



TO: BLM  
ATTN: 1004-AE92  
FR: Public Employees for Environmental Responsibility  
DT: 6-23-23  
RE: Docket No. 2023-0631, Proposed Rule, Conservation and Landscape Health

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Public Employees for Environmental Responsibility (PEER)<sup>1</sup> appreciates the opportunity to provide comments on BLM's proposed new regulations on conservation and land health made pursuant to the Federal Land Policy and Management Act of 1976 (FLPMA). We fully support BLM's effort in this rulemaking to elevate conservation to equal status with the agency's traditional energy development, resource extraction, and grazing agenda and to define "conservation" to include both protection and restoration activities.

Our comments focus on BLM's capacity to implement the proposed rule, BLM's proposal to expand the use of land health standards currently used in the agency's grazing program to all lands, and BLMs request for comments on whether the rule should expressly authorize the use of conservation leases to generate carbon offset credits.

Following our comments, we provide detailed recommendations to address our concerns.

Finally, we note in our comments that PEER will also be signing on to comments submitted by the Native Seeds Coalition and Western Watersheds Project.

### **I. BLM Lacks the Capacity to Implement the Proposed Rule**

We believe BLM lacks the staff and resources to implement the proposed rule. Specifically, we are concerned that without a significant addition of resources and the development of staff expertise, BLM will be unable to:

1. Conduct meaningful and scientifically defensible land health assessments;
2. Accurately assess the environmental impacts of land use decisions, including those in the conservation and restoration leases proposed in this rule; and,
3. Adequately engage the public in its decision-making processes.

Therefore, we recommend that BLM conduct a workforce analysis to specifically address the staffing and resource needs to implement this rule and share the information publicly. This will help BLM prioritize the agency's conservation programs based on those that will deliver the most cost-effective results. Without addressing workforce issues and agency priorities, we are concerned that:

1. Existing programs will suffer;

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<sup>1</sup> PEER supports current and former public employees who seek a higher standard of environmental ethics and scientific integrity within their agencies. We do this by defending whistleblowers, shining the light on improper or illegal government actions, working to improve laws and regulations, and supporting the work of other organizations.

**PEER protects public employees who protect our environment.** We are a service organization for environmental and public health professionals, land managers, scientists, enforcement officers and other civil servants dedicated to upholding environmental laws and values. We work with current and former federal, state, local and tribal employees.

2. BLM will be unable to provide adequate oversight for the innovative programs in this proposed rule: and,
3. BLM will outsource important government functions to contractors and non-governmental organizations resulting in further capture of BLM by special interest groups that have an interest in obtaining leases.

Understaffing is already a genuine issue at BLM. From 2003-2020, the agency's workforce has declined by roughly 20 percent. This decline occurred during a time when BLM has seen explosive growth in visitation to agency lands. In the last decade, the number of recreational visits has increased from about 59 million in 2010 to over 81 million visitors in 2022.

In addition, in recent years, agency staff have been increasingly concentrated in occupations that focus on extraction over conservation and on addressing and combatting the growing size and intensity of rangeland fires. For BLM to meet the manage the new work proposed in this rule, BLM will need to prioritize staff positions working to protect land health and biodiversity, and shift assets away from resource extraction staff like fossil fuel leasing and mining.

Staff shortages and resource constraints are affecting staff morale. In 2021, BLM was ranked in the bottom quarter of all federal agencies in the annual Best Places to Work Survey conducted by Office of Personnel Management's Best Places to Work Survey, with BLM respondents identifying work-life balance and agency performance issues as needing improvement.

A staffing analysis for this rule would allow BLM to better address human resource needs raised by this proposed rule, prioritize conservation programs that provide the most value to the taxpayers and the environment, and, if implemented, improve staff morale.

## **II. BLM's Proposed Expansion of Land Health Standards is Flawed**

We are concerned about BLM's proposal to expand the use of land health standards to all BLM lands. Our concern is two-fold. First, we question how BLM can expand the use of land health standards when it is doing a poor job on its current land health program. Second, we are concerned that BLM's increasing reliance by on satellite-based data in lieu of fieldwork masks widescale current abuse of America's rangelands and that these problems will be exacerbated without changes to the methodologies proposed in this rule and increasingly being used by BLM.

We recommend that the final rule candidly address BLM's shortcoming in its current land health standard programs and address the methods, sampling design, data collection and integration issues needed to ensure the fundamentals of land health are being met in the future.

### **A. BLM Lands Health Standards**

Currently, BLM uses rangeland health standards to assess the health and productivity of lands leased for grazing according to specified standards. The regulations provide for four fundamentals of land health: properly functioning watersheds; ecological processes that support healthy biotic populations and communities; water quality that complies with state standards and is making progress in achieving BLM management objectives, such as meeting wildlife needs, and; habitats are being restored and maintained for threatened, endangered or candidate species.

If the land used from grazing does not meet the specified conditions in the land health standards, BLM must identify the cause and then take action to address the failure to meet standards and to bring the land

into conformance with the land health standards. For example, if public lands used for cattle and sheep grazing fail land health standards, BLM may elect to limit the season of use or require periodic rest, or deferment, from grazing in specific areas. BLM also has the authority to remove livestock from public lands.

The proposed rule calls for land health standards to be used to ensure all BLM lands meet health requirements, including for conservation and mitigation leases. The rule directs authorized BLM officers to establish goals, objectives, and success indicators to ensure that each land health standard can be measured against resource conditions and to periodically review authorized uses for consistency with the fundamentals of land health.

A viable land health standards program is critical to ensuring that conservation and mitigation leases are used to improve the fundamentals of land health and that they are achieving their stated objectives.

### **B. BLM's Current Land Health Standards Program Is a Failure**

Unfortunately, BLM's Land Health Standards (LHS) program have not been an effective way to manage the health of lands used for commercial livestock grazing on BLM lands, and without changes to how the program operates, these failures will grow worse if the proposed rule is finalized without addressing the underlying causes of these failures.

BLM's own data points to a shocking failure to assess lands. BLM data collected by PEER <https://peer.org/wp-content/uploads/2022/03/03-14-2022-Rangeland-Fact-Sheet.pdf> show that 41 million acres of the 155 million acres of rangeland have yet even to be assessed. BLM does not prioritize monitoring, so it is difficult to support expanding a program when it currently does not do the minimum of collecting range, allotment-level data.

In those places where BLM does collect the data, it is often failing to manage the lands. BLM data shows us that 50 percent of the lands assessed by BLM, or 54 million acres, do not meet BLM's land health standards.

Notable findings in BLM's Land Health Data:

- Of the total acres assessed, BLM reports that 50% failed to meet land health standards. That is 54,000,000 acres – about the area of Washington state.
- Of the lands that failed to meet LHS, BLM reported that in 72% of cases, “a significant cause” was livestock grazing. That is approximately 40,000,000 acres that are failing to meet standards due to overgrazing.
- A portion of the assessed lands that are classified as “meeting” standards are actually only “making significant progress” toward meeting the standards, not actually meeting them.
- There are massive allotments –some over 1,000,000 acres--that need agency attention and assessment.

Currently, BLM monitors land health standards based on available staff and budget. In addition, BLM fails to complete Environmental Assessments on renewals of grazing permits. Instead, the agency relies on a legislative “rider” that allows BLM to reauthorize the 10-year grazing permits without making any changes in the permit conditions, pending completion of an analysis of the National Environmental Protection Act (NEPA). BLM uses this rider to justify not conducting Environmental Assessments under

NEPA on grazing allotments, often citing staffing shortages, despite evidence that overgrazing is the major cause of failing land health on BLM lands. For example, an analysis of BLM data from 2021 by the Western Watershed Project found that 54% of grazing allotments were renewed under this “rider.” There are grazing permits on BLM allotments that have gone through two renewals (that is 20 years) without BLM assessments of the land's health.

A close look at BLM's current land health data reveals other serious problems and inconsistencies. In assembling the BLM data, we noticed that there are outliers in the data that indicate issues are not being addressed. This is the ideal opportunity for Headquarters to step in and analyze the situation. For instance, we see several cases in Utah and Wyoming of one allotment in an ecoregion that is classified as meeting standards, yet it is surrounded by tens of thousands of acres that are not meeting standards. We see field offices in Nevada differ completely in their application of land health standards from an adjoining field office. New Mexico reports more grazing allotments meeting land health standards at a much higher rate than expected when compared to surrounding states in similar ecosystems and we have seen a very different type of supporting documentation.

### C. BLM Needs to Improve Data Quality Issues

PEER is concerned about the quality of the data that is increasingly being used to evaluate Land Health Standards. In the proposed Rule, remarkably, the suite of methods, sampling design, data collection and integration, and how these data will be used apparently still have yet to be developed. What we know is the planned use of Assessment, Inventory, and Monitoring (AIM) plots and Rangeland Analysis Platform (RAP or remote imagery) data as indicated in the BLM slide below. But how these data are actually will be used is unclear. We urge the agency to reconcile the issues that we point out below before moving forward.

The image is a screenshot of a Zoom webinar slide. The slide has a black header with the BLM logo and the text 'U.S. Department of the Interior Bureau of Land Management'. The main title is 'Wise Decision Making – Question' in large white font. Below the title is the question 'Where will the underlying data come from?' followed by a bulleted list of data sources: 'Assessment, inventory, and monitoring data' (with sub-points for Terrestrial, Aquatic, and Riparian), 'Remote imagery', and 'Local observations and Indigenous Knowledge'. On the right side of the slide, there is a chat window with two messages from participants: Richard Red and Stephanie. The chat window also includes a 'Type your question' input field and a 'Send anonymously' button.

Slide from 5/25/23 presentation on proposed rule, Golden, CO.

The Proposed Rule states; “In implementing the fundamentals of land health, the proposed rule codifies the need across BLM programs to use high-quality information to prepare land health assessments and evaluations and make determinations about land health condition.”

RAP and AIM are both wonderful tools that can supplement the allotment level field work. We appreciate

how it can be centralized and its accessibility to all levels of BLM staff and the public. However, BLM has started using almost solely satellite data to assess massive swaths of land. For example, BLM evaluated 1,372 livestock permits for renewal on over a million acres of public land in Montana, based upon satellite-generated RAP data and some AIM plot points in one “Broad Scale Report.” At least 100 of those permits have been renewed based on that report. Since BLM has indicated in the slide and at Sec.6103.2 that to implement the Rule, it will increasingly be relying on RAP and AIM, it is essential that the data be as best as it can be.

### **1. Sec. 6103.2 Assessment, Inventory and Monitoring Data**

The goal of [AIM](#) is to provide standardized monitoring and assessments of resource conditions and trends of BLM lands. The program is made up of a set of plot points randomized across the country on land and some in riparian areas. The program has AIM crews that go into the field and gather monitoring data which is centralized. As AIM is relatively new, the AIM crews are often siloed in their work and rarely work with the range staff, so we commend BLM for integrating this work into Land Health Standards. Until recently, we rarely saw the AIM data used by the range staff in allotment renewals or AIM data mentioned about land health.

AIM has made noteworthy progress since its inception in 2011 which we applaud. In BLM AIM data from 2021 we see that there are approximately 35,000 terrestrial or upland plot points, 2,794 stream and rivers plot points and 131 wetland or riparian plot points. Considering that BLM manages 245 million acres of land in 21,000 grazing allotments, and at least 121 million acres of commercially grazed land this is hardly sufficient for making small scale/allotment level analysis.

The number and distribution of AIM plots differs dramatically between states. For example, Nevada has a much higher density of plots than does neighboring Utah. In addition, many allotments lack even a single AIM sample plot. The AIM program was intended to track broad regional trends in conditions, but not causes of changing conditions over time, rather than to inform local management of lands at pasture and allotment permit scales. In response to the Sage Grouse plan there are more plot points in states with sage grouse habitat. We recommend that more plots be added so that all lands are equally represented.

The AIM statistical sampling design underrepresents areas that are the most susceptible to disturbance impacts. Since AIM plots are set in a randomized locations, we recommend extra AIM teams for additional plots in focal areas. We recommend AIM plots be added around known disturbance areas like livestock tanks, fences, fuel breaks, and to show riparian use. Considering that biodiversity is often focused around wetlands and riparian areas, without far more plot points and evaluation of these critical areas, the data is not representative nor useful.

Importantly, BLM has chosen to exclude collection of “causal” data. One WWP staff member participated in AIM riparian protocol training a few months ago. She was specifically told not to assign a causation to field collection. That is, if the lack of cover is caused by cattle, the AIM field staff do not record that. This contrasts with how BLM range staff is required to collect LHS data-- Range Staff is told to assign a cause to any allotments not meeting LHS so that BLM can make management changes.

We encourage BLM to expand the use of AIM data, but it is essential to make sure the data is as complete and useful as possible.

### **2. Sec. 6103.2 Rangeland Analysis Platform data**

BLM's [Rangeland Analysis Platform](#) (RAP) uses remote sensing technology for these assessments. It is supplemented with minimal field work and includes some AIM plot points.

One issue that we have recently seen is the “double counting” of AIM plot points. That is, RAP uses the plot points in its algorithm. Then later when BLM is using the RAP data to analyze range conditions, they will state that they are also using field data. We have seen that the only data BLM is referring to is AIM data, the same plot points as the RAP. This requires better coordination on its application between consultant and research work, USGS, and BLM.

BLM, in meetings with us has stated that RAP is useful for analysis at the ecosystem level, yet it is being used at the allotment level to tier Categorical Exclusions for commercial livestock grazing permit renewals. The RAP output is simply too coarse and the accuracy of the sub-pixel vegetation cover discrimination just too low for practical use to identify causes of disturbance at the pasture and allotment management scale.

It is important to note that RAP does not distinguish between native and non-native grasses when analyzing cover. So, the cover may appear to be increasing over time and the agency may state that the land is recovering, when on the field, we are seeing a non-native cheat grass invasion that indicates declining health. We recommend that the annual grasses and cover markers in RAP not be used to assess land health but instead that BLM use perineal shrubs as an indicator of health.

See the BLM report linked here in which the experts state that (<https://peer.org/blms-sketchy-satellite-based-range-management/>) RAP is no substitute for targeted fieldwork and may oversimplify ecological changes and result in systematic failures to recognize deteriorating conditions.

For RAP data to be suitable for purposes of management, the data must be able to discriminate vegetation cover type percentages with respect to departure from reference conditions and sensitive enough to detect both degradation and recovery. Livestock grazing impacts need to be discernable.

The results of a brief test of the suitability of these data to contribute to these evaluations at active management spatial scale are provided in Attachment A. In Attachment A, we have included a screen shot of an allotment that with RAP analysis appears to be meeting LHS. However, the google earth image reveals that it is a heavily grazed area with both livestock trails and several dirt tracks. You can see clearly that RAP data is too coarse to even identify dirt roads, let alone livestock impacts, two types of disturbance common in lands managed for grazing on both public and private rangelands in the West. We also question whether it can be used for prioritizing watersheds --a further fine scale land health assessments that the agency may be considering as it evaluates lands for conservation

The images demonstrate that even to the untrained eye, the RAP data is simply too coarse to discern obvious differences in land cover and obvious damage to land health at the spatial scale required to support the BLM Conservation and Land Health Rule.

#### **D. Political Will Is Important**

BLM also lacks the political will to take substantial actions that could address land health failures on the lands it manages.

We recognize that BLM is working to address many of the monitoring issues. **We applaud the BLM for its latest effort to standardize and centralize LHS data.** However, data is only part of the problem. Because of local politics, conflicts of interests, personalities, the history of some ranchers' violent responses when change is proposed--it is often easier for BLM staff to not to make a difficult decision. It is not clear that BLM is committed to making management changes on livestock lands. Before expanding

the LHS program, BLM must be committed to working through these issues. We agree that the use of centralized data like AIM and RAP can relieve some of the pressure on field staff but that it is still incumbent on field staff to manage land health.

### **III. The Rule Should Expressly Prohibit the Use of Conservation Leases to Generate Carbon Offset Credits**

The rule should expressly prohibit conservation leases to generate carbon offset credits. PEER is concerned that the Rule creates mechanisms that may be used to expand the leasing of public lands for conservation and mitigation purposes, specifically generating carbon offsets markets on BLM lands without full legal and environmental analysis. We believe that offset projects on federal lands need to be approved through federal legislative or specific regulatory rulemaking process and subject to a full NEPA analysis.

Offsets generated on BLM lands would have ownership issues. One principle of carbon offsets is that no parties other than the registered project developer must be able to claim ownership of the GHG reductions. We believe that these ownership claims would be impossible to make for offsets on federal lands under current federal law and regulations.

We also question whether offsets generated on BLM lands can be real, additional, permanent, and verifiable. One problem with carbon offsets on BLM lands is that BLM should already be managing these lands for conservation purposes if they are not being used for grazing or resource extraction, such as mining. The problems of additionality would be significant on the land management by BLM. If BLM decides to allow the generation of carbon credits on the lands it manages, BLM must first propose a separate rulemaking that specifically addresses the legal, environmental and compliance issues associated with the offset program it is proposing.

We strongly urge BLM to prohibit the use of carbon offsets on BLM lands. In addition to the specific issues that would be associated with carbon offsets on BLM lands, the general problems with using carbon offsets to achieve greenhouse gas emissions and net zero emissions are well-documented. Carbon offset programs allow utilities, fossil fuel companies, and other polluters to purchase credits that “count” as emission reductions, instead of actually reducing and eliminating their emissions. This could result in the federal government greenlighting additional fossil fuel and resource extraction projects generated on public lands leased by third parties and BLM managing third party mitigation banks that are held on public lands to “offset” the emissions from these projects. Incentivizing expansion of oil and gas development on public land through offsets will do nothing to address climate change, increase air, and water pollution.

We recommend that BLM prevent public subsidies from supporting the development of carbon offsets, carbon markets, bioenergy, and grazing operations.

### **IV. Recommendations**

#### **To address overall staffing concerns, we recommend that BLM:**

1. Staff at least 15,000 FTE employees. The current administration has proposed a staffing level of 10,952, but this is not enough for an agency with an increasingly complex mission to balance productive land use and conservation and especially when considering expanding the scope of work of the agency.

2. Staff each field office with at least two botanists and two ecologists. These positions are integral to create and monitor any proposed conservation and restoration projects. We estimate that currently there are only 35 botanists working at BLM.
3. Staff each field office with at least two biologists. BLM often relies on state game biologists to manage wildlife, however by shifting BLM's focus to protecting landscape and restoring habitat, the agency will need to hire many more specialists.
4. Add a state-level leadership position dedicated solely to climate.
5. Add a state-level leadership position dedicated solely to land conservation.
6. Build up the AIM survey and program staff. As discussed below, if BLM is increasingly relying on AIM plots to provide data for Land Health Standards, the program must be significantly expanded.
7. Set performance indicators for management based on conservation and resource protection goals.
8. Assure that there is sufficient funding for current ongoing planning and monitoring activities that are currently being skipped because BLM lacks resources. As BLM adds more to the plates of current BLM employees, assure them that the employees and funding will be there to do the work that they have already been assigned.

**We recommend that the final Rule includes provisions to strengthen the Land Health Standards by including:**

- Accountability measures, that is fixed benchmarks on management with fixed recovery strategies.
  - Review public lands to assess if they are achieving Land Health Standard every five years.
  - If public lands or a grazing allotments fail to meet Land Health Standards for two cycles, BLM should require that all livestock and commercial activity to be removed for 10 years for a rest cycle.
  - If an allotment that contains threatened and endangered species is not reviewed or fails to meet Land Health Standards, BLM should require that all livestock be removed, all commercial activity cease, and recreation limited.
  - Accountability to the public. Local managers should be required to provide a response within 30 days to objective documentation by any interested party of a violation of LHS.
- Create an LHS Team at Headquarters who are “authorized officers” which will:
  - Fast-track and review all allotments that have not been reviewed for LHS in the last ten years. BLM can support field staff and address the backlog by moving some of the work to a Headquarters LHS Team.
  - Prioritize the fast-track review for allotments that have known impacts to biodiversity resources. BLM can prioritize management of allotments in sage-grouse habitat and those with threatened and endangered species.
  - Review data and consider outliers in LHS and investigate.
  - Spot check regional LHS decisions and supporting data.
  - Reconsider the wild horse and burro program. Currently, the BLM data does not support the allocation of management resources and decisions spent on horse removal.
- Create a transparent system for LHS review:
  - Place LHS data in a centralized public database like the RAS and AIM data.
  - An independent agency, like USGS, should regularly audit BLM LHS compliance.



- Expand on the definition of “Authorized Officer.” On each field office’s web page, clearly label the individuals who are Authorized Officers and list their contact information.

**We recommend that final rule strengthen this provision and provide additional direction on the use of AIM including:**

- Increase the number of terrestrial AIM plot points to at least one per acre of public land, and radically increase the number of riparian plot points;
  - Distribute them evenly across states;
  - Ensure that each plot has a reference condition, including riparian areas;
  - Record the cause(s) of disturbance identified at AIM sampling plots as a “core” measurement. This must be done immediately for all existing AIM plots using high resolution imagery until field determinations can be made, and henceforth for all new sample plots. The fact that the single most frequently cited cause of disturbance in the agency’s data is livestock, original field data indicators consistent with livestock-caused disturbance and photo-interpretation signs consistent with livestock impacts should be identified as having been caused by livestock until proven otherwise; and
- We recommend that BLM produce an annual report so that the public without GIS skills can see AIM trends.

**We recommend the final rule include additional guidance on the application of RAP data including:**

- Correct weighting of AIM plot points;
- Limiting its use to the ecoregion or possibly watershed scale;
- Eliminating the use of cover as an indication of range health in the RAP as it does not distinguish between native and non-native cover and that it does not distinguish between cover and ecological changes enough to show livestock impacts;
- Ensuring that local standardized allotment level data is used when RAP is used.

**Additional Comments and Recommendations**

**PEER incorporates the Western Watershed Project comments requesting that the final rule fully develop regulations to address the following issues:**

- Include regulations which incorporate NEPA into all actions that result from this rule. Provide additional regulations to ensure public comment periods, clear decision points and public transparency;
- State that conservation leases and mitigation leases do not open additional public lands to commercial livestock grazing;
- Add the requirement for field offices to create ACECs in all areas that meet the criteria to be ACECs;
- Include regulations requiring evaluation of the cumulative effect of the climate impacts of the proposed program; and,
- State that passive restoration is a conservation use.

**PEER incorporates the Native Seed Coalition comments that recommend that BLM:**

- Add a requirement that only native seeds be used in all conservation and restoration; and
- Increase planning and build up the infrastructure for the Native Seeds Commercial permitting program, the Seeds of Success Program, and the Native Seed Warehouses, all increasingly essential programs.

Thank you for the chance to comment, and we look forward to hearing more!

Best,  
Chandra

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# Attachment A

## Rangeland Analysis Platform Case Study

Deseret Allotment, Utah

Imagery from 6/2023, RAP data from 2022

The Bureau of Land Management is increasingly using Rangeland Analysis Platform (RAP) data as a source for conducting Land Health Standards evaluations. To be suitable for purposes of management, the data must be able to discriminate vegetation cover type percentages with respect to departure from reference conditions and sensitive enough to detect both degradation and recovery.

For RAP data to be suitable for purposes of management, the data must be able to discriminate vegetation cover type percentages with respect to departure from reference conditions and sensitive enough to detect both degradation and recovery. Livestock grazing impacts need to be discernable. The results of a brief test of the suitability of these data to contribute to these evaluations at active management spatial scale are provided below.

The following series of pictures are of RAP data draped over high resolution imagery of an area in the Deseret Allotment in Utah. It is important to note that BLM records identify this allotment as *meeting all land health standards*. The allotment displays severe damage to an upper stream drainage caused by overgrazing. The gully formation was caused under past and ongoing grazing management practices. Both the type and severity of obvious damage to land health is easily and quickly identifiable throughout the entire allotment in a few minutes in cases such as this-- even without AIM field data. AIM field data describes in detail vegetation and soil conditions, but would not capture the cause of degradation, even if obvious.

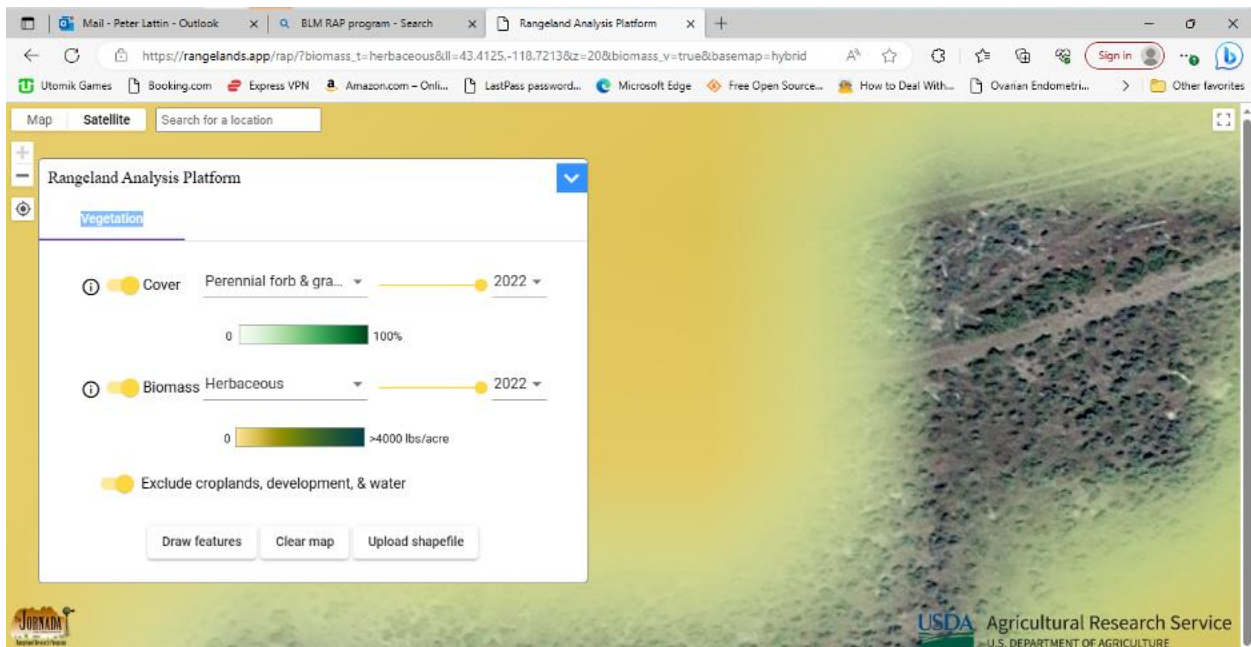


Figure 1. (Harney County, Oregon. Imagery from 2023, RAP data from 2022)



Figure 2. Severe degradation of land health caused by past and ongoing grazing management practices in a BLM grazing allotment in Utah.



Figure 3. The same location with RAP percent shrub cover data draped over it (75% transparency).



Figure 4. The same location displaying percent shrub cover data alone.



Figure 5. The same location displaying RAP percent perennial forb and grass cover data.



Figure 6. The same location showing RAP percent annual forb and grass cover data.



Figure 7. The same location showing RAP percent bare ground data.



Figure 8. The same location with RAP herbaceous biomass data draped over the high-resolution imagery for reference.



Figure 9. The same location displaying RAP herbaceous biomass data alone.

The figures above clearly demonstrate even to the untrained eye that the RAP data is simply too coarse to discern obvious differences in land cover and obvious damage to land health at the spatial scale required to support the BLM Conservation and Land Health Rule. Higher spatial resolution imagery is readily available for BLM to use. Simple photointerpretation cannot assess land health, but it can easily identify many areas that clearly fail to meet land health standards, and it can be performed quickly.

These figures reveal that even if the agency were to increase sample plot density tenfold, it would not identify where restoration or mitigation was needed, nor could it monitor restoration progress through time. The agency MUST provide the public for review, full descriptions of defensible land health assessment methods and data that they intend to use and demonstrate their efficacy to detect land health disturbance to the public and reviewers. As the images above show, the devil is in the details.