Conservation Measures, Mitigation and ACEPMs

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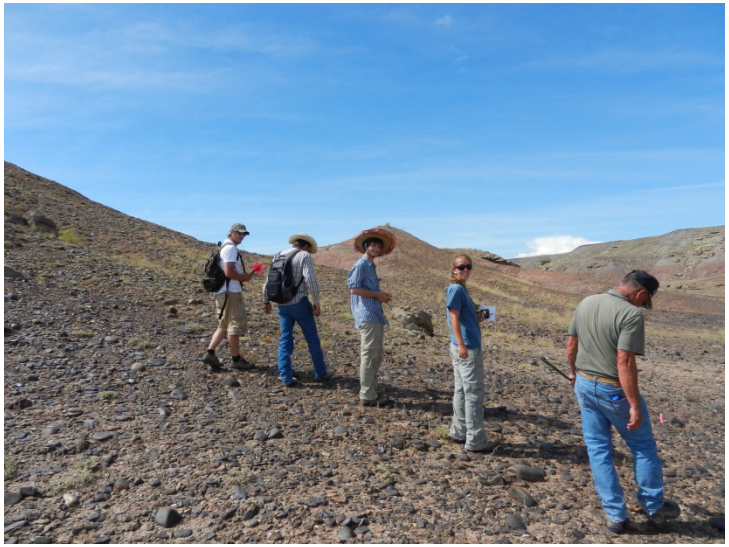
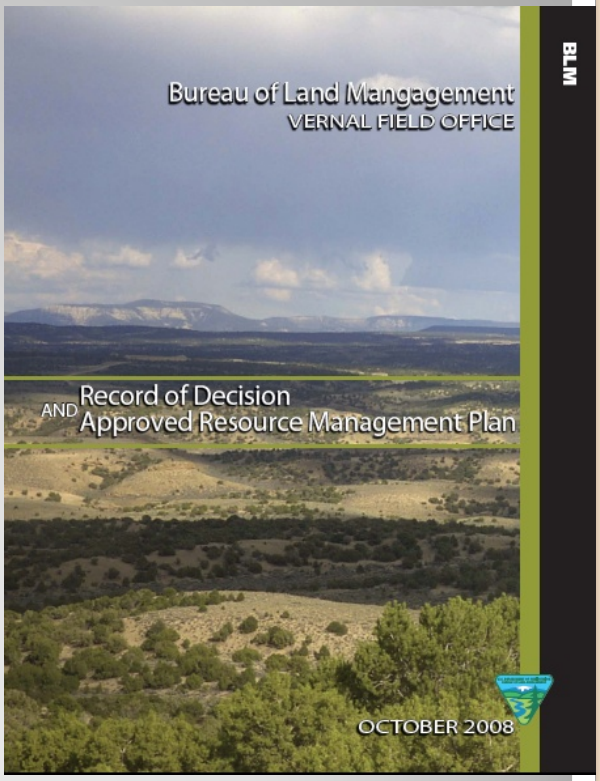


- Vernal Resource Management Plan (RMP) 2008.

- When energy resources are developed, lease stipulations, Applicant-Committed Environmental Protection Measures (ACEPMs), mitigation and conservation measures may be followed. These may be included as Conditions of Approval. (COA's)for permits.



Purpose

- Avoid and/or minimize impacts from oil and gas exploration and development.
- Ensure compliance with the Endangered Species Act (ESA).
- Prevent listing of special status species (Graham's penstemon, White River Penstemon,) and BLM Sensitives.
- Meet Vernal BLM and USFWS cooperative habitat conservation goals.

L.1.8 LEASE NOTICE: CLAY REED-MUSTARD (SCHOENOCRAMBE ARGILLACEA)

The Lessee/Operator is given notice that the lands in this parcel contain suitable habitat for clay reed-mustard under the Endangered Species Act (ESA). The following avoidance and minimization measures have been developed to facilitate review and analysis of any submitted permits under the authority of this lease:

In order to minimize effects to the federally threatened clay reed-mustard, the BLM in coordination with the USFWS developed the following avoidance and minimization measures. Integration of and adherence to these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance) are in compliance with the ESA. The following avoidance and minimization measures should be included in the Plan of Development:

1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat[7] prior to any ground disturbing activities to determine if suitable clay reed-mustard habitat is present.

2. Site inventories will be conducted within suitable habitat[8] to determine occupancy. Where standard surveys are technically infeasible and otherwise hazardous due to topography, slope, etc., suitable habitat will be assessed and mapped for avoidance (hereafter, "avoidance areas"); in such cases, in general, 300' buffers will be maintained between surface disturbance and avoidance areas. However, site specific distances will need to be approved by USFWS and BLM when disturbance will occur upslope of habitat. Where conditions allow, inventories will:
   a. Be conducted by qualified individual(s) according to [illegible] and accepted standard protocols;
   b. Will document located suitable occupied[9] habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected (usually May 1st to June 5th, in the Uintah Basin; however, surveyors should verify that the plant is flowering by contacting a BLM or FWS botanist or demonstrating that the nearest known population is in flower),
   c. Will occur within 300' from the centerline of the proposed right-of-way for surface pipelines or roads; and within 300' from the perimeter of disturbance for the proposed well pad including the well pad,
   d. Will include, but not be limited to, plant species lists and habitat characteristics, and
   e. Will be valid until May 1st the following year.

3. Design project infrastructure to minimize impacts within suitable habitat[2]:
   a. Where standard surveys are technically infeasible, infrastructure and activities will avoid all suitable habitat (avoidance areas) and incorporate 300' buffers, in general; however, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,
   b. Reduce well pad size to the minimum needed, without compromising safety,
   c. Limit new access routes created by the project,
   d. Roads and utilities should share common right-of-ways where possible,
   e. Reduce the width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat,
   f. Place signing to limit off-road travel in sensitive areas, and
   g. Stay on designated routes and other cleared/approved areas.

4. Within occupied habitat[3], project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:
   a. Where standard surveys are technically infeasible, infrastructure and activities will avoid all suitable habitat (avoidance areas) and incorporate 300' buffers, in general; however, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,
   b. Follow the above recommendations (#3) for project design within suitable habitats,
   c. To avoid [illegible] flow [illegible] to occupied habitat areas, such as [illegible], hay [illegible], and similar structures or practices will be incorporated into the project design appropriate placement of [illegible] encouraged,
   d. Construction activities will occur such that the edge of right of way is at least 300' from any plant and 300' from avoidance areas,
   e. Roads will be graveled within occupied habitat; the operator is encouraged to apply water for dust abatement to such areas from May 1st to June 5th (flowering period); dust abatement applications will be comprised of water only,
   f. The edge of the well pad should be located at least 300' away from plants and avoidance areas, in general; however, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,
   g. Surface pipelines will be laid such that a 300' buffer exists between the edge of the right of way and plants and 300' between the edge of right of way and avoidance areas; use stabilizing and anchoring techniques when the pipeline crosses suitable habitat to ensure pipelines don't move towards the population ; site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,
   h. Construction activities will not occur from May 1st through June 5th within occupied habitat,

[7] *Potential habitat* is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment.

[8] *Suitable habitat* is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain clay reed-mustard; habitat descriptions can be found in Federal Register Notice and species recovery plan links at <http://www.fws.gov/endangered/wildlife.html>.

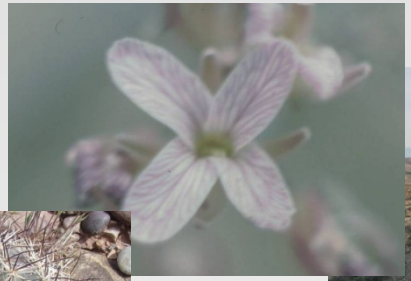
[9] *Occupied habitat* is defined as areas currently or historically known to support clay reed-mustard; synonymous with "known habitat."

- Pariette / Uinta Basin hookless cactus
- Clay reed-mustard
- Shrubby reed-mustard
- Ute ladies'-tresses
- Graham's and White River Penstemon






BLM discloses impacts (direct/indirect) and mitigation in NEPA and requests concurrence from USFWS as required under Section 7 consultation for federally listed species. Incorporation of these measures must occur for BLM to remain within the law.



Definitions:

- **ACEPM** —*Applicant-committed environmental protection measures*)or **ACEPMs. Chapter 2 – Proposed Action**

- **Mitigation Measures** – The language agencies (BLM) uses in Chapter 4 of NEPA documents such as addition of COA's, BMP's from interagency agreements, or negotiated measures with industry.
- **Chapter 4 – Environmental Effects**

- **Conservation Measures** – The language USFWS uses during concurrence with agencies, can be the same as submitted ACEPMs, COA's and Mitigation, or can be additional constraints the USFWS mandates for conservation.
- **Found in Concurrence Letters to Agencies (Biological Opinions (BO))**
- **Included in FONSI (Finding of No Signficant Impacts) Statements for BLM NEPA documents**.

EA **ACEPM** from Proponent Chapter 2

BLM EA **Mitigation** Measure Chapter 4

BO Conservation Measures Incorporated in EA's FONSI (stand alone)
or
Incorporated in EA's Chapter 4 as Mitigation Measures while in consultation
or
Incorporated in EA's Chapter 2 as ACEPM or COA while in consultation

- **ACEPMs**

EA
ACEPM from Proponent
Chapter 2

Energy Company will commit to mitigate for the project impacts that are located within the Core Conservation Area by contributing a monetary amount disclosed between [Proponent]and the USFWS ($XXX.XX for XX.XX total acres), to the cactus mitigation fund in an effort to aid in the recovery of the species. This monetary amount must be paid to the Sclerocactus Mitigation Fund-BLM within 90 days upon receipt of this letter, or before construction of the Project begins. The payment should be made to; Sclerocactus Mitigation Fund-BLM, Michelle Olson, Manager, Impact-Directed Environmental Accounts, National Fish and Wildlife Foundation, 1133 Fifteenth Street NW, Suite 1100, Washington, DC 20005.

Why use ACEPMs?

The proponent has included this in Chapter 1 and 2 of the NEPA – therefore, further COA's, Mitigation Measures, and analyses is often unnecessary.*

*This can also demonstrate to the public, agencies, and potentially the courts, that proponents are committed to conservation actions regarding listed species. (This is also a good idea for BLM Sensitive species.)

- **Mitigation Measures –**
  - Energy Company *will commit to mitigate for the project impacts that are located within the Core Conservation Area by contributing a monetary amount disclosed between [Proponent]and the USFWS ($XXX.XX for XX.XX total acres), to the cactus mitigation fund in an effort to aid in the recovery of the species. This monetary amount must be paid to the Sclerocactus Mitigation Fund-BLM within 90 days upon receipt of this letter, or before construction of the Project begins. The payment should be made to; Sclerocactus Mitigation Fund-BLM, Michelle Olson, Manager, Impact-Directed Environmental Accounts, National Fish and Wildlife Foundation, 1133 Fifteenth Street NW, Suite 1100, Washington, DC 20005.*

BLM EA Mitigation Measure Chapter 4

- **Conservation Measures –**
  - Energy Company *will commit to mitigate for the project impacts that are located within the Core Conservation Area by contributing a monetary amount disclosed between [Proponent]and the USFWS ($XXX.XX for XX.XX total acres), to the cactus mitigation fund in an effort to aid in the recovery of the species. This monetary amount must be paid to the Sclerocactus Mitigation Fund-BLM within 90 days upon receipt of this letter, or before construction of the Project begins. The payment should be made to; Sclerocactus Mitigation Fund-BLM, Michelle Olson, Manager, Impact-Directed Environmental Accounts, National Fish and Wildlife Foundation, 1133 Fifteenth Street NW, Suite 1100, Washington, DC 20005.*

BO Conservation Measures Incorporated in EA's FONSI (stand alone)
or
Incorporated in EA's Chapter 4 as Mitigation Measures while in consultation
or
Incorporated in EA's Chapter 2 as ACEPM or COA while in consultation

Look Familiar?

These are overlapping terms, depending on who uses them, in what document.

They all have the same goal: conservation / avoid or reduced impacts

- ACEPM sources:
- Previous conservation measures from USFWS concurrence, RMP direction and language, EA mitigation, COA's, cooperative agreements, industry BMP's.
- Should be included in Chapter 2, Proposed Action.

ACEPM Pipeline-Example – in Core 2 area, cactus within 300' (not exhaustive)

•Pipelines will be sited to maximize the distance from adjacent *Sclerocactus ssp*.

•Project personnel associated with construction activities will be instructed to drive at a speed limit of 15 miles per hour on unpaved roads and to remain on the existing roads and ROWs at all times.

For permanent surface pipelines, ENERGY COMPANY will adhere to existing cacti survey/buffer guidelines of 300 feet or amended guidelines if developed by BLM and the Service. In areas where avoidance by 300 feet is not feasible and populations or individuals of Sclerocactus wetlandicus are within 50 feet of the proposed alignment of permanent surface lines, the following actions will be taken to minimize the impacts:

- Flag individual cacti. Once pipe installation is complete remove the flagging.
- Install protective fencing around cacti if they are down gradient of the surface pipe. Once pipe installation is complete, remove the protective fencing.
- Have a qualified botanist present to monitor surface line installation.

The following considerations are required for those wells where ENERGY COMPANY deems completion fluid recycling is appropriate based on new well density and topography:

- Temporary lines associated with recycling of completion water will be sited in existing ROWs. The pressure in the lines is less than 50 pounds per square inch (PSI) and the lines are constructed of rigid aluminum; therefore, virtually no movement will occur during operation.
- If surface water completion lines are placed within the footprint of a road disturbance (i.e., where vegetation does not grow due to continued road use or maintenance activities), *Sclerocactus ssp.* surveys will not be necessary.
- A qualified botanist will survey a 50-foot-wide corridor along roads where temporary lines are planned to ensure *Sclerocactus ssp*. is not present. If cacti are found within this 50-foot-wide survey corridor and avoidance is necessary (to ensure the line is more than 50 feet away from identified cactus) the new alignment will, if possible, be such that the cacti are topographically higher than the re-aligned line so that a potential spill from the line will not impact the identified cacti.

If it is not possible to re-align the surface lines to avoid individuals or populations of *Sclerocactus ssp.* that are within 50 feet of surface disturbance, the following actions will be taken to minimize impacts:

- Flag individual cacti. Once pipe installation is complete, remove the flagging.
- Install protective fencing around the cacti if they are down gradient of the surface pipe. Once pipe installation is complete, remove the protective fencing.
- Have a qualified botanist present to monitor surface line installation.

Applicant-Committed Environmental Protection Measures

Energy Company would adopt the following applicable conditions of approval (COAs) from the approved BLM Vernal ROD and Approved RMP (BLM 2008a), and as Applicant Committed Environmental Protection Measures (ACEPMs) for this Proposed Action. Table 6 identifies COAs from the Vernal ROD and Approved RMP and ACEPMs that are specific to well pads and development in the Project Area.

EA
ACEPM from
Proponent
Chapter 2

Table 1. Conditions of Approval

Well Pad/Area	Resource	Conditions of Approval
Well Pads SRW 823-13E, SRW 823-13B, SWR 823-15O, SRW 823-21J, SRW 823-22G, SRW 823-22K, SRW 823-23H, and associated components	Threatened, Endangered, Candidate, and Special Status Plant Species – Uinta Basin hookless cactus (*Sclerocactus wetlandicus*)	The following COAs and mitigation measures for *Sclerocactus wetlandicus* from Appendix L of the BLM ROD and approved RMP (BLM 2008a) apply to the SRW 823 Proposed Action: • Pre-project habitat assessments will be completed across 100 percent of the project disturbance area within potential habitat prior to any ground disturbing activities to determine if suitable *Sclerocactus wetlandicus* habitat is present. • *Sclerocactus wetlandicus* surveys can be done any time of the year, provided there is no snow cover. • Within suitable habitat, site inventories will be conducted to determine occupancy. Inventories: Must be conducted by qualified individual(s) and according to BLM and Service accepted survey protocols. Will be conducted in suitable and occupied habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected, and during appropriate flowering periods: Will occur within 300’ from the centerline of the proposed right-of-way for surface pipelines or roads; and within 300’ from the perimeter of disturbance for

BLM EA Mitigation Measure Chapter 4

Example of <u>Mitigation</u> (CHAPTER 4 – NEPA) in polygon, no direct effects (no cactus within 300')

The following mitigation is applied for indirect effects of the proposed action for *Sclerocactus* species and shall be included as conditions of approval (COAs):

- Prior to the signing of this EA or the approval of the associated APDs, BLM will have completed Informal Section 7 Consultation with the USFWS.
- From one year of the date forward of 100% *Sclerocactus* clearance survey for this project, spot checks will be conducted and approved for all planned disturbance areas on an annual basis. (The *S. brevispinus* survey period is defined as mid-March to June 30, and the *S. wetlandicus* survey period is defined as anytime without snow cover prior.) Results of spot checks may require additional pre-construction plant surveys as directed by the BLM. If the proposed action or parts thereof have not occurred within four years of the original survey, 100% clearance re-survey will be required prior to ground disturbing activities.
- Energy Company will perform ground disturbing activities in *Sclerocactus* Core Conservation Areas (CCAs) outside of the flowering period, April 1 through May 30.
- Only water (no chemicals, reclaimed production water or oil field brine) will be used for dust abatement measures within cactus habitat.
- Dust abatement will be employed in suitable *Sclerocactus* habitat over the life of the project during the time of the year when Sclerocactus species are most vulnerable to dust-related impacts (March through August).
- The seed mix will be amended to exclude Snake river wheatgrass, (not endemic to Utah) and Siberian wheatgrass (introduced).
- Erosion control measures (i.e. silt fencing) will be implemented to minimize sedimentation to *Sclerocactus* plants and populations located down slope of proposed surface disturbance activities.
- Energy Company will commit to mitigate for the project impacts that are located within the Core Conservation Area by contributing a monetary amount disclosed between Newfield and the USFWS ($XXX.XX for 1.54 total acres), to the cactus mitigation fund in an effort to aid in the recovery of the species. This monetary amount must be paid to the *Sclerocactus* Mitigation Fund-BLM within 90 days upon receipt of this letter, or before construction of the Project begins. The payment should be made to; *Sclerocactus* Mitigation Fund-BLM, Michelle Olson, Manager, Impact-Directed Environmental Accounts, National Fish and Wildlife Foundation, 1133 Fifteenth Street NW, Suite 1100, Washington, DC 20005.
- *Discovery Stipulation*: Re-initiation of Section 7 consultation with the USFWS will be sought immediately if any loss of plants or occupied habitat for Pariette cactus or Uinta Basin hookless cactus is anticipated as a result of project activities.

BLM EA Mitigation Measure Chapter 4

Example of <u>Mitigation</u> (CHAPTER 4 – NEPA) in polygon, with mixed direct effects (cactus within 300' on some sites)

Table 4-3. Mitigation and Conditions of Approval (COA) by well or pipeline

Well or Pipeline Number	Cacti within 300 feet?	Total acres of disturbance in core conservation areas[1]		Current mitigation as part of Proposed Action	BLM-added COA
		Level 2	Level 1		
W-28-8-17	yes	0	0		Pipeline will be realigned along the southeast edge of the existing 21-33-8-17 wellpad, ensuring that the pipeline is placed immediately adjacent to existing disturbance. This will ensure Sclerocactus individuals are avoided by at least 300 feet. In addition, a botanical monitor will be on site during pipeline installation to insure the pipeline is placed at least 300 feet away from plants.
4-4-9-18, 5-9-4-1E, 13-9-4-1E (latter includes directional wells 16-9-4-1E and 9-8-4-1E)	no	8.24	0	Upper Pariette Core Areas have already exceeded the recommended disturbance threshold; Newfield has committed to payment to the USFWS Sclerocactus mitigation fund.	No additional COA needed. Waterlines will be buried in roads.

AND

Example of Mitigation (CHAPTER 4 – NEPA) in polygon, with possible direct effects (cactus within 300')

Mitigation: The following mitigation measures will be applied as either part of the proposed action or a condition of approval (COA):

- The surface pipeline W-28-8-17 will avoid *Sclerocactus* individuals by the width of the ROW plus 300 feet. A *qualified botanist will be on site to monitor placement of the pipeline to ensure that it is located at least 300 feet plus the ROW away from *Sclerocactus* individuals.
- All proposed buried water lines will be buried in existing roads.
- From one year of the date forward of 100% *Sclerocactus* clearance survey for this project, spot checks will be conducted and approved for all planned disturbance areas on an annual basis. (The *S. brevispinus* survey period is defined as mid-March to June 30, and the *S. wetlandicus* survey period is defined as anytime without snow cover prior.) Results of spot checks may require additional pre-construction plant surveys as directed by the BLM. If the proposed action or parts thereof have not occurred within four years of the original survey, 100% clearance re-survey will be required prior to ground disturbing activities.
- Newfield will perform ground disturbing activities in Sclerocactus Core Conservation Areas (CCAs) outside of the flowering period, April 1 through May 30.
- Only water (no chemicals, reclaimed production water or oil field brine) will be used for dust abatement measures within cactus habitat.
- Dust abatement will be employed in suitable Sclerocactus habitat over the life of the project during the time of the year when Sclerocactus species are most vulnerable to dust-related impacts (March through August).
- Where surveys have documented Sclerocactus plants within 50-feet of construction, a *qualified botanist will be present during all phases of construction.
- Pipeline ROW's located within 50 feet of individual Sclerocactus plants/and or populations will be hand laid (Vehicle-free) and secured in place to prevent pipeline movement.
- The seed mix will be amended to exclude Snake river wheatgrass, (not endemic to Utah) and Siberian wheatgrass (introduced). The forb, Blue Flax (*Linum perenne*, introduced) will be excluded and Lewis Flax *(Linum lewisii*, native to Utah) may be substituted, if desired.
- Application for Pesticide Use Permit will include provisions for mechanical removal, as opposed to chemical removal, for Utah Class A, B and C noxious weeds within 50 feet of individual/populations of Sclerocactus.
- Erosion control measures (i.e. silt fencing) will be implemented to minimize sedimentation to Sclerocactus plants and populations located down slope of proposed surface disturbance activities.

BO Conservation Measure differences?

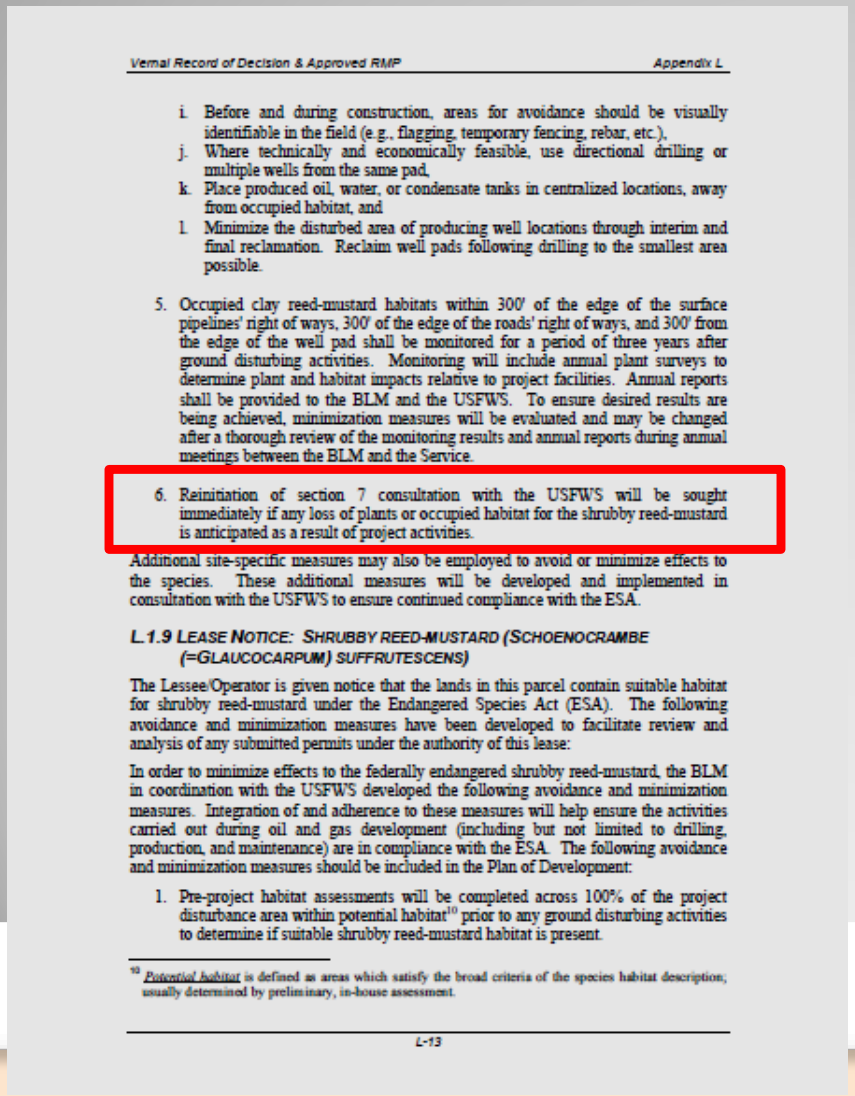
BO Conservation Measures Incorporated in EA's FONSI (stand alone)
or
Incorporated in EA's Chapter 4 as Mitigation Measures while in consultation
or
Incorporated in EA's Chapter 2 as ACEPM or COA while in consultation

BLM EA Mitigation Measure: Any proposed well located within or partially within the XYZ Area of Critical Environmental Concern (ACEC) will have no surface disturbance (including XYZ components) within the ACEC from *March 15 through August 1*.

USFWS reply as Conservation Measure: Any proposed well located within or partially within the XYZ Area of Critical Environmental Concern (ACEC) will have no surface disturbance (including XYZ components) within the ACEC from *March 1 through September 15.**

*Usually addressed and updated in EA by either proponent or BLM, or both, during Section 7 consultation prior to concurrence. Occasionally a change may be suggested or provided.

Biological Opinion Applicability to Future Projects:



Vernal Record of Decision & Approved RMP *Appendix L*

i. Before and during construction, areas for avoidance should be visually identifiable in the field (e.g., flagging, temporary fencing, rebar, etc.),
j. Where technically and economically feasible, use directional drilling or multiple wells from the same pad,
k. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and
l. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible.

5. Occupied clay reed-mustard habitats within 300' of the edge of the surface pipelines' right of ways, 300' of the edge of the roads' right of ways, and 300' from the edge of the well pad shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the USFWS. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service.

6. Reinitiation of section 7 consultation with the USFWS will be sought immediately if any loss of plants or occupied habitat for the shrubby reed-mustard is anticipated as a result of project activities.

Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the USFWS to ensure continued compliance with the ESA.

L.1.9 LEASE NOTICE: SHRUBBY REED-MUSTARD (SCHOENOCRAMBE (=GLAUCOCARPUM) SUFFRUTESCENS)

The Lessee/Operator is given notice that the lands in this parcel contain suitable habitat for shrubby reed-mustard under the Endangered Species Act (ESA). The following avoidance and minimization measures have been developed to facilitate review and analysis of any submitted permits under the authority of this lease:

In order to minimize effects to the federally endangered shrubby reed-mustard, the BLM in coordination with the USFWS developed the following avoidance and minimization measures. Integration of and adherence to these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance) are in compliance with the ESA. The following avoidance and minimization measures should be included in the Plan of Development:

1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat[10] prior to any ground disturbing activities to determine if suitable shrubby reed-mustard habitat is present.

[10] *Potential habitat* is defined as areas which satisfy the broad criteria of the species habitat description, usually determined by preliminary, in-house assessment.

L-13

Additional site-specific conservation measures may be used to avoid or minimize effects. (Often determined during consultation.)

- BO's vary based on BA/EA consultation submitted to USFWS, over a time scale. (New species knowledge, and other biological, listing and recovery factors)

BO Variation:

Example 1: Conservation Measures Listed in this BO apply only to areas outside of the Pariette ACEC.

* This BO only has 5 broad exclusionary clauses – programmatic in nature designed to direct BLM/proponents back to Section 7 for site specific consultation where impacts are likely.

Example 2: Seed mixes in Tables 4 and 5 will be amended to exclude Siberian wheatgrass (introduced), and Crested wheatgrass. (introduced)

* This BO only has 25 specific measures designed for site specificity on specifically defined disturbances and is designed to cover Section 7 requirements both programmatically and site specifically, where impacts may occur.

Design project infrastructure to minimize impacts within suitable habitat:

- reduce well pad size
- limit new access route
- common ROWs utilities and roads
- reduce width of ROWs
- signs to limit off-road travel
- stay on designated routes
- revegetated with native species

Within occupied habitat, project infrastructure will be designed to minimize impacts to populations and individual plants:

- 300 foot buffers
- Surface pipelines stabilized
- Avoidance areas marked
- Directional drilling
- Avoid erosion/water flow
- Produced water away from occupied habitat
- Minimize disturbed area with interim reclamation

General ACEPM/COA/Mitigation Measure/Conservation Measure

CONSIDERATIONS

Surveys: Distances from listed plants to types of disturbance, flowering season, etc. distances, site specificity.

Habitats: in a delineated polygon or critical habitat designations or in suitable or occupied habitats?

Impacts: Dust, pollinator loss, pollinator habitat loss, listed species habitat loss, fragmentation, threat scope and scale, cumulative effects, whether plant have shown establishment in disturbance areas or not, herbicide use, project timelines, cost/benefits of pad expansion versus new disturbance, ongoing monitoring or payment offsets, onsite project monitoring, reclamation, native seed mixes, erosion control, flowering season avoidance, etc.

Good example of a disturbance table for Chapter 3

Table 1. Acreage of Proposed Surface Disturbance within Uinta Basin Hookless Cactus Habitats and Buffers

Location	USFWS 2013 Potential Habitat Polygon for Uinta Basin Hookless Cactus				Proposed Level 2 Uinta Basin Hookless Cactus Core Conservation Areas				Within 300-foot Protective Buffer for Known Uinta Basin Hookless Cactus			
	Well Pad Disturbance	Road (acres)	Pipelines (acres)	Total (acres)	Well Pad Disturbance	Roads (acres)	Pipelines (acres)	Total (acres)	Well Pad Disturbance	Roads (acres)	Pipelines (acres)	Total (acres)
SRW 823-03O Well Pad	4.46	0.18	0.29	4.93	0	0	0	0	0	0	0	0
SRW 823-10B Well Pad	4.42	0.13	0.47	5.02	0	0	0	0	0	0	0	0
SRW 823-10G Well Pad	4.42	0.13	0.69	5.24	0	0	0	0	0	0	0	0
SRW 823-13B Well Pad	4.61	0.24	0.22	5.07	0	0	0	0	0	0	0	0
SRW 823-13E Well Pad	4.48	0.30	0.18	4.96	0	0	0	0	0	0	0	0
SRW 823-15O Well Pad	4.62	2.1	5.31	12.03	0	1.38	3.47	4.85	0	0.01	0.99	1.00
SRW 823-21J Well Pad	4.65	4.74	2.98	12.37	0	1.15	1.02	2.17	2.16	0.93	0.90	3.99
SRW 823-22G Well Pad	4.69	0.08	2.11	6.88	0	0	0.68	0.68	3.57	0.08	0.11	3.76

WHY?

Why? Acres of disturbance need to match through the document for NEPA analysis, and mitigation fund calculations by the USFWS.

Factor	Criteria	Value	Relative Value (low, medium, high)
HABITAT QUALITY			
How much pre-existing disturbance within 300 feet of proposed disturbance	more than half		0L
	between 0 and half		1M
	none		2H
Within 300 feet of proposed disturbance, what is its quality?	Previously disturbed/dominated by invasives		0L
	Previously disturbed/some natives established		1M
	Not previously disturbed/native dominated		2H
Within Core Conservation Area	Outside core conservation areas		0L
	Within level 2 areas		1M
	Within level 1 areas		2H
LANDSCAPE CONTEXT			
Project impact factor	small project (<5.2 acres or one well or few disjunct wells, CX/EA)		0L
	Medium-scale project (subjective, >5.2 - 100 acres together (EA))		1M
	Large scale project with fragmentation, dust, etc. (complex EA/EIS)		2H
POPULATION			
How many plants within 300 feet	fewer than 50		0L
	50 to 100		1M
	greater than 100		2H
Closest plants to disturbance	200-300 feet		0L
	100-200 feet		1M
	closer than 100 feet		2H

Utah Pariette Cactus and Uinta Basin Hookless Cactus Mitigation Fund

"The National Fish and Wildlife Foundation (NFWF) is a 501(c)(3) non-profit that … directs public conservation dollars to the most pressing environmental needs and matches those investments with private funds."

Fund purpose: establish a mitigation fund to receive money for conservation activities

- Companies contribute to mitigation fund one time for project
  - May include release from future monitoring obligations (3-year)
  - Calculation based on amount and quality of habitat disturbed (worksheet)
- List of fund contributors
- May be on “research board” if a condition of biological opinion (BO)

- Continuation of range-wide monitoring program for both *Sclerocactus* species (plots established in 2012)
- Other projects started in 2012 with other money, expand in 2013:
  - Dispersed development study
  - Pollinator and genetics work
  - Enhanced reclamation study

RE-INITIATION CLAUSE

- Re-initiation of Section 7 consultation with the USFWS will be sought immediately if any loss of plants or occupied habitat for *Sclerocactus ssp*. is anticipated as a result of project activities.