

Public Comments: Pinedale Anticline Project Area Monitoring for Reclamation Success

06.11.2012

No.	Page	Para./Sec.	Comment	Comment Follow-up	Commentor
1	5	2	Clarify that only reclamation that has taken place after the signing of the ROD (Sept. 12, 2008) will be required to meet successful criteria noted in the ROD. Please see Attachement 1, Topic 1 for notes taken during a BLM meeting Dec 5, 2011.	Clarification has been provided.	USQ
2	8 & 9	d.	"Interim reclamation full development" goes beyond the definitions provided in the ROD. Operators do not see the need for this definition as the parameters are the same as another definition. It is redundant and not needed. Please clarify if this is a clarification to the status of reclamation.	The term 'Interim reclamation full development' will be excluded from the document at this time. However, it could be reconsidered in the future.	USQ
3	12	6.1	Please clarify who the polygons for shapefiles need to be submitted to - PADMS or BLM?	The Pinedale Field Office Field Manager sent a letter dated September 16, 2011, which explained what shapefiles have to be submitted to who, and by when. The following information was in the letter: 1) 'as built' shapefiles should be submitted quarterly to PADMS; 2) shapefiles showing areas that have been reclaimed should be submitted annually to PADMS; and 3) shapefiles for proposed surface disturbance (i.e., pre-builts) should be submitted to the BLM.	USQ
4	12	6.2	It is not clear why an operator must notify the BLM and PAPO in writing to request a location be acknowledged in PADMS as meeting interim reclamation objectives. Where is this referenced in Appendix D and why is PADMS not able to calculate if criteria has been met? It is also unclear if successful interim reclamation has been met if there is no longer a requirement for that site for monitoring until it undergoes final reclamation.	An operator must notify the BLM and PAPO in writing when they think a location has met the interim reclamation vegetative criteria, so the offices will also monitor the locations, and if appropriate change the status of a location in the database. The database does not have the capacity to 'flag' locations that have met the vegetative criteria. The BLM and PAPO will explore this option in the future. Notifying the BLM and PAPO when a location has met the vegetative criteria is not identified in the ROD; however, the offices request the notification for the benefit of the operators. In other words, if a location meets the criteria the database administrators will change the status of a location in the database to acknowledge its success and progression. A location must continue to be qualitatively and quantitatively monitored. See numbers 5 and 7.	USQ

5	12	6.2	<p>Another point of clarity that needs to be made is who is responsible for the noted ten percent of locations that will be qualitatively monitored annually? If this is PAPO, are there resources sufficient to capture all the collective monitoring as funds in the monitoring and mitigation account are reduced, and the number of reclaimed sites grows? Further, who is responsible for these commitments when funding for PAPO staff no longer exists? Considering Pg. 13, 6.3.1 (below), does this mean two notifications are necessary?</p>	<p>The operators are responsible for qualitatively monitoring 10% of areas that have met the interim reclamation criteria annually. This has been the standard since the initial Pinedale Anticline Project Area Monitoring for Reclamation Success (MFRS). The BLM Pinedale Field Office will become fully responsible for annually monitoring 5% of all reclamation on the Anticline when the PAPO no longer exists. The BLM and PAPO prefer an operator submit one notification (to the PAPO) identifying which areas that have met interim reclamation criteria will be qualitatively and quantitatively monitored annually.</p>	USQ
6	12 & 13	6.3	<p>As reclamation objectives relate to pads, not portions of pads, there is little utility in comparing individual sampling transects to individual reference transects; means across all transects appear appropriate. Further, even though comparisons to ESD-specific reference sites is appropriate, it is important to understand that reclamation areas are unique Ecological Sites, usually very different from the pre-disturbance ESD.</p>	<p>If more than 1 transect is required for an area in reclamation, and the ecological site is the same for each of the transects, then 'yes' the average of the data among the transects will be calculated and compared to the data from the reference location. However, if the ecological site or reference area is different for each of the transects on a reclaimed area then the averages will not be calculated. Additionally, the BLM and PAPO are <u>not</u> suggesting that data from transects run on the same ecological site, but on different reclaimed areas should be averaged. The BLM and PAPO acknowledge the plant community of an area in reclamation is different than it's pre-disturbance state. In other words, the succession of an area is essentially 'reset' due to disturbance. However, the ecological site of an area does not change due to disturbance. The factors that influence an ecological site are: 1) parent material of soil; 2) environmental conditions such as precipitation; 3) topography; and 4) potential plant communities.</p>	USQ

7	13	6.3.1	<p>Same concerns as above. Note increase to 20% of locations in quantitatively monitored annually - who is responsible for this? Why do operators need to provide a schedule of proposed monitoring if they are required to monitor on the 3rd, 5th, and 8th year post seeding. If a pad meets interim reclamation objectives, and is in that state of activity status, why must monitoring continue until it meets final reclamation objectives? This pad should not be required to be monitored until further action is taken to final reclamation, then monitor in the 3rd, 5th, and 8th year as declared in the ROD until successful. Further clarification needs to be made for pads not meeting success guidelines on years beyond year 8 as to how often it is acceptable to monitor quantitatively. Perhaps the University of Wyoming could provide some guidance.</p>	<p>The operators are responsible for quantitatively monitoring 20% of the areas that have met the interim reclamation criteria annually. This has been a standard since the initial MFRS.</p> <p>Operators need to notify the BLM and PAPO of the areas that have met the interim reclamation criteria they will qualitatively and quantitatively monitor on an annual basis to ensure an alternating monitoring schedule is being followed. This has been the standard since the initial MFRS.</p> <p>An operator must continue to monitor an area that has met the interim reclamation objectives for a number of reasons including, but not limited to: 1) monitor for unexpected events; and 2) to determine if remedial action is needed to meet final reclamation objectives.</p> <p>The BLM/PAPO will recommend remedial action(s) for an area that has not met the vegetative objectives within the expected timeframe. If this occurs, the monitoring schedule post seeding/remedial action(s) will be the same as the initial monitoring schedule (i.e., qualitative data will be gathered annually, and quantitative data the 3rd, 5th, and 8th growing seasons post seeding/remedial action).</p>	USQ
8	13	6.3.2	<p>Production is not a requirement to be collecting until pad is in evaluated for final reclamation objectives.</p>	<p>The point of the paragraph is to identify which methodologies will be used to collect each of the attributes (i.e., vegetative criteria) for interim and final reclamation. Per the 2008 ROD, production is a required attribute to be collected, and reported on for areas where final reclamation has been initiated.</p>	USQ
9	15		<p>Agree this area needs more clarification and coordination with operators to come to agreements on monitoring parameters and reporting</p>	<p>The PAPO will coordinate with the BLM, and the Operators to address monitoring, and reporting of reclamation data on the ROWs.</p>	USQ
10	18	#1	<p>Why are operators required to provide monitoring data reports, when all data is required to be submitted into PADMS which should have the ability to generate those very reports?</p>	<p>The monitoring reports are required per the 2008 ROD, and the 2010 adaptive management action, which clarified reclamation reporting requirements. The BLM and PAPO have been and will continue to diligently work with the USGS, the Operators, and the contractors to modify and improve the capabilities of PADMS. One of the goals for having the database is to streamline the reporting process, which in the end we hope will eliminate the need to submit additional reports.</p>	USQ
11	20		<p>Given that reclamation operations may be conducted in the late fall, preferably during or immediately prior to the first snowfall, accurate reclamation shapefiles may not be available until after the winter.</p>	<p>If an operator is unable to meet the January 31, or 3 weeks prior to the annual meeting, whichever comes first deadline they can formally request an extension by submitting a letter to the Field Manager.</p>	USQ
12	22		<p>Frequency frame size is noted as different sizes throughout the document.</p>	<p>This issue has been resolved.</p>	USQ

13	24 thru 38	<p>Regarding the frequency method of vegetative monitoring, the BLM Interagency Technical Reference #1734-4 states (on page24) that "Frequency is highly influenced by the size and shape of the quadrats used." It continues - "to determine change, the frequency of a species must generally be at least 20% and no greater than 80%".</p> <p>On pages 26 and 29 of the proposed PAPA monitoring for reclamation success document, monitoring data used by the BLM National Operations Center to calculate minimum sample sizes was from the Mesa 7-27 SWEPI reference location form 2010. That year a 0.5m x 0.5m quadrat was used to collect frequency data, and values obtained fell within 20 - 80% range of sensitivity to detect change as preferred by the ITR 1734-4. In 2011, a larger 1m x 0.5m quadrat was mandated by PAPO. Frequency averages for both forbs and shrubs from the Mesa 7-27 reference site collected with this larger frame are both above 90%, well outside of this monitoring methods sensitivity to detect change.</p> <p>Operators will only agree to measure frequency if the frame size is used that adheres to the BLM ITR # 1734-4 guidelines found on page 38.</p>	<p>The frequency frame size was addressed in the proposed MFRS, and it was the intention of the planners to propose the frame size to be 0.5m * 0.5 m. Where the proposed document did not capture this 'change' the planners have addressed, and updated the document.</p>	USQ
14	34	<p>Table states sample sized for Intern, are these also the same for final reclamation monitoring? If 50 samples seem to be the most, it is preferred by some operators to run the maximum sample size while in the field due to changes in soils reflecting possible ESD's and requirement changes within as well as for efficiencies.</p>	<p>The BLM and PAPO will provide the sample size or range of sample sizes for locations being monitored for final reclamation before the MFRS plan is finalized. Operators have the option to collect the greatest, minimum sample size (which is 50) on all locations being monitored for interim reclamation instead.</p>	USQ
15	34	<p>Please ensure that 50 samples is able to be uploaded regardless of required sample size into PADMS, and all are accepted for calculations.</p>	<p>PADMS has been modified to allow any sample size greater than the required minimum sample size.</p>	USQ
16	35 #1	<p>"Cover" is the term used in the ROD, not specifically "foliar cover." Our annual reports have always used canopy cover calculated from the LPI's, not foliar cover. It appears that this document is interpreting the ROD terms "cover" and "vegetative composition" to mean "species foliar cover." This seems to be a change in interpretation.</p>	<p>Line-point intercept is not used to gather canopy cover. Line-intercept is used to gather canopy cover. The different is with line-point intercept an individual lowers a pin through the vegetation at predetermined intervals along a transect rather than at the edges of plant canopies. The hits of the pin on leaf material are recorded with the LPI method (i.e., foliar and basal cover) instead of looking at the 'perimeter' of a plant species and recording the cover within the perimeter (i.e., canopy cover). In other words, foliar cover is the ground surface that is projected to be covered by any foliar (leaf) material of the plant, and it does not include 'air gaps.' And canopy cover is the ground surface that is projected to be covered by the 'perimeter' of the individual plant and any cover within the perimeter plus the 'air gaps' within the perimeter.</p>	USQ

17	35		Production is not a requirement as stated in the ROD for interim reclamation as of Native Grasses: <i>Reclaimed sites must have a minimum of three perennial grass species present, two of which must be bunch grass species. These are to be planted at rates appropriate to achieve abundance and diversity characteristics similar to those found on reference sites.</i>	It is correct there is no production requirement for interim reclamation on the Anticline per the 2008 ROD. The revised manual streamlined the process of collecting foliar cover, and vegetative composition. Multiple foliar hits on vegetation using a modification to the line-point intercept method, can be used as an index to aboveground production.	USQ
18	36	5.b	The Herrick LPI method specifically states no species should be counted more than once at each sample point. The suggested change in the Proposed MFRS to now count Foliar Cover so that one species can be hit multiple times would drastically alter our field protocol and contradict Herrick, et al, BLM 1734-4 and BLM 1730-1. Calculations: The description PAPO uses for calculating foliar cover is not found within any of the aforementioned documents, nor is Foliar Cover even mentioned in the ROD. We have always provided a percent cover by individual species using our current data collection protocol, and fulfill the TN440 suggestion for providing vegetation composition by walking a circular path around our plot and recording all species in a species list.	The LPI method described in <i>Volume I: Quick Start Monitoring Manual for Grassland, Shrubland and Savanna Ecosystems</i> was adapted to streamline the process of gathering 'cover' and vegetative composition. Additionally, multiple foliar hits on vegetation using a modified line-point intercept method can be used as an index to aboveground production (final reclamation requirement). The Herrick LPI method specifically states no species should be counted more than once at each sample point, because the Herrick LPI method is using single foliar hits on each species at each sample point to estimate foliar cover. The BLM Technical Note 440 does not suggest that walking a circular path around a plot and recording all encountered species in a species list is estimating plant species composition. The walking of a circular plot and recording of each plant species encountered can be used with the plant species encountered during the frequency and line-point intercept foliar cover sampling to estimate species richness, which can be used to estimate plant species diversity.	USQ
19	36	5.f	Change "genius" to "genus"	Corrected	USQ
20	37	2.B	This should be multiplying by 100, not 1.	<i>Volume I: Quick Start Monitoring Manual for Grassland, Shrubland and Savanna Ecosystems</i> explains how to calculate the percent when 100 points per line are collected. The proper calculation is '1,' and not '100.' See page 13 of the manual.	USQ
21	41		Why is it necessary to add additional reporting and photos is an issue has been identified within the Qualitative report? The result is not much knowledge gained for the resources spent reporting. Operators would rather put the effort into correcting what was not meeting objectives. Suggest omitting the last sentence on this page. Further, the report seems to lose value as the reclamation matures and rather becomes a check the box action. What value does this report hold past the first two to three years when sites are stabilizing?	The BLM and PAPO would like an explanation of an issue, and when deemed appropriate a photograph. For example, if cheatgrass is present then the location is not absent of 'other' undesirable species. The BLM and PAPO want to know what undesirable species is/are present. Another example, if the soil is not stable and rills greater than 2 inches are present the offices want a brief explanation, and a photograph of the rill. The BLM and PAPO will consider developing an alternative qualitative data form for more developed/older reclamation in future years.	USQ
22	43		Please see the attached letter from the operators and acceptance from the BLM concerning the amounts of sagebrush seed to be planted in reclamation seed mixes. Documents are attached	The attached letters will be reviewed and taken into consideration as the BLM and PAPO review and update the recommended seed mixes.	USQ

23	50	d.	It should be noted that certified weed free mulch/straw does not mean that it is free of cheatgrass unless it is purchased from an area that cheatgrass is declared noxious.	The 2008 ROD states, "Other <u>highly competitive invasive species</u> such as cheatgrass and other weedy brome will be actively treated if found in the reclaimed areas" (pages C-3 and C-4). The BLM and PAPO do not see the benefit of noting that 'certified weed free mulch/straw' does not mean that it is free of cheatgrass, with the aforementioned objective in mind. Therefore, the recommended note will not be incorporated.	USQ
24	51	II.2.	For pesticide use permits, application records and yearly reports, the leases are not captured, but rather Township, Section and Range. Please clarify the need for reporting by lease or make the correction if not applicable.	Clarification has been provided.	USQ
25	52	V.a.	Omit (<i>as required by the Jonah ROD</i>), and include the comment made in reference of cheatgrass not being included in most evaluations to be certified.	The reference to the Jonah ROD will be omitted. The 2008 ROD states, "Other <u>highly competitive invasive species</u> such as cheatgrass and other weedy brome will be actively treated if found in the reclaimed areas" (pages C-3 and C-4). The BLM and PAPO do not see the benefit of noting that 'certified weed free mulch/straw' does not mean that it is free of cheatgrass, with the aforementioned objective in mind. In other words, the recommended note will not be incorporated.	USQ
26	53	V.c.	Omit <i>construction, drilling or reclamation activities</i> and replace with <i>dirt moving activities</i> .	The BLM - PAPO did not see a need to replace 'construction, drilling or reclamation activities' with 'dirt moving activities.'	USQ
27	53	V.d.	Omit (<i>Jonah requires ... "The initiation of interim reclamation will commence within 30 days after the last well scheduled on a pad is put into production." A-7 #1.</i>)	Corrected.	USQ
28	53	V.e.	Note that certified weed free seed does not include cheatgrass seed. Encourage operators to understand what level of cheatgrass they are bringing into seed and suggest high levels be turned back.	The 2008 ROD states, "Other <u>highly competitive invasive species</u> such as cheatgrass and other weedy brome will be actively treated if found in the reclaimed areas" (pages C-3 and C-4). The BLM and PAPO do not see the benefit of noting that 'certified weed free' does not mean that it is free of cheatgrass, with the aforementioned objective in mind. Therefore, the recommended 'note' will not be included. The BLM and PAPO have been and will continue their effort to inform the Operators about potential sources of cheatgrass, and how they can best mitigate the introduction of the species in their reclamation.	USQ
29	53	VII.2.	Omit <i>JIO</i> and replace with PAPO.	Corrected.	USQ
30	12	6.1	Given that reclamation operations may be conducted in the late fall, preferably during or immediately prior to the first snowfall, accurate reclamation shapefiles may not be available until after the winter.	If an operator is unable to meet the January 31, or 3 weeks prior to the annual meeting, whichever comes first deadline they can formally request an extension by submitting a letter to the Field Manager.	USQ

31		1.a & 1.b	<p>" ... to now count Foliar Cover so that one species can be hit multiple times would drastically alter accepted field protocol and contradict Herrick, et al, BLM 1734-4 and BLM 1730-1." ... " ... it does not appear from the BLM Technical Note 440 that PAPO's description is the intent of "Foliar Cover."</p>	<p>The LPI method described in <i>Volume I: Quick Start Monitoring Manual for Grassland, Shrubland and Savanna Ecosystems</i> was adapted to streamline the process to gather 'cover', vegetative composition, and estimate production. The Herrick LPI method specifically states that no species should be counted more than once at each sample point, because the Herrick LPI method is using single foliar hits on each species at each sample point to estimate foliar cover. Modifying the Herrick LPI method to accommodate more than one count (foliar hit) on each species at each sample point allows for the multiple foliar hits on each species to be used as an index to aboveground production of a species.</p>	North Wind
32		2	<p>The description PAPO uses for calculating foliar cover is not found within any of the aforementioned documents, nor is Foliar Cover even mentioned in the ROD.</p>	<p>The 2008 ROD mentions cover, and foliar cover is one of several ways to measure 'cover.' The modified line-point intercept method is used to accommodate measuring multiple foliar hits on the same plant species per sampling point to more accurately calculate species composition, and to estimate production. These data can still be used to estimate foliar cover by only using one foliar hit per plant species per sampling point. In other words, the data are still available to calculate foliar cover the way Herrick describes.</p>	North Wind
33		3	<p>" ... Herrick describes the vegetative composition not as a percentage but as a combination of the species list and percent cover by each species ..."</p>	<p>Species richness, which is used as an index to species diversity, is estimated by a combination of the species list, and the species encountered while gathering the frequency and line-point intercept data. The plant species list is created from these 3 sources of data and will serve to estimate plant species diversity. Vegetative composition is calculated using the relative abundances of each plant species in a plant community or on a specified area of ground. Vegetative composition is not calculated from a species list, because a species list does not provide any indication of abundance.</p>	USQ and North Wind

			<p>" ... uses an "X" configuration as required by the NRCS for NRI, where each leg is 75' long radius of the circular plot. This is cited in TN440 as a <u>mandatory</u> configuration, not a linear plot as PAPO requires.</p>	<p>The BLM Technical Note 440 recommends collecting data (e.g., line-point intercept) along two intersecting 150-foot transects to be compatible with the Natural Resources Inventory of NRCS. The objective of monitoring with this approach is to establish resource condition and trend in 'resource condition' over time, across all BLM lands. This objective differs from the monitoring objectives for the Pinedale Anticline Project Area. The subject monitoring is specific to the Pinedale Anticline area of the BLM lands, and is set-up to establish if vegetation and soil conditions are achieving some level of abundance in areas where reclamation has been initiated compared to undisturbed areas. The reclamation monitoring will cease to be necessary at some point in time. The Operators have the option of setting-up their transects in a number of configurations including, but not limited to an 'X' or linear. However, the total transect length must be 100 meters.</p>	<p>North Wind</p>
<p>34</p>		<p>4</p>	<p>Misuse of Frquency: Frequency is not a "core indicator" in the TN440 and should be abandoned, as line-point intercept collects more important attributes for comparison of range sites. ... Frequency, while able to assess how an individual population is faring over time for a single species of threatened and endangered plant, is not useful for comparisons of different sites such as a reference to a reclaim. ... Frequency of any particular species is dependent on quadrat size and comparing an undisturbed reference site to a reclaim site would require different frame sizes for each species.</p>	<p>The 2008 ROD had vegetative criteria for interim and final reclamation, which included the frequency or density of forbs and shrubs on a reclaimed area would be within 'X' percent of a reference site. The PAPO proposed adaptive management to change the wording of the 2008 ROD to say 'frequency' only (i.e., remove the option to gather and report frequency or density). Additionally, the Core Indicators in the BLM Technical Note 440 are intended to be collected over BLM lands when monitoring for resource and trend in resource condition. However, supplementary indicators can be collected by BLM field offices for their monitoring needs. Frequency can be used to assess: 1) the abundance of a plant species over time; 2) compare the abundance of a plant species from a reclamation area to a reference area; 3) can be used to assess the plant species composition changes over time in a plant community; and 4) can be used to assess the plant species composition differences between an area in reclamation and a reference area, as long as the frequency plot sizes accommodate frequencies of plant species/life form between 20 and 80%. The MFRS does have operators collect, and report the frequency of individual species in-part to report diversity (per the 2008 ROD), and to learn the success of different species. However, the vegetative criteria in the 2008 ROD is for forb, and shrub life forms; therefore, it is not necessary to calculate a frame size for each of the forb and shrub species.</p>	<p>USQ and North Wind</p>
		<p>5.a, 5.b, & 5.c</p>			

36		6	Frequency frame size should be the 0.5 m * 0.5 m	The frequency frame size was addressed in the proposed document, and it was the intention of the planners to propose the frame size to be 0.5m * 0.5 m. Where the proposed document did not capture this 'change' the planners have addressed, and updated the document.	North Wind
37		7	" ... I don't think the intent is that we need to now collect Production data, ... there is confusion as to what the data we are collecting can be interpreted to mean."	The 2008 ROD stated annual reports would be submitted, and include 'cover' and vegetative composition. The revised manual provides the protocols for gathering vegetative composition, which is through gathering foliar cover. Additionally, the ROD includes vegetative criteria for final reclamation, which includes, but is not limited to "production." The previous version of the MFRS directed operators to gather and report production using Double Weight Sampling. The proposed MFRS recommends using multiple foliar hits on plant species using a modification of the line-point intercept method as a way to estimate aboveground production (instead of using Double Weight Sampling for aboveground production). Although using multiple foliar hits on plant species is not as accurate at estimating aboveground production compared to double weight sampling it (multiple foliar hits to estimate aboveground production) is cost effective, less destructive (than double weight sampling), and it meets the intent of the ROD.	North Wind
38		8	While I entirely accept the validity of this statement, it should be stricken from the MFRS, because when taken with the previous statement, it infers that foliar cover equals production, which it does not, nor can the methods used to gather any kind of cover be used to evaluate production.	It is not suggested that foliar cover 'equals' production. Foliar cover measures cover whereas production measures weight. Cover does not equal weight. However, multiple foliar hits of vegetation can be used as an 'index' of aboveground production without having to actually estimate aboveground production using weight.	North Wind
39		9	The MFRS does not outline operators responsibilities for interim reclamation versus final reclamation with respect to production.	The BLM and PAPO recognize the vegetative criteria for interim reclamation does not include production. This said, they are considering the pros and cons of streamlining the methodologies used to collect data for interim and final reclamation. It was proposed to modify a current method (i.e., line-point intercept) to estimate production to streamline the collection and reporting of data, minimize destruction of species the operators are trying to establish in areas of reclamation, and it is perceived to be more cost effective. The BLM and PAPO will assess, with the Operators and their contractors if they would like, and compare the modified line-point intercept to double weight sampling during the 2012 field season. A decision is anticipated by the spring of 2013.	North Wind