



ARTHUR CARHART NATIONAL WILDERNESS TRAINING CENTER

MINIMUM REQUIREMENTS DECISION GUIDE WORKBOOK

"...except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act..."

-- The Wilderness Act of 1964

Project Title: Fly Canyon Desert Dace Exclosure

MRDG Step 1: Determination

Determine if Administrative Action is Necessary

Description of the Situation

What is the situation that may prompt administrative action?

The High Rock Lake Wilderness was designated with the passage of the Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area Act (2000) (Amended 2001). The recommendation for wilderness was, in part, due to exceptional naturalness and a complex of important wildlife values.

In 1985 the U.S. Fish and Wildlife Service listed the Desert Dace (*Eremichthys acros*) as a federally listed threatened species under the Endangered Species Act (ESA). At the time of listing, critical habitat was also listed, that encompasses 50 feet on each side of designated thermal springs and their outflow streams. ("Recovery Plan for the Rare Species of Soldier Meadows", USFWS 1997).

In 2010 Nevada Department of Wildlife (NDOW) discovered a separate population of Desert Dace in a geothermal spring in Fly Canyon, located in the High Rock Lake Wilderness. Desert Dace are known to occur in only a small number of locations and require specific type of spring environments. At this time the Fly Canyon population of Desert Dace is at immediate risk of irreparable harm from wild horse use of the spring. This is due to continuing drought conditions which are impacting water sources for wild horses. NDOW anticipates this recently discovered population will not survive the summer without some type of protection. An exclosure to protect the spring is needed to prevent further wild horse impacts to the spring.

Options Outside of Wilderness

Can action be taken outside of wilderness that adequately addresses the situation?

YES **STOP – DO NOT TAKE ACTION IN WILDERNESS**

NO **EXPLAIN AND COMPLETE STEP 1 OF THE MRDG**

Explain:

The Desert Dace are found in isolated spring areas and adapt to the specific conditions within each spring. The spring that is supporting this population of Desert Dace is located within the High Rock Lake Wilderness. This population may have different genetic traits from Desert Dace found at Soldier Meadows and more studies of the Fly Canyon population are needed. If it is determined that the Fly Canyon population do have different genetic traits, moving the population to Soldier Meadows would affect the genetic lineage of each group.

Criteria for Determining Necessity

Is action necessary to meet any of the criteria below?

A. Valid Existing Rights or Special Provisions of Wilderness Legislation

Is action necessary to satisfy valid existing rights or a special provision in wilderness legislation (the Wilderness Act of 1964 or subsequent wilderness laws) that **requires** action? Cite law and section.

YES NO

Explain:

The project is deemed necessary to provide opportunity for conservation of a threatened species that is part of the wilderness' natural environment. Section 4(b) of the Wilderness Act of 1964 states: "...each agency administering any area designated as wilderness shall be responsible for preserving the wilderness character of the area ...wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use." Section (d)(8) states: "Nothing in this Act shall be construed as affecting the jurisdiction or responsibilities of the several States with respect to wildlife and fish in the national forest." It is the responsibility of both NDOW and the United States Fish and Wildlife Service to manage and preserve federally listed threatened and endangered species. In this situation both agencies have determined that this population of threatened species is in imminent danger of destruction if immediate action is not taken.

B. Requirements of Other Legislation

Is action necessary to meet the requirements of other federal laws? Cite law and section.

YES NO

Explain:

Action is necessary to meet the purpose of the Endangered Species Act of 1973 (ESA) which is "to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species..." Section 2(b). "All Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of this Act." Section 2(c).

C. Wilderness Character

Is action necessary to preserve one or more of the qualities of wilderness character, including: Untrammeled, Undeveloped, Natural, Outstanding Opportunities for Solitude or Primitive and Unconfined Recreation, or Other Features of Value?

UNTRAMMELED

YES NO

Explain:

The action is not necessary to preserve the untrammeled characteristic. Currently, the Desert Dace population and habitat in the wilderness are not subject to any type of manipulation or human control. Impacts arising from the proposed action to the untrammeled character of the wilderness are described in the alternatives comparison.

UNDEVELOPED

YES NO

Explain:

The action is not necessary to preserve the undeveloped characteristic. The action may have an impact to this character (discussed in alternatives comparison section).

NATURAL

YES NO

Explain:

The action is not necessary to protect the naturalness of the wilderness. The presence of the threatened species of Desert Dace affects the supplemental values of this wilderness (see below).

SOLITUDE OR PRIMITIVE & UNCONFINED RECREATION

YES NO

Explain:

The action is not necessary to preserve the solitude or primitive and unconfined recreation characteristic. The action may have an impact to this character (discussed in alternatives comparison section).

OTHER FEATURES OF VALUE

YES NO

Explain:

Desert Dace have specific habitat requirements and are generally rare. The recent discovery of this population creates a unique scientific value for this wilderness. As such, this population is also considered to be an Other Feature of Value to wilderness character. This action is needed to ensure this population survives so that future investigations may be completed.

Step 1 Decision

Is administrative action necessary in wilderness?

Decision Criteria

- | | | |
|--|---|--|
| A. Existing Rights or Special Provisions | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| B. Requirements of Other Legislation | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| C. Wilderness Character | | |
| Untrammeled | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| Undeveloped | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| Natural | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| Outstanding Opportunities | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| Other Features of Value | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

Is administrative action necessary in wilderness?

YES **EXPLAIN AND PROCEED TO STEP 2 OF THE MRDG**

NO **STOP – DO NOT TAKE ACTION IN WILDERNESS**

Explain:

Although other Desert Dace populations are located outside wilderness, each population is distinct and unique within its own habitat. The Desert Dace population as a whole is in danger. Having the Fly Canyon population survive would improve the overall species viability and provide a unique unit for separate scientific study. Not protecting this population would result in the extirpation of this species at this location.

MRDG Step 2

Determine the Minimum Activity

Other Direction

*Is there "special provisions" language in legislation (or other Congressional direction) that explicitly **allows** consideration of a use otherwise prohibited by Section 4(c)?*

AND/OR

Has the issue been addressed in agency policy, management plans, species recovery plans, or agreements with other agencies or partners?

YES **DESCRIBE OTHER DIRECTION BELOW**

NO **SKIP AHEAD TO TIME CONSTRAINTS BELOW**

Describe Other Direction:

The project is consistent with BLM wilderness goals and objectives as they relate to wildlife populations, specifically Section 1.6.C.21 of BLM Manual 6340 – Management of Designated Wilderness. It is BLM policy that in management of wilderness areas the agency will protect and recover known populations of federally listed threatened and endangered species and to aid in their recovery. Items A, B, and C provide direction on potential achievement of these goals. Also, Section 2(c) of the ESA requires federal agencies to seek opportunities to conserve threatened and endangered species. Wilderness Act of 1964 Sec. 4 (b), 43 CFR Sections 6302.40, 6302.15 and 6302.16 and Wilderness management objectives described in Section 2.2.6. of the NCA RMP and NCA Act allow for uses of wilderness areas in order to conserve, protect, and enhance for the benefit and enjoyment of present and future generations the unique and nationally important scientific and biological (including wildlife an endangered species) resources associated with wilderness areas.

Additionally the proposed action meets the intent of the objectives identified for BLM special status species in BLM Manual 6840:

A. To conserve and/or recover ESA-listed species and the ecosystems on which they depend so that ESA protections are no longer needed for these species.

B. To initiate proactive conservation measures that reduce or eliminate threats to Bureau sensitive species to minimize the likelihood of and need for listing of these species under the ESA

Time Constraints

What, if any, are the time constraints that may affect the action?

A protective enclosure needs to be installed as soon as possible to exclude wild horse access to the spring. Heavy wild horse use at this location is considered to be a result of a lack of water in the area from four continuous years of drought conditions and competing resources.

Components of the Action

What are the discrete components or phases of the action?

Component X: *Example: Transportation of personnel to the project site*

Component 1: Access of equipment to the site via helicopter

Component 2: Access of workers (crew) to the site

Component 3: Construction of enclosure

Component 4: Monitoring

Proceed to the alternatives.

Refer to the [MRDG Instructions](#) regarding alternatives and the effects to each of the comparison criteria.

MRDG Step 2: Alternatives

Alternative 1: Use of helicopter to supply materials to the project site.

Description of the Alternative

What are the details of this alternative? When, where, and how will the action occur? What mitigation measures will be taken?

The NDOW proposes to install a pipe-rail fence approximately 75' x 150' around the spring. This type of enclosure is suggested by NDOW because it is more durable than any other type of fence material and would better withstand damage from wild horses. NDOW has used these types of fences for nearly 15 years to exclude feral horses from areas, and the fences were specifically designed to exclude horses while remaining assessable to other wildlife that uses the landscape.

Under Alternative 1 a crew of up to 8 people would walk approximately 1.5 miles to the spring located in the High Rock Lake Wilderness. This hike would include traversing a slope of approximately 19% grade at one point and through approximately .25 miles of riparian meadow. A helicopter would be used to drop enclosure materials and equipment needed to construct the enclosure. Approximately four helicopter trips in one day are anticipated. The helicopter itself would not land but would deliver materials and equipment through sling load.

To the extent possible, NDOW would cut posts and rails to the appropriate lengths before delivering them to the project site. The crew would assemble a pipe-rail fence consisting of 24 foot long 1 ½" galvanized metal pipe on-site. The line and corner posts would also be made of 1 ½" galvanized metal. Once in place, pipes may be trimmed to the appropriate lengths with the use of a hacksaw. Approximately 150 self-tapping screws would affix rails to the posts with the use of a cordless drill. Corner posts would be buried and cemented in place, with all cement being covered by soil. The fence would be painted an earth-toned color using brushes and rollers. Expected time of construction would be one day.

The site would be accessed by 1-2 people by foot once to several times per year for effectiveness monitoring and for minor maintenance activities. Minor maintenance activities would be any repair that can be completed with the use of non-mechanized equipment. Major maintenance, removal or replacement of the enclosure would be analyzed under a separate project proposal. The enclosure would remain in place until no longer needed to protect Desert Dace habitat.

Component Activities

How will each of the components of the action be performed under this alternative?

<u>Component of the Action</u>		Activity for this Alternative
X	<i>Example: Transportation of personnel to the project site</i>	<i>Example: Personnel will travel by horseback</i>
1	Access of materials and equipment to the site	Materials (pipe rail) and equipment (shovels, post hole diggers, digging bars, and cement) would be sling-loaded via helicopter to the site. Approximately four drops would be made over the course of

		one day. A crew of 1-2 will be at the drop site when materials are slung into the sight.
2	Access of crew to the site	A crew of approximately 6-8 people would access the site by foot.
3	Construction of enclosure	Holes for the posts would be dug using a manual post-hole digger and cemented in place. Rails would be adhered to the posts with self-tapping screws which would be set using a cordless drill. Excess pipe would be cut using a hacksaw.
4	Monitoring	A crew of 1-2 would access the site on foot at least once per year to determine the effectiveness of the enclosure in protecting the spring's integrity and whether the Dace population is surviving. If the enclosure becomes damaged, more visits would be needed. Repairs would be conducted by the use of hand tools.

Wilderness Character

What is the effect of each component activity on the qualities of wilderness character? What mitigation measures will be taken?

UNTRAMMELED

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Access of equipment to the site via helicopter	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Access of crew to the site on foot	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Construction of enclosure	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Monitoring	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Total Number of Effects		0	-1	NE
<u>Untrammeled Total Rating</u>		-1		

Explain:

Minor trammeling would occur by the installation of the enclosure in the form of directing larger wildlife and wild horses to water at different locations. Smaller wildlife (rabbits, coyotes) would continue to have access to the spring. This effect is limited to the immediate

area as there are several other springs in the vicinity that are not dace habitat and that can provide water. Other than that, the enclosure itself does not manipulate or control any natural feature.

UNDEVELOPED

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Access of equipment to the site via helicopter	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	Access of crew to the site by foot	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Construction of enclosure	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Monitoring	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Total Number of Effects		0	-2	NE
<u>Undeveloped Total Rating</u>		-2		

Explain:

The use of the helicopter is considered a development, although its impact would be temporary and limited to the times of equipment drops. Use of mechanized equipment (cordless drill) also impacts the undeveloped character of the wilderness, but this impact is limited to the time the drill is being used which would be intermittently over the course of one day. The enclosure is a constructed installation that would remain in the wilderness for an unknown length of time.

NATURAL

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Access of equipment to the site via helicopter	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Access of workers (crew) to the site by foot	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Construction of enclosure	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Monitoring	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Total Number of Effects		1	-1	NE
<u>Natural Total Rating</u>		0		

Explain:

The presence of the enclosure itself and the metal material that it is made of would impact the natural setting. However, it would also provide protection to the Desert Dace and assist in the

population's resiliency. Pipe rail fence would be resistant to damage caused by wild horses and therefore would require a low level of maintenance. Because the pipe rail would be painted to blend in with the surroundings, the visual impact to the naturalness setting would be reduced.

SOLITUDE OR PRIMITIVE & UNCONFINED RECREATION

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Access of equipment to the site via helicopter	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	Access of workers (crew) to the site by foot	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Construction of exclosure	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Monitoring	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Total Number of Effects		0	-2	NE
<u>Solitude or Primitive & Unconfined Rec. Total Rating</u>		-2		

Explain:

Opportunities for primitive recreation would not be impacted by the proposed action. The impacts here pertain to opportunities for solitude which would be impacted by varying degrees depending on the activity. Solitude would be interrupted by the sights and sounds associated with the use of the helicopter (approximately four times over the course of one day). This impact would be temporary and limited to the times of the helicopter drops. Noise associated with the construction of the exclosure would also have a temporary impact on solitude during the time of construction (1 day). The presence of crew during installation and subsequent monitoring would not have an impact to solitude. This would be the same as if any group were to hike into a wilderness area. The presence of the exclosure would have a long term impact to the sense of solitude as it would be a reminder of human presence. Painting of the exclosure in earth tones would camouflage the feature from visitors.

OTHER FEATURES OF VALUE

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Access of equipment to the site via helicopter	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Access of workers (crew) to the site on foot	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Construction of exclosure	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Monitoring	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Total Number of Effects	2	0	NE
Other Features of Value Total Rating	2		

Explain:

Protecting and monitoring this population would provide positive impacts to the opportunity for scientific study of this recently discovered Desert Dace population.

Traditional Skills

What is the effect of each component activity on traditional skills?

TRADITIONAL SKILLS

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Access of equipment to the site via helicopter	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	Access of workers (crew) to the site by foot	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Construction of enclosure	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Monitoring	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Number of Effects		3	-2	NE
Traditional Skills Total Rating		1		

Explain:

Traditional skills would be maintained by accessing the site via foot and by using non-mechanized equipment such as a hacksaw and post-hole diggers. Traditional skills would be eroded by the use of the helicopter to transport materials to the site and the use of mechanized tools (cordless drill).

Economics

What is the estimated cost of each component activity?

COST

<u>Component Activity for this Alternative</u>		Estimated Cost
X	<i>Example: Personnel will travel by horseback</i>	\$1,900
1	Access of equipment to the site via helicopter	\$3,750 (5 hours)
2	Access of workers (crew) to the site	\$600 (2 hours 6

		people)
3	Construction of exclosure	\$6,000 (6 people 20 hours labor) \$5,000 (materials) \$11,000
4	Monitoring	\$500 (10 hours)
Total Estimated Cost		\$15,850

Explain:

Total cost of this project will be \$15,850. This includes cost of helicopter time, labor, materials and monitoring.

Safety of Visitors & Workers

What is the risk of this alternative to the safety of visitors and workers? What mitigation measures will be taken?

RISK ASSESSMENT Severity of Accident	Probability of Accident				
	Frequent	Likely	Common	Unlikely	Rare
Catastrophic: Death or permanent disability	1 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	2 <input checked="" type="checkbox"/>	3 <input type="checkbox"/>
Critical: Permanent partial disability or temporary total disability	1 <input type="checkbox"/>	2 <input type="checkbox"/>	2 <input checked="" type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
Marginal: Compensable injury or illness, treatment, lost work	2 <input type="checkbox"/>	3 <input checked="" type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>
Negligible: Superficial injury or illness, first aid only, no lost work	3 <input type="checkbox"/>	4 <input checked="" type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>
Risk Assessment	2.75 – Moderate to High				

Risk Assessment Code

1 = Extremely High Risk	2 = High Risk	3 = Moderate Risk	4 = Low Risk
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Explain:

Use of helicopter transporting equipment involves risks associated with transporting loads over-head, loading the helicopter, and moving and working around the helicopter. Helicopter crashes also increase the severity of the potential injuries. These risks can be mitigated by training and following safety procedures. Remaining activities pose low to negligible risks to crew safety. Moving and carrying equipment in wet and uneven terrain may cause slips and falls. Working with hand tools (mechanized and non-mechanized) may cause mild to moderate lacerations. The presence of the exclosure would not be a safety risk to future

visitors of the area.

Summary Ratings for Alternative 1

Wilderness Character	
<u>Untrammeled</u>	-1
<u>Undeveloped</u>	-2
<u>Natural</u>	0
<u>Solitude or Primitive & Unconfined Recreation</u>	-2
<u>Other Features of Value</u>	2
Wilderness Character Summary Rating	-3
Traditional Skills	
<u>Traditional Skills</u>	1
Economics	
Cost	\$15,850
Safety	
<u>Risk Assessment</u>	2.75 (Mod to High)

Alternative 2: Transport of materials to site by foot.

Description of the Alternative

What are the details of this alternative? When, where, and how will the action occur? What mitigation measures will be taken?

A crew of 20-30 people would walk approximately 1.5 miles to the spring located in the High Rock Lake Wilderness. This hike would include traversing a slope of approximately 19% grade at one point and through approximately .25 miles of riparian meadow. Crew members would carry in equipment and materials needed to construct the enclosure. Due to the amount and weight of materials, numerous trips would be made which would require several days of packing materials in. After stockpiling, a crew of approximately 6-8 people would remain to assemble the enclosure as described under Alternative 1.

Component Activities

How will each of the components of the action be performed under this alternative?

<u>Component of the Action</u>		Activity for this Alternative
X	<i>Example: Transportation of personnel to the project site</i>	<i>Example: Personnel will travel by horseback</i>
1	Access of equipment to the site via foot	Materials and equipment brought to the site by approximately 20 to 30 crewmembers.
2	Access of crew to the site by foot	Crew of approximately 20 to 30 would access the site by foot numerous times over several days. A crew of 6 to 8 would remain to construct the enclosure.
3	Construction of enclosure	Same as Alternative 1.
4	Monitoring	Same as Alternative 1.

Wilderness Character

What is the effect of each component activity on the qualities of wilderness character? What mitigation measures will be taken?

UNTRAMMELED

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Access of equipment to the site via foot	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	Access of crew to the site by foot	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Construction of enclosure	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Monitoring	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Total Number of Effects		0	-2	NE
<u>Untrammeled Total Rating</u>		-2		

Explain:

Impacts would be the same as those described under Alternative 1 for trammeling caused by the enclosure itself. A large number of people working in the area for a number of days would dissuade wildlife from using the area for water until construction has completed.

UNDEVELOPED

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Access of equipment to the site via foot	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	Access of crew to the site by foot	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Construction of exclosure	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Monitoring	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Total Number of Effects		0	-2	NE
<u>Undeveloped Total Rating</u>		-2		

Explain:

Impacts under this Alternative are reduced compared to impacts under Alternative 1 by the removal of using the helicopter to drop off equipment. However, the number of trips needed to transport the equipment to the site and the increased number of people may increase impacts to the undeveloped character. The exclosure itself would be an impact to the undeveloped character of the wilderness.

NATURAL

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Access of equipment to the site via foot	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	Access of crew to the site by foot	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	Construction of exclosure	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Monitoring	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Total Number of Effects		1	-3	NE
<u>Natural Total Rating</u>		-2		

Explain:

The increased number of crew members and the increased number of trips may lead to increased trampling of vegetation around the spring and increased potential for the spread of invasive species (weeds) to the area. The impact of vegetation trampling would be of short duration. The duration of invasive species if introduced to the area is indeterminable and could lead to future weed management activities. The increased number of working days the crew is in the area would affect opportunities for wildlife to use the area for water. The presence of the exclosure would impact the natural setting but this is off-set by the protection in would provide to the Desert Dace habitat.

SOLITUDE OR PRIMITIVE & UNCONFINED RECREATION

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Access of equipment to the site via foot	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	Access of crew to the site by foot	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3	Construction of exclosure	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Monitoring	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Total Number of Effects		0	-3	NE
<u>Solitude or Primitive & Unconfined Rec. Total Rating</u>		-3		

Explain:

Access of crew to the site would have both negative and no effect impacts. During the stockpiling phase when the crew of 20 to 30 traveling back and forth to the site solitude would be affected. When the number of crew members is reduced during the construction phase, solitude would not be impacted (see explanation under Alternative 1). Impacts to opportunities for primitive recreation or solitude would be higher under this alternative due to the greater number of crew members in the area for a greater number of days. This also may inhibit visitors from using the area during the construction period.

OTHER FEATURES OF VALUE

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Access of equipment to the site via foot	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Access of crew to the site	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Construction of exclosure	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Monitoring	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Number of Effects		2	0	NE
<u>Other Features of Value Total Rating</u>		2		

Explain:

Same as impacts described under Alternative 1.

Traditional Skills

What is the effect of each component activity on traditional skills?

TRADITIONAL SKILLS

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Access of equipment to the site via foot	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Access of crew to the site by foot	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Construction of enclosure	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Monitoring	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Number of Effects		4	-1	NE
<u>Traditional Skills Total Rating</u>		3		

Explain:

Traditional skills would be maintained at a higher level than under Alternative 1 by bringing the equipment in and by accessing the site by foot and by using non-mechanized equipment such as a hacksaw and post-hole diggers. Traditional skills would be eroded by the use of mechanized tools (cordless drill). Under this alternative, a greater number of people would have the opportunity to use traditional skills because a greater number of people would be required to complete the project.

Economics

What is the estimated cost of each component activity?

COST

<u>Component Activity for this Alternative</u>		Estimated Cost
X	<i>Example: Personnel will travel by horseback</i>	\$1,900
1	Access of equipment to the site via foot	\$45,000 (20-30 people 3 days)
2	Access of crew to the site	\$600 (2 hours 6 people)
3	Construction of enclosure	\$6,000 (6 people 20 hours labor) \$5,000 (materials) \$11,000

4	Monitoring	\$500 (10 hours)
Total Estimated Cost		\$57,100

Explain:

Increased labor costs due to increase number of workers and number of days that would be needed to pack in materials.

Safety of Visitors & Workers

What is the risk of this alternative to the safety of visitors and workers? What mitigation measures will be taken?

RISK ASSESSMENT	Probability of Accident				
	Frequent	Likely	Common	Unlikely	Rare
Catastrophic: Death or permanent disability	1 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input checked="" type="checkbox"/>
Critical: Permanent partial disability or temporary total disability	1 <input type="checkbox"/>	2 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input checked="" type="checkbox"/>
Marginal: Compensable injury or illness, treatment, lost work	2 <input type="checkbox"/>	3 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input checked="" type="checkbox"/>	4 <input type="checkbox"/>
Negligible: Superficial injury or illness, first aid only, no lost work	3 <input checked="" type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>
Risk Assessment	3.5 – Moderate to Low				

Risk Assessment Code

1 = Extremely High Risk	2 = High Risk	3 = Moderate Risk	4 = Low Risk
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Explain:

Equipment needed to construct the fence is heavy and awkward to carry. To access the site crew would need to traverse a steep hill and through a muddy/slippery riparian area. Injuries could include back injuries and injuries associated with walking on rough terrain (ie falls, bumps, scratches). Since an increase number of people and an increase in number of trips to the site would need to be involved under this alternative, the chance of injury becomes greater. Using non-mechanized equipment also carries a small level of risk associated with minor lacerations.

Summary Ratings for Alternative 2

Wilderness Character	
<u>Untrammeled</u>	-2

<u>Undeveloped</u>	-2
<u>Natural</u>	-2
<u>Solitude or Primitive & Unconfined Recreation</u>	-3
<u>Other Features of Value</u>	2
Wilderness Character Summary Rating	-7
Traditional Skills	
<u>Traditional Skills</u>	3
Economics	
Cost	\$57,100
Safety	
<u>Risk Assessment</u>	3.5 (Moderate to Low)

MRDG Step 2: Alternatives

Alternative 3: No Action Alternative

Description of the Alternative

What are the details of this alternative? When, where, and how will the action occur? What mitigation measures will be taken?

Under the no action alternative a protective enclosure would not be built. Under this scenario, wild horses would continue to access the spring for water which is expected to increase due to current and forecast drought conditions. With no protection against damage to the integrity of the spring, it is not likely the Desert Dace population in Fly Canyon would survive.

Component Activities

How will each of the components of the action be performed under this alternative?

<u>Component of the Action</u>	Activity for this Alternative
X <i>Example: Transportation of personnel to the project site</i>	<i>Example: Personnel will travel by horseback</i>

1	Continued unabated wild horse use of the spring.	Wild horses would continue to impact spring banks, increase sediment deposits into spring, and reduce vegetation that protects the spring and channel.
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Wilderness Character

What is the effect of each component activity on the qualities of wilderness character? What mitigation measures will be taken?

UNTRAMMELED

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Continued unabated wild horse use of the spring.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Total Number of Effects		0	0	NE
<u>Untrammeled Total Rating</u>		0		

Explain:

The No Action alternative would not impact the trammeled character of the wilderness.

UNDEVELOPED

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Continued unabated wild horse use of the spring.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Total Number of Effects		0	0	NE
<u>Undeveloped Total Rating</u>		0		

Explain:

The No Action alternative would not have an impact to the undeveloped character of the wilderness.

NATURAL

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Continued unabated wild horse use of the spring.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Total Number of Effects		0	1	NE
<u>Natural Total Rating</u>		-1		

Explain:

Not installing an exclosure would have serious impacts to the Desert Dace population at this location.

SOLITUDE OR PRIMITIVE & UNCONFINED RECREATION

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Continued unabated wild horse use of the spring.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Total Number of Effects		0	0	NE
<u>Solitude or Primitive & Unconfined Rec. Total Rating</u>		0		

Explain:

The No Action alternative would not have an impact to opportunities for solitude or unconfined recreation.

OTHER FEATURES OF VALUE

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Continued unabated wild horse use of the spring.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Total Number of Effects		0	-1	NE
<u>Other Features of Value Total Rating</u>		-1		

Explain:

The presence of this species at this location offers the High Rock Lake Wilderness an additional ecological and wildlife value that was unknown until 2010. If no protective exclosure is constructed, it is anticipated the population of Desert Dace would irreparably disappear.

Traditional Skills

What is the effect of each component activity on traditional skills?

TRADITIONAL SKILLS

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

1	Continued unabated wild horse use of the spring.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Total Number of Effects		0	-1	NE
Traditional Skills Total Rating		-1		

Explain:

Under this alternative no opportunity to practice traditional skills addressed under Alternatives 1 and 2 would be present.

Economics

What is the estimated cost of each component activity?

COST

<u>Component Activity for this Alternative</u>		Estimated Cost
X	<i>Example: Personnel will travel by horseback</i>	\$1,900
1	Continued unabated wild horse use of the spring.	0
Total Estimated Cost		0

Explain:

Although there would be no economic cost associated with this alternative, the cost of losing this specific population of dace would be severe. Their presence in the High Rock Lake Wilderness is only recently known. Not having this population of dace removes any potential of studying them and cumulatively impacts the dace population as a whole.

Safety of Visitors & Workers

What is the risk of this alternative to the safety of visitors and workers? What mitigation measures will be taken?

RISK ASSESSMENT Severity of Accident	Probability of Accident				
	Frequent	Likely	Common	Unlikely	Rare
Catastrophic: Death or permanent disability	1 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input checked="" type="checkbox"/>
Critical: Permanent partial disability or temporary total disability	1 <input type="checkbox"/>	2 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input checked="" type="checkbox"/>
Marginal: Compensable injury or illness, treatment, lost work	2 <input type="checkbox"/>	3 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input checked="" type="checkbox"/>
Negligible: Superficial injury or illness, first aid only, no lost work	3 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input checked="" type="checkbox"/>

Risk Assessment	3.75 -Low
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Risk Assessment Code

1 = Extremely High Risk	2 = High Risk	3 = Moderate Risk	4 = Low Risk
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Explain:

Low – no work on the enclosure would be conducted.

Summary Ratings for Alternative 3
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Wilderness Character	
<u>Untrammeled</u>	0
<u>Undeveloped</u>	0
<u>Natural</u>	-1
<u>Solitude or Primitive & Unconfined Recreation</u>	0
<u>Other Features of Value</u>	-1
Wilderness Character Summary Rating	-2

Traditional Skills	
<u>Traditional Skills</u>	-1

Economics	
Cost	\$0

Safety	
<u>Risk Assessment</u>	4

MRDG Step 2: Alternatives Not Analyzed

Alternatives Not Analyzed <i>What alternatives were considered but not analyzed? Why were they not analyzed?</i>
--

Transporting the crew to the spring site via motor vehicle use was not analyzed because the road that accessed this area prior to being designated wilderness has naturally recovered for the most part. Furthermore, access to the spring by vehicle would pose a safety issue in that a steep slope and riparian meadow would need to be traversed. The meadow currently contains sufficient moisture to make the soils muddy and slick.

Another alternative considered but not analyzed involved construction material of the enclosure. One proposal would include construction using wood rail and posts as a buck and rail fence. This proposal was not carried forward because it was determined that use of these materials, though more natural than the use of pipe, would require more intensive maintenance and at the location of the spring and this type of fence would be much more visually intrusive to the naturalness setting than the narrow and painted pipe fence. Another proposal would use steel posts and wire (smooth or barbed). It was determined through previous experience, that a steel post and wire fence provides a limited capability to exclude large animals. In a drought situation such as is currently occurring, horses would push through this type of fence more readily and with a high probability of injury.

MRDG Step 2: Alternative Comparison

Alternative 1: Use of helicopter to transport equipment and materials

Alternative 2: Pack in equipment and materials by foot

Alternative 3: No action alternative

Wilderness Character	Alternative 1		Alternative 2		Alternative 3	
	+	-	+	-	+	-
Untrammeled	0	-1	0	-2	0	0
Undeveloped	0	-2	0	-2	0	0
Natural	1	-1	1	-3	0	-1
Solitude/Primitive/Unconfined	0	-2	0	-3	0	0
Other Features of Value	2	0	2	0	0	-1
Total Number of Effects	3	-6	3	-10	0	-2
Wilderness Character Rating	-3		-7		-2	
Traditional Skills	Alternative 1		Alternative 2		Alternative 3	
	+	-	+	-	+	-
Traditional Skills	3	-2	4	-1	0	-1
Traditional Skills Rating	1		3		-1	
Economics	Alternative 1		Alternative 2		Alternative 3	
Cost	\$15,850		\$57,100		\$0	
Safety of Visitors & Workers	Alternative 1		Alternative 2		Alternative 3	
Risk Assessment	Moderate to High		Moderate to Low		Low	

MRDG Step 2: Determination

Refer to the [MRDG Instructions](#) before identifying the selected alternative and explaining the rationale for the selection.

Selected Alternative

- | | | |
|-------------------------------------|--------------------------------|--|
| <input checked="" type="checkbox"/> | Alternative 1: | Use of helicopter to supply materials to the project site. |
| <input type="checkbox"/> | Alternative 2: | Transport of materials to site by foot. |
| <input type="checkbox"/> | Alternative 3: | No action alternative |

Explain Rationale for Selection:

Alternative 3, the No Action Alternative, was not selected because BLM is required to work with local wildlife agencies in protecting federally listed species. Also, the potential impacts to the Desert Dace through the No Action alternative outweigh the potential impacts under the other alternatives.

Under Alternative 2 an increased number of crew members would be required with more trips to the site and more work days. This would be a greater impact to the naturalness and the opportunities for solitude characteristics than the temporary impacts to the undeveloped wilderness characteristic caused by the use of the helicopter and mechanized tools.

Alternative 1 would allow for installation of the protective enclosure with the least impacts to wilderness character. If the enclosure is not installed this population would be lost. Each population of Desert Dace adapt to the conditions in which they are found. The Desert Dace in Fly Canyon may prove to have a different genetic diversity than what is currently present in the nearby Soldier Meadows Area of Critical Environmental Concern. Separate and distinct genealogy may be detrimental to the population as a whole if they were to be mixed. Therefore the spring where the Fly Canyon Desert Dace are located needs to be protected.

Describe Monitoring & Reporting Requirements:

Photos of the site pre and post enclosure construction would be taken. If maintenance is needed, NDOW would provide BLM with adequate notice in order to allow BLM time to determine the minimum necessary to repair the fence while meeting the needs of preserving the wilderness setting. NDOW monitoring data of the enclosure would be supplied to BLM on a routine basis.

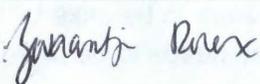
Approvals

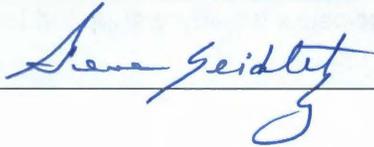
Which of the prohibited uses found in Section 4(c) of the Wilderness Act are approved in the selected alternative and for what quantity?

<u>Prohibited Use</u>	<u>Quantity</u>
<input checked="" type="checkbox"/> Mechanical Transport:	Helicopter delivery of equipment and materials
<input checked="" type="checkbox"/> Motorized Equipment:	1 Cordless drill
<input type="checkbox"/> Motor Vehicles:	None
<input type="checkbox"/> Motorboats:	None
<input type="checkbox"/> Landing of Aircraft:	None
<input type="checkbox"/> Temporary Roads:	None
<input type="checkbox"/> Structures:	None
<input checked="" type="checkbox"/> Installations:	Pipe rail fence enclosure

Record and report any authorizations of Wilderness Act Section 4(c) prohibited uses according to agency policies or guidance.

Refer to agency policies for the following review and decision authorities:

Prepared	Name	Position	
	Zwaantje Rorex	Wilderness Specialist	
	Signature	Date	
		3/4/15	

Approved	Name	Position	
	Gene Seidlitz	District Manager, Winnemucca District	
	Signature	Date	
		3/5/15	