively impacted by roads, such as snake species and small mammals. In addition, we recommend mitigation measures for new roads include regular under-crossings of various sizes, with drift fences for herptiles and small mammals. Roads and development should not functionally isolate the reserves.

It is also important to address the NCH in the context of the relatively new scientific disciplines of landscape ecology, conservation biology, and metapopulation dynamics. We request and expect that the DEIS will apply these scientific disciplines when analyzing the potential effects of the NCH and other developments on tortoises and other species.

In summation, the WCHCP and DEIS must specify all harmful impacts which will likely result from permitted take of covered species. Edge effects, isolation of core reserve areas, increased risk of catastrophic wildfire, spread of exotic invasive plant species, and roads are likely to have a severe harmful ecological impact. Therefore, the analysis of these critically important ecological phenomena on each individual species covered under the WCHCP is necessary in the DEIS.

Request for Inclusion in DEIS Scope

6- Specify Harmful Impacts of “Take”: The WCHCP must specify all harmful impacts which will likely result from permitted take of covered species

6.2.15 HCP Take Monitoring and Compliance

HCP compliance must be monitored and the take permit revoked in the event of non-compliance. The FWS has a mandatory, non-discretionary duty to revoke any take permit where the terms and conditions of the permit have not been met.¹⁸² This is a vital part of the Secretary’s obligation to ensure conservation of the covered species.

A clear, enforceable, mechanism for monitoring compliance – funded by the permit applicant as part of HCP implementation – should be established and provided for public review as part of the draft HCP. Part of the compliance monitoring process should include a free flow of information to the interested public. Nonetheless, the ultimate responsibility for implementation of compliance monitoring falls solely with the Secretary. The Secretary should discontinue issuance of take permits if the level of compliance monitoring for existing permits exceeds available resources.

Request for Inclusion in DEIS Scope

6- Compliance Accountability: HCP compliance must be monitored and the take permit revoked in the event of non-compliance

6.3 Additional Concerns and Issues

¹⁸⁰ (Lande 1993),

¹⁸¹ (Lynch and Lande 1998).

¹⁸² 16 U.S.C. § 1539(2)(C)

6.3.1 HCP Administration

We have strong concerns about the past and continuing administration of the Washington County HCP. We have attended many Habitat Conservation Advisory Committee (HCAC) meetings over the years, and it appears that Washington County exercises undue influence over the HCAC voting members. This influence flows in all likelihood from the fact that Washington County controls the HCP budget process, and hires, fires and supervises HCP-related employees. While BLM and FWS each have one representative on the HCAC, these are only two of the seven HCAC positions. Other than one UDWR slot, the county determines the remaining majority of HCAC appointments. The FWS should use one of its HCAC slots to appoint an independent, bona fide representative of an active environmental NGO with a history of involvement with the RCDR/NCA.

Recently, the county has prevented the public from reviewing a draft HCP with provisions relating to the controversial Northern Corridor, even though the NEPA scoping is underway and the Northern Corridor proponents have access to this information. This is the latest example of the county's pattern of withholding relevant information that should be available to the public. In short, we believe that the current HCP administration is greatly compromised by the county's overwhelming influence and by the lack of public transparency and accountability.

Going forward, we strongly recommend that the new HCP contain fundamental structural reforms relating to how it is administered and by whom. There needs to be arm's length and effective checks and balances to ensure that HCP administration is conducted in a transparent and accountable fashion. For example, we recommend that the new HCAC be expanded to nine members, with BLM and FWS appointing three members each; the county two members; and the UDWR one member.

The *Technical Committee (TC)* appointments should reflect a similar balance of representation. Those appointed to either the HCAC or TC should meet reasonable qualifications for *relevant* training and experience so that they may make well-informed decisions. Each appointment should serve for a set term of years. And no appointee should be involuntarily removed unless good cause has been established. These set terms and removal provisions would help reduce the risk of undue political pressure.

In addition, the future HCP administration staff should likewise consist of a balance of FWS, BLM, county, and perhaps UDWR employees. These employees should be reasonably qualified before hiring or retention in terms of relevant training and experience. The HCP budget should be developed in coordination with the FWS, BLM, county, and perhaps UDWR officials to optimize the efficient use of public funds, and to obtain project matching funds when available. There should be an independent audit each year of all HCP related revenues and expenses, and the audit results should be available for public review.

Request for Inclusion in DEIS Scope

6- HCP Administration Reform: Implement changes in HCP administration requiring diverse and qualified advisors and staff and checks and balances.

6.3.2 “Private Lands in Reserve become Developed Concept in Progress”

This “concept” was listed in HCP slides shared by County-hired consultant, SWCA, on June 25, 2019. See appendix H. Developing private lands inside the Reserve defeats the function of the Reserve to provide effective mitigation for the take of 1,169 tortoises and 12,264 acres of critical habitat in Washington County authorized by the 1995 WCHCP. Development of private lands in the Reserve cannot be mitigated by the addition of Zone 6 for the following reasons, which must be addressed in the DEIS:

- (1) These lands are already in a designated ACEC, which means that the BLM already has the responsibility to manage them for tortoise recovery. Giving them a new name (e.g., “Red Cliffs Reserve”) even if additional protective measures are identified can still be accommodated under improved management of the ACEC encompassing Zone 6 without renewing the HCP.
- (2) There is apparently no commitment for the BLM to curtail or prohibit activities known to be incompatible with tortoise recovery in Zone 6. It is our understanding that an annual dirt bike event with thousands of people in attendance would still occur in Zone 6 in spite of the new title, which we believe is inconsistent with reserve-level management.
- (3) To our knowledge, largely based on rumor, there is no intent to acquire or exchange the SITLA lands in Zone 6 to have them managed as public lands with reserve-level commitments. The DEIS needs to explain how the SITLA lands would be protected if they are not being outright purchased or exchanged by BLM.

Additionally, the DEIS should address the following issues concerning this “concept”:

- Are any of the current Reserve private in-holders threatening to develop their lands?
- If so, whom and where?
- If not, why is this concept relevant?
- If private land in the Reserve is proposed for harmful development, how could FWS legally authorize that incidental take?
- Would Zone 6 mitigation credits be available for this purpose?
- Would NCH construction increase the incentives and potential for such incompatible Reserve development on private or SITLA lands?

Request for Inclusion in DEIS Scope

6- Disallow Development within the Reserve/NCA: Development of private lands in the Reserve cannot be mitigated by the addition of Zone 6

6.3.3 Issues with Zone 6 Survey Methods

Effective mitigation regarding the proposed NCH, regardless of the route chosen, must rely on (among other things) scientifically valid surveys of tortoise populations in Zone 6 and Zone 3, as well as other Zones inside the Reserve. Without scientifically valid surveys, appropriate mitigation cannot be accurately calculated and determined. The ESA’s Best available science mandate requires that scientifically valid surveys be done and shared in the public process.

Two different tortoise survey methodologies have been used in recent years. UDWR used one method since 1998, while the FWS has recently directed that a new method of estimating tortoise densities be used in Zone 6 to determine mitigation for the proposed NCH. This decision degraded the precision of repeated survey methodologies at a critical time and compromised the ability to statistically compare densities in Zone 6 versus Zone 3.

We request that FWS provide:

- the scientifically peer reviewed literature that justified this change in estimating tortoise densities;
- where the FWS has used this exact methodology elsewhere and what the values were and how they were compared to other tortoise populations;
- justification (if any) for using a survey method that was designed to quickly assess the number of tortoises that would be impacted pre-Project. We understand that this survey method was not designed to estimate density and abundance to the same degree of precision as the surveys used throughout the rest of the Reserve.
- How were the polygons in Zone 6 identified?
- the calculated statistical confidence intervals you relied on in your comparisons of Zone 6 densities to Zone 3; and
- identify which survey method will be used henceforth in the Reserve – will it be your new Zone 6 methodology or the formerly used UDWR methodology and why?

Request for Inclusion in DEIS Scope

6- Consistent, Valid Survey Methods: rely on scientifically valid surveys of tortoise populations

6.3.4 Issues with Translocation of tortoises from NCH ROW to Zone 6

In 2018, a pre-survey of the NCH alignment (transects completed over 4.5 miles within a 300' ROW) found over 50 tortoises, including many juveniles. What will happen to these tortoises if the ROW for the NCH is granted? What will happen to the tortoises living south of the NCH that will be effectively cut-off from the foraging, breeding, nesting and sheltering sites they need to survive? This population will be sandwiched between the community of Green Springs and the NCH, and culverts have not proven successful for allowing tortoises to move under highways.

The DEIS must assess the efficacy, both successes and failures, of recent mass translocations of tortoises, at a minimum, from Fort Irwin and Twentynine Palms Marine Corps bases in California, numerous solar projects in southern Nevada and elsewhere, FWS-endorsed translocations from the Desert Tortoise Conservation Center in Las Vegas throughout southern Nevada, and those that have been displaced into Zone 4 and Zone 6 areas associated with the proposed action.

Request for Inclusion in DEIS Scope

6- Efficacy of Mass Translocations: assess the efficacy, both successes and failures, of recent mass translocations of tortoises

6.3.5 Culverts

The DEIS should provide the number of instances tortoises have been documented using the culvert under Red Hills Parkway, one of the existing 4-lane highways that fragments the Reserve.

The DEIS must analyze a wide range of literature related to the documented use of culverts by tortoises and the efficacy of culverts at mitigating habitat fragmentation. If culverts are to be used under the NCH, and if culverts are to be installed under Cottonwood Springs Road, the DEIS must disclose a plan for ensuring that the culverts remain free of debris, especially after heavy precipitation events.

The UDP notes that all culverts and pipes should be capped to prevent animals from entering and being trapped. Also, photos taken by cameras placed at existing Red Hills culverts show a tortoise being removed by a human.

Request for Inclusion in DEIS Scope

6- MDT Use of Culverts: analyze a wide range of literature related to the documented use of culverts by tortoises and the efficacy of culverts at mitigating habitat fragmentation

6.3.6 Economic Value of the 1995 HCP

The DEIS should address the economic value of the HCP from December 1995 to present day. How many acres have been developed because this plan is in place? How many residential and commercial developments have been built because of the plan? How much money has the County brought in through HCP impact fees from December 1995 to present day? The HCP supports economic growth and stability in our County and details should be provided that disclose the amount of benefit it has already provided. Consider that studies show how residential developments near or adjacent to protected lands tend to have higher property values. These increased values benefit the local economy, and the increased assessed values lead to greater property tax revenues regardless of the mill rate.

Request for Inclusion in DEIS Scope

6- HCP Economic Value: determine the economic value of the HCP from December 1995 to present day

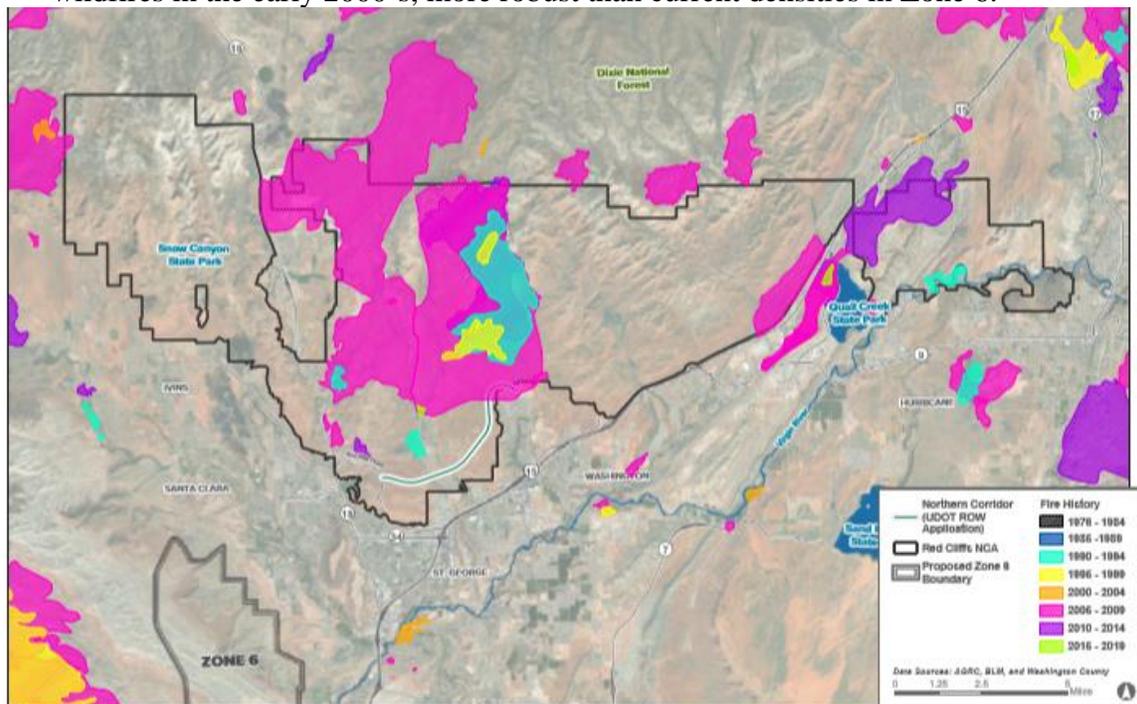
6.3.7 Existing Environmental Conditions

The DEIS should disclose the existing environmental conditions in the Reserve/NCA and outside the Reserve/NCA including, but not limited to the following:

- Current percent cover of exotic annuals in the Reserve, including brome grasses, Russian thistle, Sahara Mustard and others
- Document the spread of Sahara mustard from vectors Pioneer Park and Cottonwood Springs Road through the Reserve. Abundance of Sahara mustard in Pioneer Park and at Pioneer Hills, where the western terminus of the NCH would link up with RHPW, is concerning. How would the NCH contribute to increased levels of Sahara Mustard in the Reserve?
- The number, types and acreage of vegetation communities in the Reserve that show departure values greater than 20% from reference-baseline or Natural Range

of Variability (NRV) established in 2011 Landscape Conservation Forecasting by The Nature Conservancy.¹⁸³

- The history and extent of wildfire in the Reserve from the earliest year that data was collected up to present day. Special attention should be paid to fires that were started from route, road or highway vectors.
- Analysis of tortoise declines following each major wildfire. For example, following the 2005 fires, the tortoise population in Zone 3 declined by as much as 50%¹⁸⁴
- Analysis of re-burned areas and their proximity to the proposed NCH. For example, the eastern terminus of the NCH is less than 1 miles from critical tortoise habitat that has burned 4 times between roughly 1990 and 2014. See BLM Fire History Map below.
- Analysis and mapping of the number of fires, as far back as the fire data goes, that started on roads inside and adjacent to the Reserve, including Cottonwood Springs Road, Red Hills Parkway, SR-18 and I-15.
- Justification for comparing Zone 3 tortoise densities *post-fire* compared to Zone 6 “no fire” densities. Zone 3 habitat and population numbers were much more robust (more robust than what Zone 6 is currently supporting) prior to the severe wildfires in the early 2000’s, more robust than current densities in Zone 6.



- An analysis of the accomplishments of habitat restoration projects in the Reserve/NCA. We find that habitat restoration is slow and intensive, but necessary process, and that great care should be given to ensuring that additional habitat restoration is not needed in the future due to wildfires that start from a highway vector, like the proposed NCH.

¹⁸³ Red Cliffs NCA Draft Resource Management Plan, pg. 363

¹⁸⁴ Regional Desert Tortoise Monitoring in the Red Cliffs Desert Reserve, 2013

- An analysis of the health of crypto biotic soil crusts in the Reserve/NCA. Attention may need to be given to restoration of crypto biotic soil crusts in the near future. These crusts hold the soil, add nutrients, and resist invasive plant species.
- Analysis and mapping of tortoise population declines inside the Reserve since 1995.
- Analysis of raven predation of tortoises inside the Reserve, including analysis of the relationship between highways and predator subsidies, and the relationship between utilities and raven perch sites.
- The DEIS should include a plan for combatting growing raven predation rates in the Reserve. This plan should investigate the use of targeted outreach and education; egg oiling; anti-perch devices; and use of techno-torts.¹⁸⁵
- Analysis and mapping of Upper Respiratory Tract Disease (URTD) in the tortoise population in the Reserve, including known number of documented ELISA positives, what happened to ELISA-positive tortoises (dead or alive), where they were released after testing and plans for combatting URTD in the future.
- Analysis and mapping of tortoise road mortalities on roads in and adjacent to the Reserve, including on roads in Washington County non-adjacent to the Reserve. Road mortality mapping should be overlain with mapping that depicts the age and general condition of the fencing around the perimeter of the Reserve and the fencing that delineates the roads.
- We request that a plan for addressing fence blow-outs, including staff and money resources, be designed.
- Analysis and mapping of poached, illegally “adopted” and stolen tortoises from the Reserve. There are many instances of tortoises being picked up from the Reserve and then dropped off at pet stores or at the Washington County HCP office. An analysis of the frequency and extent of this behavior is necessary.
- Furthermore, analysis and mapping of the non-native tortoise species (like Russian tortoises, African sulcatas, and others) that are abandoned in the Reserve must be completed. People frequently abandon non-native pet tortoises in the Reserve. What is the relationship between abandonment on non-native species and spread of diseases like URTD and others? To what extent could continued illegal releases of non-native tortoises in the Reserve cause increased competition with native tortoises for limited forage resources, especially in areas recovering from fire, largely infested with brome and mustard, or subject to heavy raven or other predation? How do non-native and native tortoises interact in terms of potential competition for home ranges and use of deep burrows, and how could such competition increase stress on native tortoises?
- Analysis of dog-off-leash issues, including a report on the number of tortoise carcasses and tortoise injuries found since 1995 that show signs of canid trauma. And a compilation of the number of *all* Law Enforcement citations/warnings that have been issued since December 1995 related to dog-off-leash issues.
- A plan for combatting the increasing issue of dog-off-leash issues in the Reserve, complete with plans for signage and targeted community outreach, perhaps visits and literature distributed at local dog parks, and new content added to the Red

¹⁸⁵ <https://www.theatlantic.com/science/archive/2019/10/can-fake-tortoises-teach-ravens-stop-eating-real-ones/599599/>

Cliffs Desert Reserve website which would share a list of public lands in Washington County where people *are* allowed to have their dogs off-leash as contrasted to the Reserve, where dogs are not allowed off leash.

- Analysis of recreation impacts in the Reserve, including the length of illegal social trails and other forms of off-trail travel and the impacts this has to wildlife, vegetation and soil crust.
- A plan for curtailing recreation-related littering in the Reserve. Litter levels are increasing as visitation increases. Outreach and education focused on the negative impacts of litter in subsidizing predator populations should be offered in schools and to local hiking clubs and others in the recreation community, and especially to the local church-organized youth groups.
- A plan for providing outreach and education that will help curtail human-caused take of tortoises and subsidization of predator populations through litter and uncovered trash

Request for Inclusion in DEIS Scope

6- Existing Environmental Conditions: disclose the existing environmental conditions in the Reserve/NCA and outside the Reserve/NCA

6.3.8 Known and Potential Mojave Desert Tortoise Habitat

- The DEIS should disclose the new survey data used to calculate the extent and distribution of known and potential Mojave desert tortoise habitat for the purposes of WCHCP Renewal
- The DEIS should also disclose the survey data used to determine the estimated abundance of tortoises inside and outside the Reserve and in Zone 6

Request for Inclusion in DEIS Scope

6- Known/Potential MDT Habitat: Determine/disclose the extent and distribution of known and potential Mojave desert tortoise Habitat

6.3.9 Other Species of Concern

There are 15 other federally listed species in the Plan Area. The DEIS should disclose the new survey data used to review the health and stability of these populations as well.

Request for Inclusion in DEIS Scope

6- Known/Potential MDT Habitat : Determine/disclose the condition of other federally-listed species.

6.3.10 Covered and Non-Covered Activities

- The DEIS should disclose a list of all the covered and non-covered activities that will or will not be permitted in the new WCHCP with justification for each that is grounded in and consistent with existing relevant statutes, regulations, and policies as well as BLM plan decisions.
- The DEIS should disclose how the NCH may be contrary to specific existing plan decisions.

- This list should include all covered and non-covered activities in the proposed Zone 6 with justification for each that is grounded in existing statutes and consistent with existing relevant statutes, regulations, and policies as well as BLM plan decisions.

Request for Inclusion in DEIS Scope
6- Known/Potential MDT Habitat

6.3.11 Violation of Recovery Objectives and Prioritizations

- The DEIS should examine the interplay between the ecological impacts of the NCH on MDT populations and habitat and the goals, objectives and criteria outlined in the *2011 Revised Recovery Plan for the Mojave Population of Desert Tortoise*.¹⁸⁶
- The DEIS should disclose how the NCH undermines, distracts and moves staff time and funding away from the prioritized actions outlined in the *Recovery Action Plan for Mojave desert tortoise in the Upper Virgin River Recovery Unit*.¹⁸⁷

Request for Inclusion in DEIS Scope
6- Determine the Relationship between the NCH and HCP Purpose

6.3.12 Construction Clearance Protocols

- The DEIS should disclose the number of construction-related mortalities that have occurred post-clearance on construction sites in Washington County since 1995.
- The DEIS should also disclose the number of tortoises that have been found and reported post-clearance and successfully rescued prior to construction.
- Finally, the DEIS should include analysis of literature that explains the most successful clearance practices available today. These practices should be implemented in Washington County.

Request for Inclusion in DEIS Scope
6- Address Protocols for Construction Clearance Activities

6.3.13 Mitigation Ratios

We are concerned that the Service may seek to reduce the mitigation ratio affecting habitat acres.

Request for Inclusion in DEIS Scope
6- Mitigation Ratio Disclosure: The DEIS should disclose information related to the mitigation ratios that will be used in the WCHCP and justification for why the ratio was selected that is grounded in the latest science and standard practices used across the tortoise's range. Based on

¹⁸⁶https://www.fws.gov/nevada/desert_tortoise/documents/recovery_plan/RRP%20for%20the%20Mojave%20Desert%20Tortoise%20-%20May%202011.pdf

¹⁸⁷https://www.fws.gov/nevada/desert_tortoise/documents/recovery_plan/20140422.UpperVirginRiver_RIT_RecoveryActionPlan_v1.pdf

our review of the scientific research and evidence, we recommend a 6:1 ratio for replacing critical habitat.

6.3.14 Acquisition of Private Inholdings

- The DEIS should disclose a plan *for* acquiring the remaining non-federal parcels inside the Reserve during the duration of the proposed 25-year WCHCP.
- The acreage of remaining private inholdings should be disclosed in the DEIS.
- We recommend transfer of SITLA, County and Private inholdings inside the Reserve to federal ownership
- We are concerned with the proposed use of conservation easements for acquiring private inholdings. An easement only grants some but not all of the real property. Fee simple or quit claim acquisitions of inholdings are generally much better than dealing with the potential problems from easements.

Request for Inclusion in DEIS Scope

6- Plan for Acquiring Private In-Holdings

6.3.15 WCHCP Budget and Financial Assurances

The DEIS should disclose the following budget related information:

- How much money does the HCP have saved in the bank?
- What large, future costs is the HCP budgeting for? I.e., a new Interpretation Center, Zone 6 management, etc.?
- What were the yearly implementation costs for the WCHCP in a detailed, line by line item budget, for the year 2019?
- What were the yearly implementation costs for the WCHCP from 1995 to 2018?
- What is budgeted for adaptive management and contingencies? What contingencies are listed? What adaptive management activities are being planned for?
- What Impact Fees were collected in 2019?
- What impact fees were collected from 1995 to 2018?
- What is the full list of funding sources, in addition to impact fees, for the WCHCP?
- What are the costs of new building permits related to the WCHCP in Washington County?
- What are future plans for adjusting impact fee (what we understand to be 0.2% of construction cost)?
- What is the justification for eliminating \$250 flat fee on plat approval as listed in Appendix H? If this flat fee was retained, could the money be used for habitat restoration or other activities that will enhance the recreational, ecological and scenic qualities of the Reserve?
- What are the funding assurances for the WCHCP *if* the NCH ROW is not granted? What is Washington County's plan for renewing the WCHCP without the NCH?
- What incremental implementation strategies are being considered?

- What audits have been done of past HCP-related revenues and expenses, by whom, when, and are those audit reports available to the public?

Request for Inclusion in DEIS Scope

6- Financial Disclosure: Disclose budget details related funding sources

6.3.16 “No Surprises” Assurances and “Changed Circumstances”

- The DEIS should list all potentialities being considered in the WCHCP under the umbrellas of “No Surprises Assurances” and “Changed Circumstances”
- The DEIS should disclose *how* the 1,000-acre threshold for triggering wildfire response was determined. Why is the threshold so high in a Reserve that is still recovering from the devastating effects of previous wildfires? Could the threshold be lower? What actions are prompted by this trigger?
- The DEIS should disclose how the 25% threshold for triggering response to Mojave desert tortoise disease was arrived at. Why is the threshold so high in a small and vulnerable recovery unit?
- What plan is there for coping D4–Exceptional Drought Phase triggers? Aside from stopping translocation?
- What plan is there for municipality non-participation?
- What happens if an in-holder threatens to develop their property within the Reserve after the new HCP is adopted?

Request for Inclusion in DEIS Scope

6- Address Surprises and Changed Circumstances: list all potentialities being considered in the WCHCP under the umbrellas of “No Surprises Assurances” and “Changed Circumstances”

6.3.17 Provide Clarification and More Detail on Unclear Items

- The DEIS should provide clarification on how the Reserve Boundary and federal ownership will be assessed at the time the activity occurs, as noted in Appendix H.
- The DEIS should provide clarification and more detail on the transfer of authorized take to HCP partners, as noted in Appendix H.
- The DEIS should provide clarification and more detail on the surrogate metric and how it is calculated, as noted in Appendix H.
- The DEIS should provide clarification and more detail on the habitat modification proxy, as noted in Appendix H.
- The DEIS should provide clarification and more detail on the Comparison of updated MDT habitat/density metrics as noted in Appendix H.
- The DEIS should provide clarification and more detail on the retiring of previously authorized take from Zone 6 and White Reef as noted in Appendix H.

Request for Inclusion in DEIS Scope

6- Clarification of Specific Items

7. Climate Change Implications

7.1 Consider Recent Climate Science

A strong, international scientific consensus has established that human-caused climate change is causing widespread harms to human society and natural systems, and that climate change threats are becoming increasingly dangerous. The Intergovernmental Panel on Climate Change (IPCC), the leading international scientific body for the assessment of climate change, concluded in its 2014 Fifth Assessment Report that: “[w]arming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, and sea level has risen,” and further that “[r]ecent climate changes have had widespread impacts on human and natural systems.”¹⁸⁸ These findings were echoed in the United States’ own 2014 Third National Climate Assessment and 2017 Climate Science Special Report, prepared by scientific experts and reviewed by the National Academy of Sciences and multiple federal agencies. The Third National Climate Assessment concluded that “[m]ultiple lines of independent evidence confirm that human activities are the primary cause of the global warming of the past 50 years”¹⁸⁹ and “[i]mpacts related to climate change are already evident in many regions and are expected to become increasingly disruptive across the nation throughout this century and beyond.”¹⁹⁰ The 2017 Climate Science Special Report similarly concluded:

[B]ased on extensive evidence,...it is extremely likely that human activities, especially emissions of greenhouse gases, are the dominant cause of the observed warming since the mid-20th century. For the warming over the last century, there is no convincing alternative explanation supported by the extent of the observational evidence.

In addition to warming, many other aspects of global climate are changing, primarily in response to human activities. Thousands of studies conducted by researchers around the world have documented changes in surface, atmospheric, and oceanic temperatures; melting glaciers; diminishing snow cover; shrinking sea ice; rising sea levels; ocean acidification; and increasing atmospheric water vapor.¹⁹¹

The U.S. National Research Council concluded that “[c]limate change is occurring, is caused largely by human activities, and poses significant risks for—and in many cases is

¹⁸⁸ IPCC [Intergovernmental Panel on Climate Change], *Climate Change 2014: Synthesis Report*.

Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, [Core Writing Team, R.K. Pachauri & L.A. Meyer (eds.)], IPCC, Geneva, Switzerland (2014),

http://www.ipcc.ch/pdf/assessmentreport/ar5/syr/SYR_AR5_FINAL_full_wcover.pdf at 2.

¹⁸⁹ Melillo, Jerry M, Terese (T.C.) Richmond & Gary W. Yohe (eds.), *Climate Change Impacts in the United States: The Third National Climate Assessment*, U.S. Global Change Research Program (2014), <http://NCA2014.globalchange.gov/downloads> at 7.

¹⁹⁰ Melillo, Jerry M, Terese (T.C.) Richmond & Gary W. Yohe (eds.), *Climate Change Impacts in the United States: The Third National Climate Assessment*, U.S. Global Change Research Program (2014), <http://NCA2014.globalchange.gov/downloads> at 10.

¹⁹¹ USGCRP [U.S. Global Change Research Program], *Climate Science Special Report: Fourth National Climate Assessment, Volume I* [Wuebbles, D.J. et al. (eds.)], U.S. Global Change Research Program, Washington, DC (2017), <https://science2017.globalchange.gov/> at 10.

already affecting—a broad range of human and natural systems.”¹⁹² Based on observed and expected harms from climate change, in 2009 the U.S. Environmental Protection Agency found that greenhouse gas pollution endangers the health and welfare of current and future generations.¹⁹³

These authoritative climate assessments decisively recognize the dominant role of greenhouse gases in driving climate change. As stated by the Third National Climate Assessment: “observations unequivocally show that climate is changing and that the warming of the past 50 years is primarily due to human-induced emissions of heat-trapping gases.”¹⁹⁴ The Assessment makes clear that “reduc[ing] the risks of some of the worst impacts of climate change” will require “aggressive and sustained greenhouse gas emission reductions” over the course of this century.¹⁹⁵

The impacts of climate change will be felt by humans and wildlife. Climate change is increasing stress on species and ecosystems—causing changes in distribution, phenology, physiology, vital rates, genetics, ecosystem structure and processes—in addition to increasing species extinction risk.¹⁹⁶ Climate-change-related local extinctions are already widespread and have occurred in hundreds of species.¹⁹⁷ Catastrophic levels of species extinctions are projected during this century if climate change continues unabated.¹⁹⁸ In Utah, climate change will transform our climate, resulting in such impacts as increased temperatures and wildfires, and a reduction in snowpack and precipitation levels and water availability. The 2016 Red Cliffs NCA ROD and Approved RMP acknowledges that management for fish and wildlife habitat must occur in the context of predicted changes in climate, stating:

The Approved RMP will manage fish and wildlife habitat to provide high quality forage or a high-quality prey base, as well as water, space, cover, and breeding

¹⁹² NRC [National Research Council], *Advancing the Science of Climate Change*, National Research Council (2010), www.nap.edu at 2.

¹⁹³ U.S. EPA [U.S. Environmental Protection Agency], *Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act; Final Rule*, 74 Federal Register 66496 (2009).

¹⁹⁴ Melillo, Jerry M, Terese (T.C.) Richmond & Gary W. Yohe (eds.), *Climate Change Impacts in the United States: The Third National Climate Assessment*, U.S. Global Change Research Program (2014) at 2. *See also* Report Finding 1 at 15: “The global warming of the past 50 years is primarily due to human activities, predominantly the burning of fossil fuels.” https://www.globalchange.gov/sites/globalchange/files/Ch_0a_FrontMatter_ThirdNCA_GovtReviewDraft_Nov_22_2013_clean.pdf

¹⁹⁵ Melillo, Jerry M, Terese (T.C.) Richmond & Gary W. Yohe (eds.), *Climate Change Impacts in the United States: The Third National Climate Assessment*, U.S. Global Change Research Program (2014) at 13, 14, and 649. *See also* Report Finding 3 at 15: “Human-induced climate change is projected to continue, and it will accelerate significantly if global emissions of heat-trapping gases continue to increase.”

¹⁹⁶ Warren, Rachel et al., *Increasing impacts of climate change upon ecosystems with increasing global mean temperature rise*, 106 *Climatic Change* 141 (2011). <https://iopscience.iop.org/article/10.1088/1755-1307/6/30/302037/pdf>

¹⁹⁷ Wiens, John J., *Climate-related local extinctions are already widespread among plant and animal species*, 14 *PLoS Biology* e2001104 (2016). <https://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.2001104>

¹⁹⁸ Thomas, Chris. D. et al., *Extinction risk from climate change*, 427 *Nature* 145 (2004); Maclean, Ilya M. D. & Robert J. Wilson, *Recent ecological responses to climate change support predictions of high extinction risk*, 108 *PNAS* 12337 (2011); Urban, Mark C., *Accelerating extinction risk from climate change*, 348 *Science* 571 (2015).

areas, thereby sustaining viable populations and overall ecosystem biodiversity and resilience. Multi-species habitat connectivity, migration routes, and movement corridors are conserved and protected between ecological Zones to facilitate species persistence, adaptation, and overall biodiversity *under predicted climate change scenarios*.¹⁹⁹

In addition to providing updated scientific assessment of global and national impacts and risks associated with climate change, the Fourth National Climate Assessment Volume II: Impacts, Risks, and Adaptation in the United States²⁰⁰ provided a much more granular look at projected regional climate impacts.

The report documents specific and concerning impacts to Utah's environment, natural resources, and economy, that the BLM and USFWS need to incorporate into their assessment of climate impacts. For example, the Southwest region, of which Utah is a part, could experience an 8.6°F increase in regional annual average temperatures by 2100.²⁰¹ This could lead to aridification of much of the Southwest.²⁰² Increased temperatures are already significantly impacting the water cycle in the Southwest resulting in decreased snowpack, streamflow and increases in the proportion of rain to snow.²⁰³ Higher temperatures also sharply increase the risk of megadroughts or dry periods lasting more than 10 years.²⁰⁴

According to the report, the ecosystems of the Southwest will also suffer as a result of climate change.²⁰⁵ Trees are dying, bark beetle infestations are increasing, and wildfires are burning more acreage ultimately leading to increased erosion and damages to communities in fire-prone areas.²⁰⁶

BLM and USFWS have an obligation to use the best available science in assessing the climate impacts that will result from its decisions and that must inform current and future management. For example, the agencies must examine the impacts that climate change will have on species that exhibit temperature-dependent sex determination²⁰⁷ in the planning area, including the Mojave desert tortoise.²⁰⁸ Volume II of the Fourth National Climate Assessment represents the federal government's most recent analysis of climate

¹⁹⁹ U. S. Department of the Interior, Bureau of Land Management, St. George Field Office. 2016. Red Cliffs National Conservation Area Record of Decision and Approved Resource Management Plan. Available at: https://eplanning.blm.gov/epl-front-office/projects/lup/64251/93615/112935/RCNCA-ROD-RMP_ePlanning.pdf (emphasis added).

²⁰⁰ Reidmiller *et al.*, USGCRP, Impacts, Risks, and Adaptations in the United States Fourth National Climate Assessment, VOLUME II (2018), <https://NCA2018.globalchange.gov/>.

²⁰¹ *Id.* at 1109.

²⁰² *Id.*

²⁰³ *Id.* at 1112

²⁰⁴ *Id.*

²⁰⁵ *Id.* at 1115.

²⁰⁶ *Id.* at 1115–16.

²⁰⁷ Booth, D.T. 2006. Influence of incubation temperature on hatchling phenotype in reptiles. *Physiological and Biochemical Zoology* 79:274-281.

²⁰⁸ Rostal, D.C., T. Wibbels, J.S. Grumbles, V.A. Lance, and J.R. Spotila. 2002. Chronology of sex determination in the desert tortoise (*Gopherus agassizii*). *Chelonian Conservation and Biology* 4:313-318.

impacts on Utah and the Southwest region. BLM and USFWS must fully discuss these specific regional impacts and analyze them in the DEIS.

Because of the scope and severity of the effects of climate change, immediate and aggressive greenhouse gas emissions reductions are necessary to keep warming well below 2°C above pre-industrial levels. The IPCC Fifth Assessment Report and other expert assessments have established global carbon budgets, or the total amount of carbon that can be burned while maintaining some probability of staying below a given temperature target. According to the IPCC, total cumulative anthropogenic emissions of CO₂ must remain below about 1,000 GtCO₂ from 2011 onward for a 66 percent probability of limiting warming to 2°C above pre-industrial levels, and to 400 GtCO₂ from 2011 onward for a 66 percent probability of limiting warming to 1.5°C.²⁰⁹ These carbon budgets have been reduced to 850 GtCO₂ and 240 GtCO₂, respectively, from 2015 onward.²¹⁰ Given that global CO₂ emissions in 2016 alone totaled 36 GtCO₂,²¹¹ humanity is rapidly consuming the remaining carbon budget needed to avoid the worst impacts of climate change. As of early 2018, climate policies by the world's countries would lead to an estimated 3.4°C of warming, and possibly up to 4.7°C of warming, well above the level needed to avoid the worst dangers of climate change.²¹²

The United States has contributed more to climate change than any other country. The U.S. is the world's biggest cumulative emitter of greenhouse gas pollution, responsible for 27 percent of cumulative global CO₂ emissions since 1850, and the U.S. is currently the world's second highest emitter on an annual and per capita basis.²¹³ Nonetheless, U.S. climate policy is wholly inadequate to meet the international climate target to hold global average temperature rise to well below 2°C above pre-industrial levels to avoid the worst dangers of climate change. Current U.S. climate policy has been ranked as “critically insufficient” by an international team of climate policy experts and climate scientists which concluded: “These steps represent a severe backwards move and an abrogation of the United States’ responsibility as the world’s second largest emitter at a time when

²⁰⁹IPCC [Intergovernmental Panel on Climate Change], 2013: Summary for Policymakers. In: Climate Change 2013: The Physical Science Basis, Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Stocker, T.F. et al. (eds.)], Cambridge University Press (2013) at 25; IPCC [Intergovernmental Panel on Climate Change], Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)], IPCC, Geneva, Switzerland (2014) at 63-64 & Table 2.2.

²¹⁰ Rogelj, Joeri et al., Differences between carbon budget estimates unraveled, 6 Nature Climate Change 245 (2016) at Table 2.
<http://pure.iiasa.ac.at/id/eprint/12019/1/Differences%20between%20carbon%20budget%20estimates%20unravalled.pdf>

²¹¹ Le Quéré, Corinne, et al., Global Carbon Budget 2017, Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2017-123> (2017),
<http://www.globalcarbonproject.org/carbonbudget/17/data.htm>.

²¹² Climate Action Tracker, Improvement in warming outlook at India and China move ahead, but Paris Agreement gap still looms large (November 2017),
<http://climateactiontracker.org/publications/briefing/288/Improvement-inwarming-outlook-as-India-and-China-move-ahead-but-Paris-Agreement-gap-still-looms-large.html>.

²¹³ World Resources Institute, 6 Graphs Explain the World's Top 10 Emitters (November 25, 2014).
<https://www.wri.org/blog/2014/11/6-graphs-explain-world-s-top-10-emitters>

more, not less, commitment is needed from all governments to avert the worst impacts of climate change.”²¹⁴

7.2 Fully Quantify Direct, Indirect, and Cumulative Greenhouse Gas Emissions

The DEIS must recognize the critical importance that land use planning and this proposal in particular plays in greenhouse gas (GHG) emissions from the proposed project and how it exacerbates GHG emissions. Although GHG emissions from the proposed project may seem insignificant, climate change is a problem with cumulative impacts and effects.²¹⁵ One source or one project may not appear to have a significant effect on climate change, but the combined impacts of many sources can drastically damage Utah’s climate as a whole. Therefore, project-specific GHG emission disclosure, analysis and mitigation is vital to meeting climate goals and maintaining our climate.

BLM and USFWS must conduct a GHG emissions analysis for both the construction and operation of the Northern Corridor. This analysis must also compare and contrast the effects of the Northern Corridor alternative with the potential GHG emissions effects of all other alternatives, including the package of possible transportation alternatives that have been conveyed to the DMPO by CSU (a full discussion of those alternatives can be found in the Community Alternatives section of these scoping comments). The analysis must include cumulative impacts for each resource area and include the carbon sequestration provided by intact arid lands ecosystems that will be impacted by the proposed alternatives. The GHG emissions must be disclosed to the public and decision-makers, so the implications of the proposed alternatives to affect our climate are clear. It must also identify the alternatives with the greatest reductions to GHG emissions.

To fulfill the goals of NEPA, federal agencies are required to analyze the “effects,” or impacts, of their actions to the human environment prior to undertaking their actions²¹⁶, holding that NEPA imposes “action forcing procedures . . . requir[ing] that agencies take a *hard look* at environmental consequences”. To this end, an agency must analyze the “direct,” “indirect,” and “cumulative” effects of its actions, and assess their significance.²¹⁷ Direct effects include all impacts that are “caused by the action and occur at the same time and place.”²¹⁸ Indirect effects are “caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.”²¹⁹ Cumulative effects include the impacts of all past, present, and reasonably foreseeable actions, regardless of what entity or entities undertake the actions.²²⁰

Generally, an agency may prepare an environmental assessment (“EA”) to analyze the effects of its actions and assess the significance of impacts.²²¹ Where impacts are not

²¹⁴ Climate Action Tracker, USA (last updated 6 November 2017), <http://climateactiontracker.org/countries/usa>.

²¹⁵ *Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin.*, (9th Cir. 2008) 538 F.3d 1172, 1217 (“the impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis” that agencies must conduct).

²¹⁶ *Id.* § 1502.16(d); *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989)

²¹⁷ *Id.* §§ 1502.16(a), (b), and (d).

²¹⁸ *Id.* § 1508.8(a).

²¹⁹ *Id.* § 1508.8(b).

²²⁰ *Id.* § 1508.7.

²²¹ *See id.* § 1508.9; *see also* 43 C.F.R. § 46.300.

significant, an agency may issue a Finding of No Significant Impact (“FONSI”) and implement its action.²²² But, where effects are significant, an agency must prepare an EIS.²²³

Federal agencies determine whether direct, indirect, or cumulative impacts are significant by accounting for both the “context” and “intensity” of those impacts.²²⁴ Context “means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality” and “varies with the setting of the proposed action.”²²⁵ Intensity “refers to the severity of the impact” and is evaluated according to several additional elements, including: the unique characteristics of the geographic area such as ecologically critical areas; the degree to which the effects are likely to be highly controversial; the degree to which the possible effects are highly uncertain or involve unique or unknown risks; and whether the action has cumulatively significant impacts.²²⁶

Within the context of climate change, NEPA requires BLM and USFWS to quantify and discuss the significance of the direct, indirect, and cumulative GHG emissions generated by its proposed action.²²⁷

Here, this means that BLM and USFWS must not only quantify direct GHG emissions from construction and operation of the proposed Northern Corridor, but must also quantify indirect GHG emissions from any foreseeable future actions, such as those that may be caused by population growth or land use changes in Washington county induced by the Northern Corridor.²²⁸

7.3 Assess the Significance of Greenhouse Gas Emissions

BLM and USFWS must also properly assess the significance of direct, indirect and cumulative GHG emissions. As the Council on Environmental Quality (“CEQ”) has noted, “a statement that emissions from a proposed Federal action represent only a small fraction of global emissions is essentially a statement about the nature of the climate

²²² See 40 C.F.R. § 1508.13; see also 43 C.F.R. § 46.325(2).

²²³ See 40 C.F.R. § 1502.3

²²⁴ *Id.* § 1508.27.

²²⁵ *Id.* § 1508.27(a).

²²⁶ *Id.* §§ 1508.27(b)(3), (4), (5), (7).

²²⁷ 40 C.F.R. §§ 1502.16 (outlining what is required in an impacts analysis), 1508.7 (defining cumulative impacts), 1508.8 (defining direct and indirect impacts); *Western Org. of Res. Councils v. U.S. Bureau of Land Mgmt.*, CV 16-21-GF-BMM, 2018 WL 1475470, (D. Mont. Mar. 26, 2018) (requiring quantification of indirect GHG emissions at the resource management plan stage); *Sierra Club v. Fed. Energy Regulatory Comm’n*, 867 F.3d 1357, 1374 (D.C. Cir. 2017) (requiring quantification of indirect GHG emissions burned as a result of a natural gas pipeline); *Center for Biological Diversity v. National Highway Traffic Admin.*, 538 F.3d 1172, 1215 (9th Cir. 2008) (requiring assessment of the cumulative impacts of climate change from a proposed rule); *San Juan Citizens All. v. United States Bureau of Land Mgmt.*, 326 F. Supp. 3d 1227, 1244 (D.N.M. 2018) (requiring an analysis of the direct, indirect, and cumulative GHG emissions at the oil and gas lease sale stage); *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 53 (D.D.C. 2019) (requiring a robust analysis of the direct and indirect climate impacts from nine lease sales as well as a quantitative, regional and national cumulative impacts analysis of reasonably foreseeable future actions such as BLM lease sales).

²²⁸ *Sierra Club v. Fed. Energy Regulatory Comm’n*, 867 F.3d 1357, 1374 (D.C. Cir. 2017).

change challenge, and is not an appropriate basis for deciding whether or to what extent to consider climate change impacts under NEPA.”²²⁹

There are a variety of tools available to assess significance beyond including an arbitrary percentage.

7.3.1. Consider Carbon Budgeting as a Tool for Assessing Significance

For example, carbon budgeting is a valuable tool for assessing the significance of GHG emissions in the current context. BLM and USFWS are required to determine whether this tool would contribute to informed decision-making.

The science of carbon budgeting has greatly improved in the last few years, and recent reports demonstrate the evident usefulness of carbon budgeting in assessing the significance of future emissions. For example, the October 2018 IPCC *Global Warming of 1.5°C* special report provided a revised carbon budget for a 66 percent probability of limiting warming to 1.5°C, estimated at 420 GtCO₂ and 570 GtCO₂ depending on the temperature dataset used, from January 2018 onwards.²³⁰ Compared with the average global emissions rate of 36 GtCO₂ per year noted above for 2012-2014, the IPCC explained the global emissions rate has increased to 42 GtCO₂ per year.²³¹ At this rate, the global carbon budget would be expended in just 10 to 14 years, underscoring the urgent need for transformative global action to transition from fossil fuel use to clean energy.²³²

To put these global carbon budgets in the specific context of domestic U.S. emissions and the U.S.’s obligation to reduce emissions, the U.S. is the world’s largest historic emitter of GHG pollution, is responsible for 26 percent of cumulative global CO₂ emissions since 1870, and is currently the world’s second highest emitter on an annual and per capita basis.²³³ And, federal fossil fuel production contributes to 23% of all U.S. carbon dioxide emissions and to 23% of all U.S. GHG emissions.²³⁴ Regardless, to conform to a 1.5°C target, the estimated U.S. carbon budget is 25 GtCO₂eq to 57 GtCO₂eq on average,²³⁵

²²⁹ CEQ, Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews 1, 11 (2016). Available at: https://obamawhitehouse.archives.gov/sites/whitehouse.gov/files/documents/nepa_final_ghg_guidance.pdf. (Although the Trump Administration has since revoked the CEQ’s August 2016 Climate Guidance, the OEA is still bound by the CEQ’s NEPA regulations and existing case law incorporating the requirements of the Guidance. *See, e.g., Sierra Club v. Fed. Energy Regulatory Comm’n*, 867 F.3d 1357, 1374 (D.C. Cir. 2017).)

²³⁰ IPCC SP15, *supra*, at SPM-16.

²³¹ *Id.*

²³² *Id.*

²³³ Global Carbon Atlas, CO₂ Emissions, “Time Series” & “Chart View.” Available at: <http://www.globalcarbonatlas.org/en/CO2-emissions> (last visited July 19, 2019).

²³⁴ *See* Merrill, M.D., *et al.*, U.S. Geo. Survey, Federal Lands Greenhouse Gas Emissions and Sequestration in the United States—Estimates for 2005–14: Scientific Investigations Report 2018-5131 at 6 (2018). Available at: <https://pubs.er.usgs.gov/publication/sir20185131>.

²³⁵ Robiou du Pont, Yann *et al.*, *EQUITABLE MITIGATION TO ACHIEVE THE PARIS AGREEMENT GOALS*, 7 *NATURE CLIMATE CHANGE* 38, Supplemental Tables 1 and 2 (2017). Quantities measured in GtCO₂eq include the mass emissions from CO₂ as well as the other well-mixed greenhouse gases (CO₂, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and SF₆) converted into CO₂-equivalent values, while quantities measured in GtCO₂ refer to mass emissions of just CO₂ itself.

depending on the sharing principles used to apportion the global budget across countries.²³⁶ The estimated U.S. carbon budget consistent with limiting temperature rise to 2°C ranges from 34 GtCO₂ to 123 GtCO₂,²³⁷ again depending on the sharing principles used. Under any scenario, the remaining U.S. carbon budget compatible with the Paris climate targets is extremely small.

As demonstrated above, climate science is ever evolving and extremely relevant to BLM and USFWS's work. Without accounting for recent reports, the agencies would be approving actions in the dark, without the full picture of climate change before it and contrary to the requirements of NEPA.

The D.C. District Court²³⁸ mandated consideration of such measures to assess significance. “[O]n remand, BLM must reassess whether the social cost of carbon or another methodology [carbon budgets] for quantifying climate change may contribute to informed decision-making...”²³⁹

In sum, with 1°C of warming from historic levels already measured, and additional warming already locked in from recent GHG emissions, the window for preventing catastrophic climate change is rapidly closing. Carbon budgeting represents a valuable and ever-improving tool to assess how BLM and USFWS's actions are contributing to the global climate crisis. Since carbon budget analysis based on recent studies would contribute to informed decision-making, BLM and USFWS must utilize this tool in their assessment of the impacts of the proposed Northern Corridor and its alternatives.

7.3.2 Consider Analyzing the Costs of Reasonably Foreseeable Carbon Emissions

The social cost of carbon. Considering well-accepted, credible, GAO-endorsed, interagency methods for assessing carbon costs, is another useful tool at BLM and USFWS's disposal to help the agencies and their decision-makers to fully understand the significance of the GHG emissions enabled by their decisions. The social cost of carbon protocol for assessing climate impacts is a method for “estimat[ing] the economic damages associated with a small increase in carbon dioxide (CO₂) emissions, conventionally one metric ton, in a given year [and] represents the value of damages

²³⁶ Robiou du Pont et al. (2017) averaged across IPCC sharing principles to estimate the U.S. carbon budget from 2010 to 2100 for a 50 percent chance of returning global average temperature rise to 1.5°C by 2100, consistent with the Paris Agreement's “well below 2°C” target, and based on a cost-optimal model. The study estimated the U.S. carbon budget consistent with a 1.5°C target at 25 GtCO₂eq by averaging across four equity principles: capability (83 GtCO₂eq), equal per capita (118 GtCO₂eq), greenhouse development rights (-69 GtCO₂eq), and equal cumulative per capita (-32 GtCO₂eq). The study estimated the U.S. budget at 57 GtCO₂eq when averaging across five sharing principles, adding the constant emissions ratio (186 GtCO₂eq) to the four above-mentioned principles. However, the constant emissions ratio, which maintains current emissions ratios, is not considered to be an equitable sharing principle because it is a grandfathering approach that “privileges today's high-emitting countries when allocating future emission entitlements.”

²³⁷ Robiou du Pont et al. (2017) estimated the U.S. carbon budget for a 66 percent probability of keeping warming below 2°C at 60 GtCO₂eq based on four equity principles (capability, equal per capita, greenhouse development rights, equal cumulative per capita), and at 104 GtCO₂eq based on five principles (adding in constant emissions ratio, but see footnote above).

²³⁸ *WildEarth Guardians v. Zinke*

²³⁹ 368 F. Supp. 3d 41, 76 n.31 (D.D.C. 2019).

avoided for a small emission reduction (i.e. the benefit of a CO₂ reduction).”²⁴⁰ The social cost of carbon provides a useful, valid, and meaningful tool for assessing the climate consequences agency actions, and the BLM and USFWS’s failure to utilize this available tool would be arbitrary and capricious. The protocol was developed by a working group consisting of several federal agencies.

NEPA does not, of course, require agencies to monetize adverse impacts in all cases.²⁴¹ NEPA does, however, require agencies to take a hard look at the “ecological . . . , aesthetic, historic, cultural, economic, social, [and] health,” effects of their actions, “whether direct, indirect, or cumulative.”²⁴² Monetization of costs may be required where available “alternative mode[s] of [NEPA] evaluation [are] insufficiently detailed to aid the decision-makers in deciding whether to proceed, or to provide the information the public needs to evaluate the project effectively.”²⁴³

The Interagency Working Group was formed in 2009 to develop the protocol and issued its initial final estimates of carbon costs in 2010.²⁴⁴ These estimates were then refined in 2013,²⁴⁵ 2015,²⁴⁶ and 2016.²⁴⁷ In 2016, the Department of the Interior joined numerous other agencies in preparing estimates of the social cost of methane and other GHGs.²⁴⁸

Depending on the discount rate and the year during which the carbon emissions are produced, the Interagency Working Group estimates the cost of carbon emissions, and therefore the benefits of reducing carbon emissions, to range from \$10 to \$212 per metric ton of carbon dioxide. *See* Table below. In one of its more recent updates to the Social Cost of Carbon Technical Support Document, the White House’s central estimate was reported to be \$36 per metric ton.²⁴⁹

²⁴⁰ U.S. Environmental Protection Agency (“EPA”), “Fact Sheet: Social Cost of Carbon” (2013) at 1, formerly available online at <https://www.epa.gov/climatechange/social-cost-carbon>.

²⁴¹ *See* 40 C.F.R. § 1502.23.

²⁴² *Id.* § 1508.8.

²⁴³ *Columbia Basin Land Prot. Ass’n v. Schlesinger*, 643 F.2d 585, 594 (9th Cir. 1981).

²⁴⁴ *See* Interagency Working Group on Social Cost of Carbon, “Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866” (2010). Available at: https://www.epa.gov/sites/production/files/2016-12/documents/scc_tsd_2010.pdf.

²⁴⁵ *See* Interagency Working Group on Social Cost of Carbon, “Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866” (2013). Available at: <https://obamawhitehouse.archives.gov/sites/default/files/omb/assets/inforeg/technical-update-social-cost-of-carbon-for-regulator-impact-analysis.pdf>.

²⁴⁶ *See* Interagency Working Group on Social Cost of Carbon, “Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866” (2015).

²⁴⁷ *See* Interagency Working Group on Social Cost of Greenhouse Gases, “Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis – Under Executive Order 12866” (2016). Available at: https://obamawhitehouse.archives.gov/sites/default/files/omb/inforeg/scc_tsd_final_clean_8_26_16.pdf.

²⁴⁸ *Id.*

²⁴⁹ *Id.* at 4.

In July 2014, the U.S. Government Accountability Office (“GAO”) confirmed that the Interagency Working Group’s estimates were based on sound procedures and methodology.²⁵⁰

Year	5% Average	3% Average	2.5% Average	High Impact (95 th Pct at 3%)
2010	10	31	50	86
2015	11	36	56	105
2020	12	42	62	123
2025	14	46	68	138
2030	16	50	73	152
2035	18	55	78	168
2040	21	60	84	183
2045	23	64	89	197
2050	26	69	95	212

Most recent social cost of carbon estimates presented by Interagency Working Group on Social Cost of Carbon. The 95th percentile value is meant to represent “higher-than-expected” impacts from climate change.

Although often utilized in the context of agency rulemakings, the protocol has been recommended for use and has been used in project-level decisions. For instance, the EPA recommended that an EIS prepared by the U.S. Department of State for the proposed Keystone XL oil pipeline include “an estimate of the ‘social cost of carbon’ associated with potential increases of GHG emissions.”²⁵¹

The requirement to analyze the social cost of carbon is supported by the general requirements of NEPA and is specifically supported in federal case law. Courts have ordered agencies to assess the social cost of carbon pollution, even before a federal protocol for such analysis was adopted. In 2008, the U.S. Court of Appeals for the Ninth Circuit ordered the National Highway Traffic Safety Administration to include a monetized benefit for carbon emissions reductions in an Environmental Assessment prepared under NEPA.²⁵² The Highway Traffic Safety Administration had proposed a rule setting corporate average fuel economy standards for light trucks. A number of states and public interest groups challenged the rule for, among other things, failing to monetize the benefits that would accrue from a decision that led to lower carbon dioxide emissions. The Administration had monetized the employment and sales impacts of the proposed action.²⁵³ The agency argued, however, that valuing the costs of carbon emissions was too uncertain.²⁵⁴ The court found this argument to be arbitrary and capricious.²⁵⁵ The court noted that while estimates of the value of carbon emissions reductions occupied a

²⁵⁰ See GAO, “Regulatory Impact Analysis, Development of Social Cost of Carbon Estimates,” GAO-14-663 (2014), Available at: <http://www.gao.gov/assets/670/665016.pdf>.

²⁵¹ EPA, Comments on Supplemental Draft EIS for the Keystone XL Oil Pipeline (2011). Available at: https://www.eenews.net/assets/2011/06/07/document_gw_02.pdf

²⁵² *Center for Biological Diversity v. Nat’l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1203 (9th Cir. 2008).

²⁵³ *Id.* at 1199.

²⁵⁴ *Id.* at 1200.

²⁵⁵ *Id.*

wide range of values, the correct value was certainly not zero.²⁵⁶ It further noted that other benefits, while also uncertain, were monetized by the agency.²⁵⁷

In 2014, a federal court did likewise for a federally-approved coal lease. That court began its analysis by recognizing that a monetary cost-benefit analysis is not universally required by NEPA.²⁵⁸ However, when an agency prepares a cost-benefit analysis, “it cannot be misleading.”²⁵⁹ In that case, the NEPA analysis included a quantification of benefits of the project, but, the quantification of the social cost of carbon, although included in earlier analyses, was omitted in the final NEPA analysis.²⁶⁰ The agencies then relied on the stated benefits of the project to justify project approval. This, the court explained, was arbitrary and capricious.²⁶¹ Such approval was based on a NEPA analysis with misleading economic assumptions, an approach long disallowed by courts throughout the country.²⁶² Furthermore, the court reasoned that even if the agency had decided that the social cost of carbon was irrelevant, the agency must still provide “*justifiable reasons* for not using (or assigning minimal weight to) the social cost of carbon protocol”²⁶³ In August 2017, a federal district court in Montana cited to the *High Country* decision and reaffirmed its reasoning, rejecting a NEPA analysis for a coal mine expansion that touted the economic benefits of the expansion without assessing the carbon costs that would result from the development.²⁶⁴

In 2017, the Proceedings of the National Academy of Sciences of the United States of America (PNAS), acknowledged in a peer-reviewed article from February of this year that the social cost of carbon analysis is “[t]he most important single economic concept in the economics of climate change,” and that “federal regulations with estimated benefits of over \$1 trillion have used the SCC.”²⁶⁵

Ultimately, the social cost of carbon protocol presents a conservative estimate of economic damages associated with the environmental impacts of climate change. As the EPA has noted, the protocol “does not currently include all important [climate change] damages.”²⁶⁶ As explained:

The models used to develop [social cost of carbon] estimates do not currently include all of the important physical, ecological, and economic impacts of climate change recognized in the climate change literature because of a lack of precise

²⁵⁶ *Id.*

²⁵⁷ *Id.* at 1202.

²⁵⁸ See *High Country Conservation Advocates v. U.S. Forest Serv.*, 52 F.Supp. 3d 1174, 1193 (D. Colo. 2014) (citing 40 C.F.R. § 1502.23).

²⁵⁹ *Id.* at 1182 (citations omitted).

²⁶⁰ *Id.* at 1196.

²⁶¹ *Id.*

²⁶² *Id.*

²⁶³ *Id.* at 1193 (emphasis added).

²⁶⁴ See *Mont. Env'tl. Info. Ctr. v. U.S. Office of Surface Mining*, No. CV 15-106-M-DWM (D. Mont. Aug. 14, 2017).

²⁶⁵ William D. Nordhaus, Revisiting the Social Cost of Carbon, PNAS (2017): <http://www.pnas.org/content/114/7/1518.full.pdf>.

²⁶⁶ EPA Factsheet on SCC, *supra*, at 1.

information on the nature of damages and because the science incorporated into these models naturally lags behind the most recent research.²⁶⁷

In fact, more recent studies have reported significantly higher carbon costs. For instance, a report published in 2015 found that current estimates for the social cost of carbon should be increased six times for a mid-range value of \$220 per ton.²⁶⁸ And a report from 2017, estimated carbon costs to be \$50 per metric ton, a value that experts have found to be the “best estimate of the social cost of greenhouse gases.”²⁶⁹ In spite of uncertainty and likely underestimation of carbon costs, nevertheless, “the SCC is a useful measure to assess the benefits of CO2 reductions,” and thus a useful measure to assess the costs of CO2 increases.²⁷⁰

Request for Inclusion in DEIS Scope:

7- Consider Climate Change: We request that these climate change related concerns and effects, and the best available scientific methods for analyzing those concerns and effects (including among alternatives to the NCH) be fully addressed in the DEIS. We believe that failure to do so would constitute a NEPA “fatal flaw” in the DEIS.

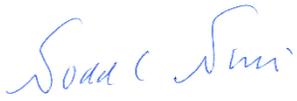
²⁶⁷ *Id.*

²⁶⁸ See Francis C. Moore, and Delvane B. Diaz, “Temperature impacts on economic growth warrant stringent mitigation policy,” *Nature Climate Change* 2 (2015).

²⁶⁹ See Revesz, R. *et al.* “Best cost estimate of greenhouse gases,” 357 *Science* 655, 655 (2017).

²⁷⁰ EPA Factsheet on SCC, *supra*.

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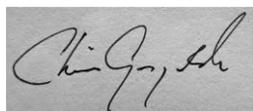
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List of Appendices

Also Provided on USB and Disc except for BLM and FWS' own documents

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Appendix B - Delimiting road-effect zones for threatened species

Appendix C - Effects of roads and roadside fencing

Appendix D - Outpacing development to achieve long standing conservation goals

Appendix E - Relative abundance and demographic structure of *G. agassizii* along roads of varying size and traffic volume

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