



Bureau of Land Management

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Monticello Field Office

Sent via First Class Mail to Lance Porter

February 15, 2018

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Bureau of Land Management
Monticello Field Office
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RE: SUWA Comments on the Canyon Country District Determination of No Adverse Effect for the March 2018 Oil and Gas Lease Sale

Greetings:

The Southern Utah Wilderness Alliance ("SUWA") respectfully submits the following timely comments on the Canyon Country District's determination that the leasing and development of forty-three oil and gas parcels proposed for sale at the March 2018 Oil and Gas Lease Sale would have no adverse effect on historic properties.

SUWA is a consulting party under Section 106 of the National Historic Preservation Act ("NHPA"). SUWA's members routinely use, enjoy and appreciate the public lands and resources implicated by this lease sale, including the area's significant cultural resources. SUWA members are keenly interested in the Bureau of Land Management's ("BLM") authorizations and activities in this area and would be harmed by a BLM decision to offer any of the forty-three leases at issue here.

BLM's determination that the oil and gas lease sale would have no adverse effect on historic properties is arbitrary, capricious and not in accordance with the National Historic Preservation Act and its implementing regulations. Moreover, BLM has failed to meet its obligation to make a "reasonable and good faith effort" to identify historic properties that may be affected by this undertaking. SUWA incorporates by reference the comments from other consulting parties, including but not limited to the National Trust for Historic Preservation, Utah Rock Art Research Association and Friends of Cedar Mesa.

I. BLM Must Consider Adverse Impacts of its Undertakings on Historic Properties.

Congress enacted the NHPA in 1966 to implement a broad national policy encouraging the preservation and protection of America's historic and cultural resources. See 54 U.S.C. § 300101. The heart of the NHPA is Section 106, which prohibits federal agencies from approving any federal "undertaking" unless the agency takes into account the effects of the undertaking on historic properties that are included in or eligible for inclusion in the National Register of Historic Places. 54 U.S.C. §§ 306108, 300320; see also *Pueblo of Sandia v. United States*, 50 F.3d 856, 859 (10th Cir. 1995). Section 106 is a "stop, look, and listen provision" that requires federal agencies to consider the effects of their actions and programs on historic properties and sacred sites before implementation. *Muckleshoot Indian Tribe v. U.S. Forest Serv.*, 177 F.3d 800, 805 (9th Cir. 1999).

To adequately "take into account" the impacts on archeological resources, all federal agencies must comply with binding Section 106 regulations established by the Advisory Council on Historic Preservation ("Advisory Council"). Under these regulations, the first step in the Section 106 process is for an agency to determine whether the "proposed [f]ederal action is an undertaking as defined in [Section] 800.16(y)." 36 C.F.R. § 800.3(a). Undertakings include any permit or approval authorizing use of federal lands. *Id.* § 800.16(y).

The agency next "[d]etermine[s] and document[s] the area of potential effects" and then "[r]eview[s] existing information on historic properties within [that] area." 36 C.F.R. § 800.4(a)(1)-(2). "Based on the information gathered, . . . the agency . . . shall take the steps necessary to identify historic properties within the area of potential effects." *Id.* § 800.4(b). "The agency shall make a reasonable and good faith effort to carry out appropriate identification efforts." *Id.* § 800.4(b)(1).

If the undertaking is a type of activity with the potential to affect historic properties then the agency must determine whether in fact those properties "may be affected" by the particular undertaking at hand. *Id.* § 800.4(d)(2).¹ Having identified the historic properties that may be affected, the agency considers whether the effect will be adverse, using the broad criteria and examples set forth in section 800.5(a)(1). An effect is defined broadly to include direct, indirect and/or cumulative adverse effects that might alter the characteristics that make a cultural site eligible for listing in the National Register of Historic Places. See *id.* § 800.5(a)(1); *id.* § 800.16(i); 65 Fed. Reg. 77,698, 77,712 (Dec. 12, 2000). Adverse effects include the "[p]hysical destruction of or damage to all or part of the property," as well as "[i]ntroduction of visual, atmospheric or audible elements that diminish the integrity of the property's historic significant historic features." *Id.* § 800.5(a)(2)(i) & (2)(v).

If the agency concludes that the undertaking's effects do not meet the "adverse effects" criteria – that is, the agency concludes that there *will* not be an adverse effect from the undertaking – it is

¹ The agency may also determine that there are no historic properties present or there are historic properties present but the undertaking will have no effect upon them, at which point it consults with the State Historic Preservation Officer and notifies relevant Native American tribes of its conclusion. *Id.* § 800.4(d)(1).

to document that conclusion and propose a finding of “no adverse effects.” *Id.* § 800.5(b), 800.5(d)(1).

If the agency official concludes that there *may be* an adverse effect, it engages the public and consults further with the state historic preservation officer, Native American tribes, consulting parties, and the Advisory Council in an effort to resolve the adverse effects. *Id.* §§ 800.5(d)(2), 800.6.

II. BLM Failed to Make a Reasonable and Good Faith Effort to Identify Historic Properties

As discussed above, BLM must “make a reasonable and good faith effort” to identify historic properties. 36 C.F.R. 800.4(b)(1). To do so, an agency official “*shall* take into account past planning, research and studies ... the nature and extent of potential effects on historic properties, and the likely nature and location of historic properties within the area of potential effects.” *Id.* (emphasis added). As stated in the preamble to the Section 106 regulations, knowing the historic properties at risk from an undertaking is essential: “[i]t is simply impossible for an agency to take into account the effects of its undertaking on historic properties if it does not even know what those historic properties are in the first place.” 65 Fed. Reg. 77,698, 77,715 (Dec. 12, 2000); *see also Pueblo of Sandia*, 50 F.3d at 861-62 (holding that the U.S. Forest Service failed to make a good faith effort to identify cultural resources when it concluded that a canyon did not contain traditional cultural properties despite having information to the contrary).

To satisfy its reasonable and good faith efforts, BLM must – at the very least – consider all of its existing cultural resource information. It has not done so here. BLM has recently completed field-office-wide Class I inventories with associated archaeological site predictive models in both the Moab and Monticello Field Offices. *See* BLM, Utah State Office, Cultural Resources Review for the March 2018 Canyon Country District Oil and Gas Lease Sale, 5-6 (Jan. 5, 2018) (“Cultural Report”). While archaeological models are far from perfect, they do provide information about the potential location of undiscovered sites. *Id.* at 5. BLM prepared these predictive models to “help facilitate planning efforts; for example, by identifying areas of high probability that could merit special management attention.” *See* BLM, Monticello Field Office, A Class I Cultural Resource Inventory Administered by the Bureau of Land Management, Monticello Field Office 8-1 (Sept. 2017) (Monticello Class I inventory). The predictive models are actually a series of different models – six site type models and one composite model. Cultural Report at 5. The composite model is just the site type-specific models combined into a single composite model covering the field office areas. Monticello Class I inventory, at 8-1 to 8-2.

The individual site type models provide BLM detailed information about certain specified resources (e.g. prehistoric rock art or prehistoric sheltered sites), which give BLM the tools to assess potential adverse effects from the lease sale.² As BLM notes, “the distribution of different

² *See* Monticello Class I inventory, at 8-1 (“Because the distribution of different types of cultural resources is likely to be influenced by different environmental factors—e.g., people may have strategically positioned residences in relation to food and water sources, whereas they required areas with specific geological and topographical characteristics in order to create rock art—it is useful to take site types into account in any sort of planning model

types of cultural sites is likely to be influenced by different environmental factors.” Cultural Report, at 6.³ BLM also acknowledges that it is responsible for identifying and assessing effects for all different site types. *Id.* However, rather than utilize the individual site type maps to identify and assess the potential location of undiscovered archaeological sites and potential effects to those sites, BLM relies only on the composite model map for that analysis. *See id.* at 6. BLM’s reliance on the composite model is arbitrary and inconsistent with the letter and spirit of the NHPA.

The Moab and Monticello composite model maps provide a demonstrably incomplete picture about potential historic site locations in the proposed lease sale parcels and defined area of potential effect. For example, the Moab Planning Model (composite map) predicts low and medium site probability across most of parcel 05, which BLM concludes supports a no adverse effect determination. *See* Draft Cultural Report, at 12. However, the site type models for prehistoric rock art and prehistoric open sites without features predict medium and high site probability across parcel 05, indicating that leasing parcel 05 indeed *may* affect resources in that parcel. There are similar problems for parcels 01 (historic architecture), 02 (historic architecture, prehistoric open with features, prehistoric open without features), 03 (prehistoric open without features), 04 (prehistoric open without features), and 07 (prehistoric open without features), where the composite model predicts low or medium site potential and individual site type models indicate high site potential in the parcels. *See* Maps: Moab Field Office Site Types and Composite (attached).

The same problems exist in the Monticello field office’s reliance on that office’s composite model map. For example, the Monticello composite map predicts medium and low site probability across most of parcel 38. *See* Cultural Report, app. C. This grossly understates the likelihood of historic properties on this parcel. In fact, the site type model for prehistoric open with features and prehistoric open with no features predicts high site probability across parcel 38, indicating that the lease and development of parcel 38 *may* affect resources in that parcel. *See* Map: Monticello Field Office Site Types and Composite (attached). There are similar problems for nearly all the protested parcels within the Monticello Field Office.⁴ The individual site type

.... This represents an improvement over other models in the region that did not discriminate between various prehistoric and historic site types in their modeling efforts.”) (emphasis added).

³ The composite map, however, overlooks the significance of these site-type specific environmental factors by considering several site types together.

⁴ The composite model predicts that most of the parcels have medium site potential, with interspersed areas of high and low potential. However, the site type models contradict the composite model and indicate significant areas of high potential in most of the parcels: 028 (prehistoric open with no features, prehistoric open with features), 029 (prehistoric open with no features, prehistoric open with features), 030 (prehistoric open with no features, prehistoric open with features), 031 (prehistoric open with no features, prehistoric open with features, historic architecture, historic artifact scatter), 032 (prehistoric open with no features, prehistoric open with no features, historic artifact scatter), 033 (prehistoric open with no features, prehistoric open with features, historic architecture), 034 (historic architecture, historic artifact scatter), 037 (historic architecture), 038 (prehistoric open with no features, prehistoric open with features, historic artifact scatter), 039 (prehistoric open with no features, historic architecture), 040 (historic architecture), 041 (historic architecture, historic artifact scatter), 042 (historic architecture, historic artifact scatter), 043 (historic architecture), 044 (historic architecture), 047 (prehistoric sheltered, historic architecture), 048 (prehistoric sheltered, historic architecture), 048 (historic architecture), 049 (historic architecture, historic artifact scatter), 050 (historic architecture), 051 (historic architecture). *See* Maps: Monticello Field Office Site Type and Composite.

models provide the best available information about potential locations of undiscovered sites, and give BLM more detailed information about the potential for adverse effects from this lease sale.

By relying on the Moab and Monticello composite model maps, rather than the individual site type maps, BLM is diluting the significance of individual site types that may be adversely affected by the lease sale and thus producing *false negatives* (the conclusion that leasing will not adversely affect historic properties).⁵ BLM's reliance on the Moab and Monticello model maps arbitrarily minimizes the significance of individual site types.

By deliberately ignoring the individual site type models to evaluate potential effects to historic properties BLM has failed to comply with its obligation to make a "reasonable and good faith effort" to identify historic properties. 36 C.F.R. § 800.4(b)(1); *see id.* (this identification effort should "take into account past ... research and studies ... and the likely nature and location of historic properties within the area of potential effect."). As a result, BLM has failed to make a reasonable and good faith effort to identify historic properties.

III. BLM's No Adverse Effect Determination is Unsupported and Arbitrary

NHPA regulations provide that BLM must determine whether an undertaking *may*⁶ have an adverse effect on historic properties. *See* 36 C.F.R. § 800.4(d)(2); 36 C.F.R. § 800.5(a). And, if so, take additional steps to assess and address those effects. *Id.* § 800.6. Stated differently, BLM must conclude that the undertaking will have "no adverse effects" whatsoever to historic properties – that is, no direct, indirect, or cumulative effects – to support a "no adverse effect" determination. BLM's determination here that the sale and development of the forty-three lease sale parcels will have no adverse effect on historic properties is arbitrary, capricious and contrary to the record before BLM.

a. BLM Misinterprets the Definition "Adverse Effects"

BLM relied on an arbitrarily narrow interpretation of "adverse effects" in its conclusion that the lease sale would have no adverse effect on historic properties. An "effect" is an "alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register." 36 C.F.R. § 800.16(i). The NHPA's implementing regulations broadly define the term "adverse effect." *Id.* § 800.5(a)(1). An adverse effect occurs "when an undertaking *may alter*, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association." *Id.*

⁵ For instance, areas with "high" probability for prehistoric sheltered sites or rock art (sites that are generally eligible for listing in the National Register) are assigned the same weight as site types such as historic artifact scatters (which are rarely eligible for listing in the National Register) which may have "low" probability in that same area. *See, e.g.,* Monticello Class I inventory, at 8-1 to 8-2.

⁶ Recently, the ACHP reiterated to BLM that "[a]n adverse effect finding does not need to be predicated on a certainty." *See* Letter from Reid J. Nelson, Director in the Office of Federal Agency Programs, Advisory Council on Historic Preservation, to Ester McCullough, Vernal Field Office Manager, Bureau of Land Management (Dec. 12, 2016) ("Nine Mile Canyon Letter") (attached).

(emphasis added). This includes, but is not limited to, “[i]ntroduction of visual, atmospheric or audible elements that diminish the integrity of the property’s significant historic features.” *Id.* § 800.5(a)(2)(v).

The NHPA’s implementing regulations also define the criteria for cultural sites and districts to be considered eligible for listing in the National Register for Historic Places:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association *and*

- (a) that are associated with the events that have made a significant contribution to the broad patterns of our history; or
- (b) that are associated with the lives of persons significant in our past; or
- (c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; *or*
- (d) that have yielded, or may be likely to yield, information important in prehistory or history.

36 C.F.R. § 60.4. Accordingly, to be eligible for the National Register, a cultural site must possess **both** the integrity of design, location, setting, materials, feeling, and association *and* satisfy at least one of criteria (a)-(d). *Id.*

The integrity of a site’s location, setting, and association is a prerequisite to any inclusion in the National Register. *Id.* The importance of those characteristics is not limited by the criterion under which a site would be eligible. *Id.* Thus, an adverse effect may include either an impact to a site’s characteristics under the listed criteria *or* to a site’s integrity of location, setting, feeling, or association.

Despite this clear definition, BLM inappropriately limited its consideration of adverse effects for those sites that it asserts are only eligible under Criterion D. *See, e.g.,* Cultural Report, at 8 (stating that a property’s setting is not identified as a contributing to its historic significance if that property is eligible under Criterion D). Instead, BLM itself notes that it did not evaluate potential visual and other similar indirect effects to those sites it asserts are eligible for listing under Criterion D. *Id.* at 11 (“Potential visual effects [for] sites eligible under Criterion D are not here considered potential adverse effects as a result of this undertaking because their significance lies in their data potential; changes to the integrity of setting or feeling of the historic property, and other similar indirect effects, do not ‘alter ... any of the characteristics of a historic property that qualify the property for inclusion in the National Register.’”); *see also id.* at 54 (failing to consider further analysis of setting/viewshed for the “Upper Dead Man’s” site because it was recommended eligible under Criterion D). As BLM notes, “Criterion D sites make up the vast majority of historic properties in the proposed lease parcels.” *Id.* at 7. As a result, BLM arbitrarily failed to analyze potential effects to things like setting for a “vast majority” of historic properties in the forty-three lease parcels. *Id.*

Furthermore, BLM's arbitrarily narrow definition of "adverse effects" ignores the reality that generally sites are not randomly located across the landscape. Sites often reflect conscious decisions and actions by individuals responding to environmental variables, cultural influences, and community preferences. *Id.* at 8; *see also* Monticello Class I inventory, at 8-1. They are interrelated, part of a cultural landscape. In such a landscape, an indirect effect to one site may adversely affect the entire cultural landscape.

b. BLM Failed to Fully Account for Potential Adverse Effects From Reasonably Foreseeable Development

BLM inappropriately limited the scope of its analysis of reasonably foreseeable development by claiming that "leasing is an administrative action with no directly associated ground disturbance." Cultural Report, at 3. However, as the Advisory Council has noted, "a leasing decision can narrow the 'broad range of alternatives' available to avoid, minimize or mitigate any adverse effects that may result from activities carried out under the lease." *See* Nine Mile Canyon Letter, at 1. Furthermore, "[t]he purpose of the lease is to give the lessee the right to use the leased land to explore for, drill for, extract, remove, and dispose of oil and gas deposits." *Id.* at 2. Accordingly, BLM must account for the full range of potential adverse effects at the leasing stage. *Id.* This is especially important in areas, "where the presence of high concentrations of historic properties is likely even if presently unknown." *Id.* BLM has not adequately accounted for those potential adverse effects.

Similar to Nine Mile Canyon, many of the lease parcels at issue are incredibly rich in cultural resources, especially those within the Monticello field office near Alkali Ridge, Montezuma Canyon and Recapture Canyon.⁷ The sites on the various parcels "represent the breadth of human activity over the depth of the prehistoric and historic human occupation of the parcels." Cultural Report, at 14. Known sites include Ancestral Puebloan sites; prehistoric short term camps, activity areas, and rock art; Navajo sweat houses and hogans, and artifact scatters. *Id.* at 76. There are 1282 documented sites in the parcels, 937 of which are eligible for listing in the National Register. *Id.* In Parcel 38 alone, there are 206 sites 145 of which are eligible. *Id.* at 53-58. There are an additional 228 sites within the Area of Potential Effect of Parcel 38. *Id.* at 53. The predictive models further indicate that the presence of high concentrations of historic properties is likely throughout many of the parcels. *See generally id.* app. C.

⁷ Compare BLM, Utah State Office, Summary Report of Cultural Resource Inspection, November 2016 Oil and Gas Lease Records Search, 5-6 (July 12, 2016) (excerpts attached) (identifying 44 cultural sites in parcels 9 and 10 of the Vernal field office's November 2016 lease sale, 41 of which are eligible for listing in the National Register) with Cultural Report, at 53 (identifying 206 recorded sites in parcel 38 alone of the Canyon Country District lease sale, 145 of which are eligible listing in the National Register). In the November 2016 lease sale, BLM decided to defer lease parcels 9 and 10 because of potential adverse effects to historic properties from oil and gas development on those parcels. *See* Nine Mile Canyon Letter, at 1. The Advisory Council noted that Nine Mile Canyon is renowned for its "unique collection of petroglyphs and other prehistoric sites." *Id.* The parcels at issue here similarly encompass a unique and world-renowned collection of historic properties. *See, e.g.,* BLM, Monticello Field Office Proposed Resource Management Plan and Final Environmental Impact Statement, 3-27 (Aug. 2008) (justifying the designation of the Alkali Ridge Area of Critical Environmental Concern because of the area's "significant diversity of cultural sites; large Pueblo I sites ... [l]arge pueblos with complex architecture and connecting prehistorical roads.").

As BLM's Environmental Analysis makes clear, reasonably foreseeable development includes the use of bulldozers, scrapers, graders, and drilling rigs to construct well pads and maintenance facilities, construct or improve roads, and drill. BLM, Environmental Assessment, DOI-BLM-UT0Y010-2017-0240-EA, March 2018 Competitive Oil and Gas Lease Sale, 9-11 (Nov. 2017). Development would also lead to increased use of roads by both industrial and recreational traffic. *Id.* at 38. The use of bulldozers, scrapers, and graders could directly damage historic properties. Increased use of roads from industrial and recreational traffic could increase dust impacts to sensitive rock art located near those roads and lead to potential vandalism and looting. In addition, introducing industrial equipment into a wild landscape may adversely affect an historic property's setting, feeling, and association.

BLM does not provide any support for its conclusion that "topographic complexity" and "judicious placement" of disturbances will avoid adverse effects. Cultural Report, at 77. While "judicious placement" of a well may protect a site from certain visual impacts, it will not necessarily negate impacts to "atmospheric or audible elements" such as those contemplated by 36 C.F.R. § 800.5(a)(2)(v). BLM fails to account for these kinds of effects in its parcel-by-parcel analysis. Furthermore, "topographic complexity" indicates that there *may* be adverse effects to cultural resources. Topographic complexity limits the potential locations for wells and access roads, giving BLM less flexibility in directing well placement to avoid potential adverse effects from eventual development on the lease.

In addition, BLM's viewshed analysis does not support its conclusion that there will be no adverse effect to historic properties from reasonably foreseeable development. First, BLM's viewshed analysis is inaccurate. BLM states that it conducted viewshed analysis on certain community sites from the point of view of a six-foot tall observer. Cultural Report, at 12. When SUWA ran that same viewshed analysis,⁸ it found that BLM's analysis underrepresented the acreage of the various parcels that would be visible from the community sites. For example, in Parcel 32, BLM found that 164 acres of the parcel would be visible from the "Five Acre Ruin" site provided by Friends of Cedar Mesa. Cultural Report, at 45. BLM further noted that only 89 of those acres are within a half mile of site and would thus actually be visible based on BLM's area of potential effect.

When SUWA ran the same analysis, it found that at least 638 acres of parcel 32 would be visible from the "Five Acre Ruin." *See* SUWA Viewshed Map, Parcel 32 (attached). About 330 acres of that is within a half mile of the site. *Id.* SUWA found similar underrepresentation of viewshed impacts in a random sampling of the provided analyses. *Compare* Cultural Report, at 32 (stating that only 319 acres of Parcel 29 would be visible from Spirit Dog Great House Complex site and only 39 acres fall within a half mile of the site) *with* SUWA Viewshed Map, parcel 29 (attached) (showing that 527 acres would be visible from the site, 125 acres of which is within a half mile); *compare* Cultural Report, at 54 (asserting that only 369 acres of parcel 38 would be visible from the Lower Dead Man's site and only 64 acres fall within a half mile of the site) *with* SUWA

⁸ Like BLM, SUWA calculated the viewsheds using ARCGIS 10, from the point of view of a six foot tall observer standing on the "community site" point. SUWA generated the viewsheds using a digital elevation model as the surface over which the viewer would be looking. The six foot tall observer point of view was implemented by creating an OFFSETA field in the attribute table.

Viewshed Map, Parcel 38 (showing that 626 acres of parcel 38 would be visible from the Lower Dead Man's site, 214 acres of which are within a half mile).

Second, BLM's viewshed analysis does not account for the presence of a 40 foot tall pumpjack and associated storage tanks. *See* Cultural Report, at 12, 4. That pumpjack would be visible from significantly more areas of the parcel than BLM analyzed.

Furthermore, BLM's passive language – that a given parcel “has the *potential* to accommodate a well pad” and associated development – rather than a statement that a parcel affirmatively will accommodate reasonably foreseeable development only highlights BLM's uncertainty regarding whether development on certain leases *may* result in adverse effects to historic properties. *See, e.g.,* Cultural Report, at 58, 60, 62, 63, 65, 67, 69, 72, 73. If BLM is unsure whether a given lease parcel can accommodate a well without adverse effects to historic properties, then it logically follows that BLM cannot affirmatively conclude that lease the parcel *will not* have an adverse effect on historic properties.

c. BLM Failed to Analyze Cumulative Impacts

BLM's analysis also has not accounted for potential cumulative impacts to historic properties from this lease sale. BLM notes that culturally-rich areas such as Recapture Canyon, Alkali Ridge and Montezuma Canyon have been subject to some modern development, including transmission lines, modern architecture and roads. Cultural Report, at 4. It also highlights that sixty-four wells have been previously developed in the parcels supposedly without adverse effects. *Id.* at 3. However, rather than utilize this information to inform its adverse effects analysis, BLM asserts that this supports its contention that reasonably foreseeable development can occur without adverse effects to historic properties.⁹ *Id.* at 76.

For instance, Parcel 34 contains 40 known cultural sites, 30 of which are recommended eligible for listing in the National Register. *Id.* at 49. These sites include 9 that are interpreted as Ancestral Puebloan habitations. *Id.* The Monticello Field Office Model (composite) also predicts high and medium site probability through the parcel. BLM contends that two plugged and abandoned wells on the parcel support its no adverse effects determination. *Id.* at 49-50. The agency makes no attempt to analyze how those two wells, in combination with reasonably foreseeable development in the parcel, might affect the historic properties within the parcel. *Id.*

⁹ BLM provides no support for its statements that the previously-developed wells have resulted in no adverse effects to historic properties. In 2000, the Advisory Council published new regulations guiding the Section 106 process. *See* Advisory Council on Historic Preservation, Protection of Historic Properties, 65 Fed. Reg. 77698 (Dec. 12, 2000). Those new regulations clarified that agencies must account for both direct and indirect effects when evaluating potential impacts to historic properties from federal undertakings. *See* Advisory Council on Historic Preservation, Protection of Historic Properties, 64 Fed. Reg. 27044, 27064 (May 18, 1999). Of the wells within Monticello field office parcels, at least 53 were developed before 2001 – before BLM was required to consider potential indirect effects in adverse effect evaluations. *See generally* Utah Department of Natural Resources Division of Oil, Gas and Mining, Data Mining, <https://datamining.ogm.utah.gov/> (last visited Feb. 15, 2018) (showing that the BLM approved development for most of the now plugged and abandoned wells in the lease sale parcels at issue between 1957 and 1990). Thus, BLM's reliance on pre-2000 development to support its alleged “no adverse effects” determination is unavailing.

Moreover, the notion that there has been development in the past that did not result in adverse effects to historic properties does not necessarily lead to the conclusion that future development on these parcels similarly would not adversely affect the historic properties contained therein. Instead, the presence of prior development highlights BLM's duty to consider the cumulative impacts of additional development. BLM makes no attempt to analyze these potential cumulative effects. This problem pervades the cultural report. *See, e.g.*, Cultural Report, at 53-58 (alleging that reasonably foreseeable development in a parcel with 206 recorded sites, 145 of which are eligible listing in the National Register would not adversely affect historic properties because, in part, two plugged and abandoned wells were allegedly developed without adverse effects); *id.* at 62-63 (asserting that a parcel with 30 known, eligible sites and predicted high site probability could be developed without adverse effects to historic properties because the parcel contains 6 plugged and abandoned wells and failing to analyze the cumulative impact reasonably foreseeable development may have on a partially-impacted area). As explained above, 36 C.F.R. §800.5 broadly defines adverse effects to include direct, indirect and cumulative effects. Thus BLM's assessment of whether this lease sale *may* adversely affect historic properties must expressly analyze and account for potential cumulative effects.

d. BLM Ignores its Own Cultural Resource Information

In some instances, BLM's determination of no adverse effect is directly contradicted by its own cultural resource information that shows the contrary. For instance, BLM acknowledges that parcel 12 has minimal survey coverage (2%) and relies on the Moab composite model to supplement its information. Cultural Report, at 25. That model predicts that parcel 12 contains "medium and high site probability across most of the parcel." *Id.* BLM then inexplicably states that the "predicted medium and low site density across substantial ... portions of the parcel" would allow reasonably foreseeable development without the potential for adverse effects to cultural resources. *Id.* That conclusion is arbitrary. BLM simply ignores the model's prediction of high site density throughout large portions of parcel 12. *Id.*; *see also, e.g.*, Cultural Report, at 36 (concluding that the cultural resources in parcel 29 would not be adversely affected by reasonably foreseeable development despite the presence of 59 known sites, 52 of which are recommended eligible and the Monticello Planning Model's prediction of high and medium site probability across most of the parcel).

Compounding the problem, BLM ignores the more specific site type models in its determination of effect. Those site type models indicate that there are many parcels where there may be adverse effects. *See supra* section II.

e. Leasing Stipulations Do Not Support BLM's No Adverse Effect Determination

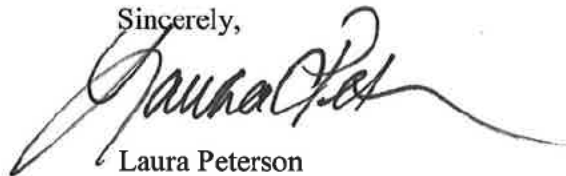
The existence of discretionary lease stipulations does not support BLM's determination of no adverse effect. While BLM can, in some instances, use conditions – like stipulations – to support its no adverse effect determination, 36 C.F.R. § 800.5(b), those conditions must "ensure the long-term preservation" of historic properties. *Id.* § 800.5(a)(2)(vii). The stipulations BLM relies upon here provide no such assurance. The Standard Cultural Resource Stipulation, H-3120-1 – which is attached to all parcels in the lease sale – only states that leases may contain historic

properties and BLM *may* require modification to exploration and development proposals. Cultural Report, app. G at 1. BLM does not maintain the authority to preclude all surface disturbance. Furthermore the controlled surface use stipulations – both for Cultural (UT-S-170) and Alkali Ridge ACEC (UT-S-17) – allow exceptions to be granted if BLM determines that avoidance of direct and indirect impacts to historic properties is not feasible. *Id.* app. G at 2, 3-4. BLM cannot preclude – and may expressly allow – impacts to historic properties. Accordingly, lease stipulations do not support BLM’s determination of no adverse effect.

For the foregoing reasons, SUWA disagrees with BLM’s conclusion that leasing these forty-three parcels would have no adverse effect on cultural resources.

SUWA appreciates the opportunity to provide these comments and also appreciates BLM’s attention to these concerns.

Sincerely,

A handwritten signature in black ink, appearing to read "Laura Peterson", with a long, sweeping horizontal line extending to the right.

Laura Peterson
Stephen Bloch



Preserving America's Heritage

December 12, 2016

Ester McCullough
Vernal Field Office Manager
Bureau of Land Management
Vernal Field Office
170 South 500 East
Vernal, UT 84078

*Re: Review of "no adverse effect" finding
Vernal Field Office Gas and Oil Lease Sales
Uintah and Duchesne Counties, Utah*

Dear Ms. McCullough:

On November 10, 2016, the Advisory Council on Historic Preservation (ACHP) received the Bureau of Land Management's (BLM) request for dispute resolution and the supporting documentation regarding the finding of "no adverse effect" for the referenced undertaking on a property listed or eligible for listing in the National Register of Historic Places. We were invited to comment pursuant to our regulations, "Protection of Historic Properties" (36 CFR Part 800), and in particular the sections on disagreement with, and Council review of, findings at 36 CFR §800.5(c)(2) and (3). We have reviewed the information you provided, which included the objections from the Nine Mile Canyon Coalition, the Colorado Plateau Archaeological Alliance with the Southern Utah Wilderness Alliance (collectively CPAA), and the Hopi Tribe. Since receiving this request for dispute resolution, the BLM has continued consultation and as a result, has agreed to defer the gas and oil leases in question proposed for the Nine Mile Canyon, which is not only world renowned for its unique collection of petroglyphs and other prehistoric sites, but also home to historic ranches. We appreciate the agency's efforts to resolve the issues, but as objections to some parcel sales and the BLM's determination of effect regarding these sales remain, we provide the following advisory comments.

First, the BLM acknowledges that leasing is an undertaking and, as such, has initiated Section 106 consultation. We agree that this is an undertaking subject to review under Section 106. The BLM argues that "The act of leasing parcels will not have an adverse effect on historic properties." As we have stated in the past for similar undertakings, a leasing decision can narrow the "broad range of alternatives" available to avoid, minimize or mitigate any adverse effects that may result from activities carried out under the lease. The ACHP membership's comments in a recent Forest Service and BLM case, "Regarding the Release from Suspension of the Permit to Drill by Solenex LLC in Lewis and Clark National Forest, Montana," sent to the Secretary of

ADVISORY COUNCIL ON HISTORIC PRESERVATION

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Phone: 202-517-0200 • Fax: 202-517-6381 • achp@achp.gov • www.achp.gov

Interior and Secretary of Agriculture on September 21, 2015, support this position. That comment stated in part:

For the Section 106 process to work effectively, the agency's consideration of a 'broad range of alternatives' must include avoidance alternatives, if they exist. . . . For this reason, the ACHP urges agencies to develop policies and procedures that require the initiation of Section 106 consultation prior to leasing decisions.

Based on this position, the ACHP does not agree that, in all circumstances and regardless of location, leasing will not have an adverse effect on historic properties. The purpose of the lease is to give the lessee the right to use the leased land to explore for, drill for, extract, remove, and dispose of oil and gas deposits. Such actions, as acknowledged by the BLM, are a reasonably foreseeable consequence of leasing and therefore must be considered during this Section 106 review. When an agency is proposing lease sales in an area of known significant historic properties like Nine Mile Canyon, or in adjacent areas where the presence of high concentrations of historic properties is likely even if presently unknown, it is our position that the BLM cannot assume that leasing will have no adverse effect on historic properties. An adverse effect finding does not need to be predicated on certainty. The regulations at 36 CFR §800.4(d)(2) "If the agency official finds that there are historic properties which may be affected by the undertaking, the agency official shall notify all consulting parties, including Indian tribes or Native Hawaiian organizations, invite their views on the effects and assess adverse effects, if any, in accordance with § 800.5" (emphasis added). While we are not familiar with the nearby Argyle Canyon, the CPAA presents information about similar concentrations of historic properties there (and in their letter to the BLM dated December 8, about potential historic properties in other nearby parcels) that may need to be identified and potential effects considered prior to the issuance of any lease.

We appreciate that the BLM plan was to lease certain parcels in Nine Mile Canyon with a No Surface Occupancy stipulation. However, the BLM has asserted that there is no guarantee that these leases will not be accessed from private land. By acknowledging that the lessee may want to access the minerals from private land in the canyon, it logically follows that there is the potential for adverse effects of this reasonably foreseeable event. In this situation, we would argue that there is a reasonable probability for the lease to result in adverse effects on historic properties (as outlined in some of the consulting parties' submissions), including those that could arise from the use of pads for directional drilling from private lands in the bottom of the canyon, such as increased traffic and noise.

In specific localities with a special sensitivity to direct, indirect, and cumulative effects, like the world class resources in this area of Utah, the most appropriate way to address such potential adverse effects would be to develop a programmatic agreement (PA) that would guide consideration of historic properties in lease development and issuance.

Finally, we would like to point out the importance of following the sequential steps in the Section 106 consultation process in undertakings like this. The BLM sent the finding of "no adverse effect" to the State Historic Preservation Officer and consulting parties prior to actually consulting with the consulting parties. The regulations call for the BLM to "seek information, as appropriate, from consulting parties, and other individuals and organizations likely to have

knowledge of, or concerns with, historic properties in the area, and identify issues relating to the undertaking's potential effects on historic properties" in reaching its finding of no adverse effect, not after (see 36 CFR §800.4(a)(3)). In addition, after submitting the information to the ACHP for dispute resolution, the BLM neglected to "concurrently notify all consulting parties that such a submission has been made" as called for in the regulations at 36 CFR §800.5(c)(2)(i). Given the high level of interest by consulting parties in the numerous historic properties in Nine Mile Canyon and on-going consultation related to the West Tavaputs Programmatic Agreement, it is particularly important that BLM follow the procedural steps in order to ensure its decisions have been reached in consultation with the consulting parties.

In conclusion, the ACHP does not agree with BLM's finding of "no adverse effect" for the proposed lease sales in this recognized and sensitive area with an abundance of historic properties. While we appreciate that the BLM has deferred the lease sales in Nine Mile Canyon, because of the potential to adversely affect historic properties in direct, indirect, and cumulative ways, we continue to believe a finding of adverse effects for those particular leases is appropriate and encourage the BLM to consult on a PA prior to their sale. We understand the scheduling issues this may cause and will work with you to expedite the consultation process to the degree possible. Working with you to establish a PA in this particular circumstance will position us to better understand the issues and challenges of leasing, and allow us all to consider other compliance mechanisms that may be effective to deal with leases in the future.

The ACHP's opinion is advisory in this case and the BLM must take it into account in making a final decision. According to the regulations (at 36 CFR § 800.5(c)(3)(ii)(B)),

If the agency official's initial finding [of no adverse effect] will be revised, the agency official shall proceed in accordance with the revised finding. If the final decision of the agency is to affirm the initial finding of no adverse effect, once the summary of the decision has been sent to the Council, the SHPO/THPO, and the consulting parties, the agency official's responsibilities under section 106 [for this undertaking] are fulfilled.

Thank you for the opportunity to comment on this dispute regarding effects to historic properties. If you have any questions or require further assistance of the ACHP, please contact Nancy J. Brown, ACHP's liaison to the BLM, at 202-517-0209 or by e-mail at nbrown@achp.gov.

Sincerely,



Reid J. Nelson
Director
Office of Federal Agency Programs
Advisory Council on Historic Preservation



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Green River District Office

170 South 500 East

Vernal, UT 84078

<http://www.blm.gov/ut/st/en/fo/vernal.html>



AUG 16 2016

IN REPLY REFER TO:
8143 (UTG010)

Ray Bloxham
Southern Utah Wilderness Alliance (SUWA)
425 E 100 S
Salt Lake City, UT 84111

RE: BLM Vernal Field Office November 2016 Oil and Gas Lease Records Search

Dear Mr. Bloxham:

The Bureau of Land Management-Vernal Field Office (BLM-VFO) would like to invite your organization to serve as a consulting party under Section 106 of the National Historic Preservation Act (NHPA) and 36 CFR 800.2(c) for the November 2016 Oil and Gas Lease Sale. The BLM-VFO requests your review and comment on our determination of effect on cultural resources for this undertaking. Please find an enclosed copy of the *November 2016 Oil and Gas Lease Records Search*.

The BLM-VFO will offer twenty-eight parcels located in the Vernal Field Office, totaling 12,207.38 acres, for competitive oil and gas lease sale in November 2016. Proposed parcels include land managed by the BLM-VFO and private land owners. Cultural resources on the nominated parcels would not be affected by the issuance of leases. However, the issuance of leases does convey an expectation that development would occur. Therefore, the lease sale has the potential to affect properties eligible to the National Register of Historic Places (NRHP) (historic properties) and is thus an undertaking as defined in 36 CFR 800.16(y). The Area of Potential Effects (APE) is the area bounded by each of the twenty-eight parcels. The enclosed report details effects to cultural resources for all proposed parcels.

Based on the results from the records search and the analysis of existing cultural resource data within the APE of the November 2016 competitive oil and gas lease sale the BLM has fulfilled its requirements to identify historic properties as stated in 36 CFR 800.4 of Section 106 of the National Historic Preservation Act. As a result, the BLM determines that reasonable development (one 5 acre well pad) could occur on any of the proposed parcels with no adverse effect to historic properties.

We request your comments regarding our determination of effect. If you have questions or concerns please contact BLM-VFO archaeologist David Christensen. Mr. Christensen may be reached by email at dchristensen@blm.gov, phone: (435)781-3423 or the following address:

BLM Vernal field Office
Attn: David Christensen
170 South 500 East
Vernal, Utah 84078

Sincerely,

Michelle Brown
Assistant Field Manager
Renewable Resources

Enclosure(s): November 2016 Oil and Gas Lease Records Search

cc:

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
UTAH STATE OFFICE



Summary Report of Cultural Resources Inspection

Report Title: November 2016 Oil and Gas Lease Records Search **Report Date:** July 12, 2016

Date(s) of Survey: Analysis and Records Search

Development Company: BLM Utah State Office

Responsible Institution: BLM Utah State Office

Responsible Individuals

Principle Investigator: David Christensen

Field Supervisor/Report Author: David Christensen

BLM Field Office: Vernal **Counties:** Uintah and Duchesne

Lease Parcel Locations

Multiple: See attached Maps

Record Search:

Location of Records Search: Vernal Field Office/BLM

Date of Record Search: 05/09/2016, 05/11/2016, 05/16/2016, 05/17/2016, 06/06/2016, 8/10/2016

Project Description

The Bureau of Land Management Utah State Office (BLM) will offer twenty-eight parcels located in the Vernal Field Office, totaling 12,207.38 acres, for competitive oil and gas lease sale in November 2016. The lease sale does not authorize development of specific well pads or other oil and gas facilities, but the BLM cannot deny all surface use of a lease unless the lease is issued with a No Surface Occupancy (NSO) stipulation. The lease sale has the potential to effect cultural resources by obligating the BLM to allow some oil and gas development within a leased parcel under most circumstances. Therefore, the lease sale has the potential to affect properties eligible to the National Register of Historic Places (NRHP) (historic properties) and is thus an undertaking as defined in 36 CFR 800.16(y). The Area of Potential Effects (APE) is the area bounded by each of the 28 parcels. An additional search for historic properties within one mile of each parcel was conducted to better understand the number of sites in a geographic area and potential for indirect effects due to parcel development.

It should be noted that 101 parcels were originally proposed for the November 2016 oil and gas

leasing, but 73 were deferred from leasing during the BLM's compliance process. Of the twenty-eight remaining parcels, seven of them have at least one site eligible for the NRHP within the parcel boundary. One parcel, 009, has 37 eligible sites and the other six parcels have four or fewer eligible sites. The remaining twenty-one parcels have no currently identified historic properties; however, most of those parcels have known recorded sites within one mile of the parcel boundary. For example, even though parcels 069 and 071 have no identified eligible sites, there are forty or more sites within one mile of their boundary.

Description of Identification Procedures:

Procedures for Literature Search

BLM archaeologist, David Christensen, completed a literature search at the Vernal Field Office and State Historic Preservation Office starting in May of 2016. The purpose of the search was to document the previously completed inventories and documented sites within the APE. The literature search included a review and analysis of cultural resource data from the Vernal Field Office cultural resources site files and geodatabase, the Utah Division of State History cultural resource geodatabase (Preservation Pro), and General Land Office plats. Using GIS software, BLM combined the cultural data from these multiple sources and analyzed the sites and projects located within and near the twenty-eight parcels. Many of the projects in the cultural resource geodatabase are digitized as lines without a defined width, making it difficult to calculate the area inventoried. In the case that a project report was not available the BLM has made the assumption that all inventories represented as lines cover a 30 meter width along the length of each line. The BLM combined the calculated project line areas and project polygon areas to equal the total area inventoried within each parcel. BLM then used the total inventoried area and the area of the parcels to calculate the percentage of cultural resource inventory coverage for each parcel. Sixty-four cultural resource inventories were conducted within the 28 parcels since 1979. This report summarizes the results of the literature review; Appendix A and B detail specific project and site data for each parcel. Appendix A summarizes the projects completed in the APE, the numbers of sites documented, and number of sites within one mile of each parcel. Seventy-six sites have been documented within the parcels since the 1950s. Fifty sites are determined eligible for the NRHP, fourteen are not eligible, five are unevaluated and seven are undetermined per the Utah State Historic Preservation Office (SHPO). Appendix B summarizes the sites located in the APE, and sites within one mile of the APE.

Consultation and Public Participation

The BLM sent a letter to the SHPO on May 24, 2016 describing the undertaking and inquiring about consulting parties. The SHPO responded with a letter dated June 3, 2016 acknowledging the undertaking and suggesting additional consulting parties. A second letter will be sent to SHPO including this report. A letter and a redacted project report will be sent to consulting parties. On May 24, 2016 the BLM sent consultation letters and a map of the lease parcels to: the Eastern Shoshone Tribe, Northwest Band Shoshone, Ute Indian Tribe, Goshute Indian Tribe, Ute Mountain Ute Tribe, Southern Ute Tribe, White Mesa Ute Tribe, Laguna Pueblo Tribe, Santa Clara Pueblo Tribe, Hopi Tribe, Zia Pueblo Tribe, Pueblo of Jemez Tribe, and the Navajo

Nation. The BLM received one response from the Hopi Tribe dated June 6, 2016 requesting more information. Since the May 24th letter to the tribes several parcels have been deferred and other changes have been made to the lease sale. A second letter along with a redacted project report will be sent to the tribes. Consultation with the SHPO and the Native American Tribes is ongoing throughout the lease sale process.

Public participation for the November 2016 competitive oil and gas lease sale is being done through the National Environmental Policy Act process. The public comment period for the draft Environmental Assessment was open thirty days for public comment.

Description of Findings

Lease sale parcels are located throughout the Vernal Field Office. Parcels are grouped in five general geographic areas (see Appendix D for specific map details). Parcels 069, 070, 071, 093, 094, 103, and 142 are located in Uintah County north of Vernal, UT near Steinaker Reservoir and in southern Ashley Valley south southeast of Vernal. Parcels 105, 121 and 122 are in eastern Uintah County northwest and southwest of Bonanza, UT. Parcel 123 is in Duchesne County west of Roosevelt, UT near Big Sand Wash. Parcels 004, 005, 006, 009, 010, 012, 013, 014, 015, 016 and 151 are in southern Duchesne County north of the West Tavaputs Plateau near Nine Mile Canyon and Wells Draw Road. Parcels 032, 038, 039, 049, 067 and 152 are located in southeast Duchesne County and east central Uintah County; east and west of the Green River. Vegetation in the region ranges from pinyon-juniper-conifer forests in the higher altitudes to sagebrush-desert shrub in lower regions. Between 1979 and 2016, sixty-four cultural resource inventories were completed in these twenty-eight parcels in advance of seismic oil and gas exploration, oil and gas operations, habitat restoration, and infrastructure development projects. Archaeologists completed 1,058.67 acres of survey within the 12,201.38 total acres of proposed lease sale lands totaling 8.67% of the total area. Seventy-six sites have been documented within the parcels since the 1950s. Fifty sites are determined eligible for the NRHP, fourteen are not eligible, five are unevaluated and seven are undetermined. Approximately 500 additional sites are within one mile of parcel boundaries; two hundred or more in Nine Mile Canyon near parcels 009 and 010. The majority of these sites are eligible for the NRHP.

Parcels with Identified Cultural Resources

Parcels 009 and 010 are adjacent to and part of Nine Mile Canyon which is an area of significant and dense archaeological resources, including prehistoric rock art, camp, and village sites as well as historic sites related to ranching, homesteading, communications, and transportation. Several Native American tribes claim Nine Mile Canyon as part of their ancestral homeland, and the Hopi Tribe considers the canyon to be traditionally significant.

Parcel 009 is located in T11S, R14E, Section 25, 26 and 35; Currant Canyon, UT 1:24,000 topographic map; Duchesne County (see Appendix D, Parcel 009 Map). There are a total of 837.61 acres in this parcel. Four cultural resource inventories have been completed within parcel 009, resulting in 13% survey coverage. Thirty-seven archaeological sites have been previously documented within the parcel (see Appendix B for details); all thirty-seven sites have been determined eligible for the NRHP. Twenty-nine sites are rock art sites; several have associated masonry and architectural features. Five sites are prehistoric architectural and storage structures.

Two sites are artifact scatters with lithic and ceramic components. One site contains storage cists and a burial. There are six sites with historic components; mostly inscriptions and a section of an historic cattle trail. Many of the prehistoric sites are associated with the Fremont culture with one site containing a Ute/Paiute component. Historic inscriptions and the cattle trail are associated with ranching and traveling the freight road from Price to the Uintah Basin during the mid-1800s to early 1900s. Approximately 100 additional NRHP eligible sites are located within one mile of parcel 009.

Parcel 009 is located entirely on lands administered by BLM and entirely within the Nine Mile Canyon Area of Critical Environmental Concern (ACEC). The entirety of the Nine Mile Canyon ACEC is stipulated as No Surface Occupancy (NSO) for oil and gas exploration and development. If leased, there will be no surface disturbance as a result of any reasonably foreseeable oil and gas exploration or development within Parcel 009. Therefore, BLM determines that leasing Parcel 009 will have no adverse effects to historic properties.

Parcel 010 is located in T11S, R14E, Section 27, 28, 33 and 34; Currant Canyon, UT 1:24,000 topographic map; Duchesne County (see Appendix D, Parcel 010 Map). There are a total of 717.37 acres in this parcel. Five cultural resource inventories have been completed resulting in approximately 14% survey coverage including a recent 2016 survey report that has not been completed yet. Seven archaeological sites have been previously documented within the parcel. Sites 42Dc2643, 42Dc2754, 42Dc2900 and 42Dc3426 have been determined eligible for the NRHP. Site 42Dc405 is not eligible and two new sites were recently discovered, but have not been officially recorded. Site 42Dc2643 and the two potentially eligible sites are prehistoric rock art sites. 42Dc2754 is a prehistoric storage structure. 42Dc3426 and 42Dc2900 are a historic ranch and a section of a historic telegraph line. One of the unrecorded rock art sites appears to be Ute. The other rock art sites have not been culturally associated with any group of people. The historic ranch and telegraph date to the mid-1800s and early 1900s ranching and communications. Approximately 100 additional NRHP eligible sites are located within one mile of parcel 010.

Like Parcel 009, Parcel 010 is located entirely on lands administered by BLM, is entirely within the Nine Mile Canyon ACEC, and is NSO. If leased, there will be no surface disturbance as a result of any reasonably foreseeable oil and gas exploration or development within Parcel 010. Therefore, BLM determines that leasing Parcel 010 will have no adverse effects to historic properties.

Parcel 014 is located in T10S, R15E, Section 17, 19, 20, 29 and 30; Anthro Mountain NE and Gilsonite Draw, UT 1:24,000 topographic map; Duchesne County (see Appendix D, Parcel 014 Map). There are a total of 2,557.42 acres in this parcel. Ten cultural resource inventories have been completed resulting in 12% survey coverage. Ten archaeological sites have been previously documented within the parcel. Three sites, 42Dc1304, 42Dc564 and 42Dc568, have been determined eligible for the NRHP. These sites include prehistoric lithic scatters and manufacturing areas. Sites in this parcel that are not eligible for the NRHP include prehistoric lithic scatters, historic rock cairns, and a historic camp. There are forty or more archaeological sites within one mile of Parcel 014. Those sites include mostly lithic scatters, a rock shelter, rock art, and historic trash scatters. Approximately 50% of those sites are eligible sites.

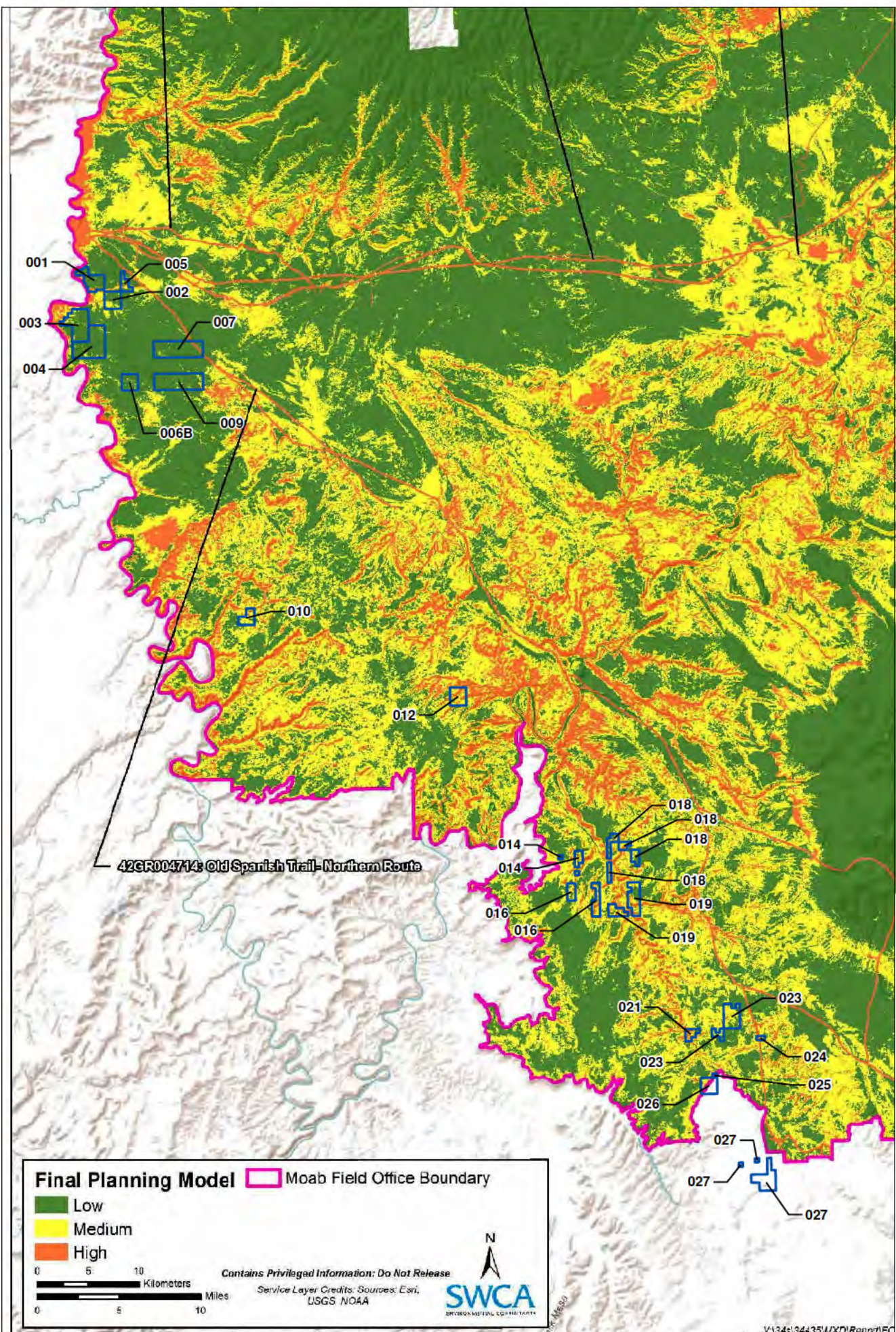


Figure 8-9. Final planning model created by intuitively adding the Old Spanish Trail and historic linear sites to the high se

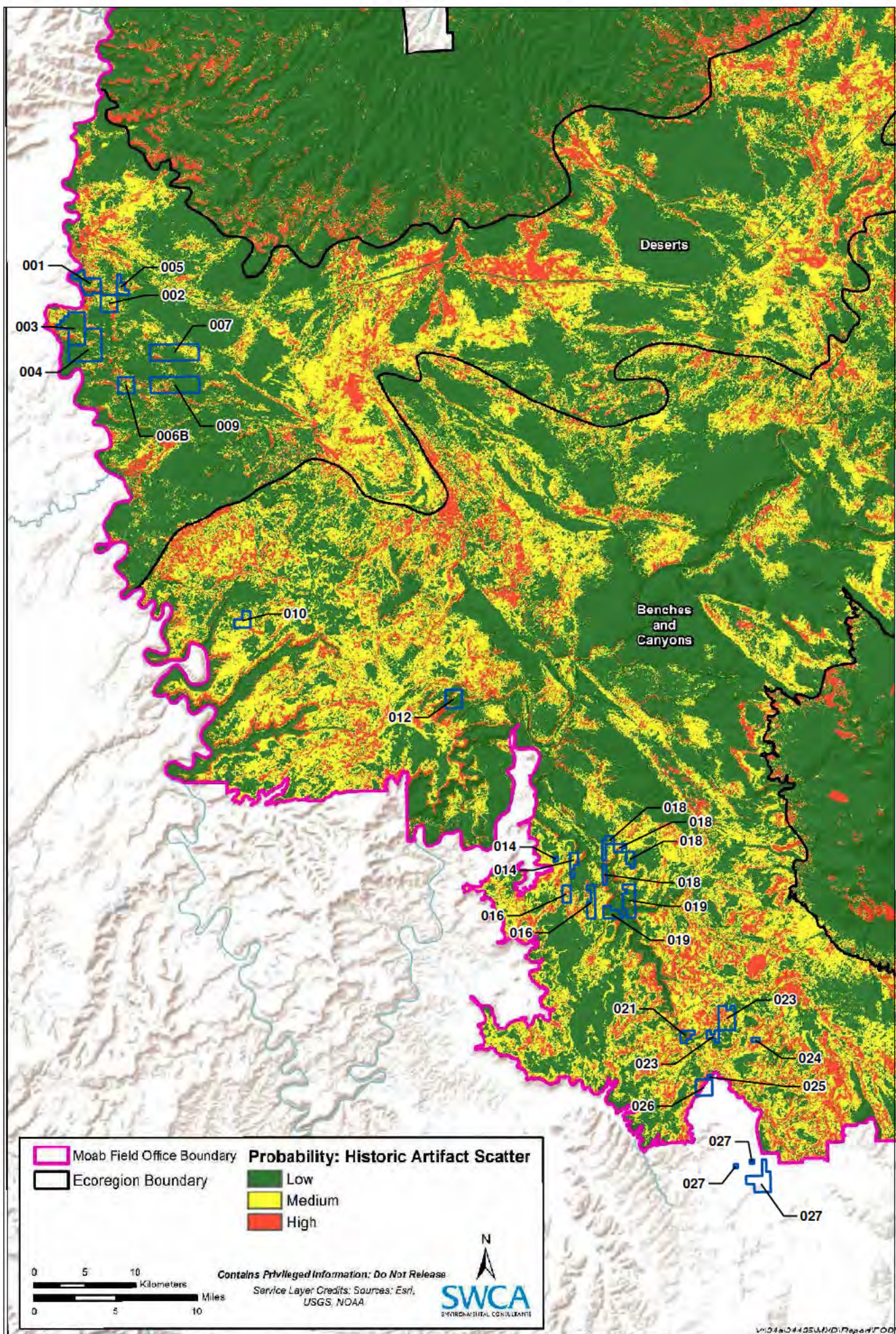


Figure 8-3. Probability map for Historic Artifact Scatter sites.

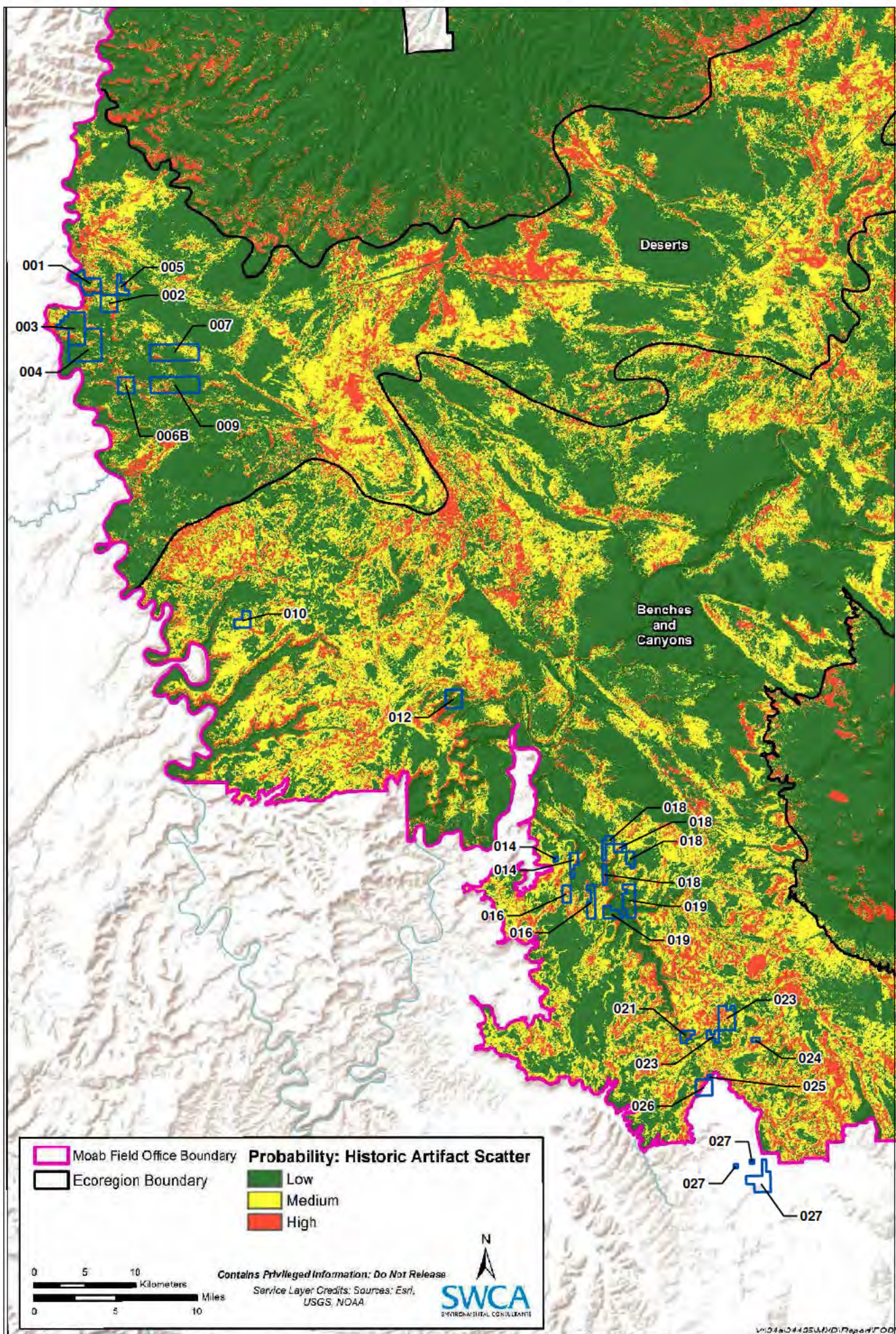


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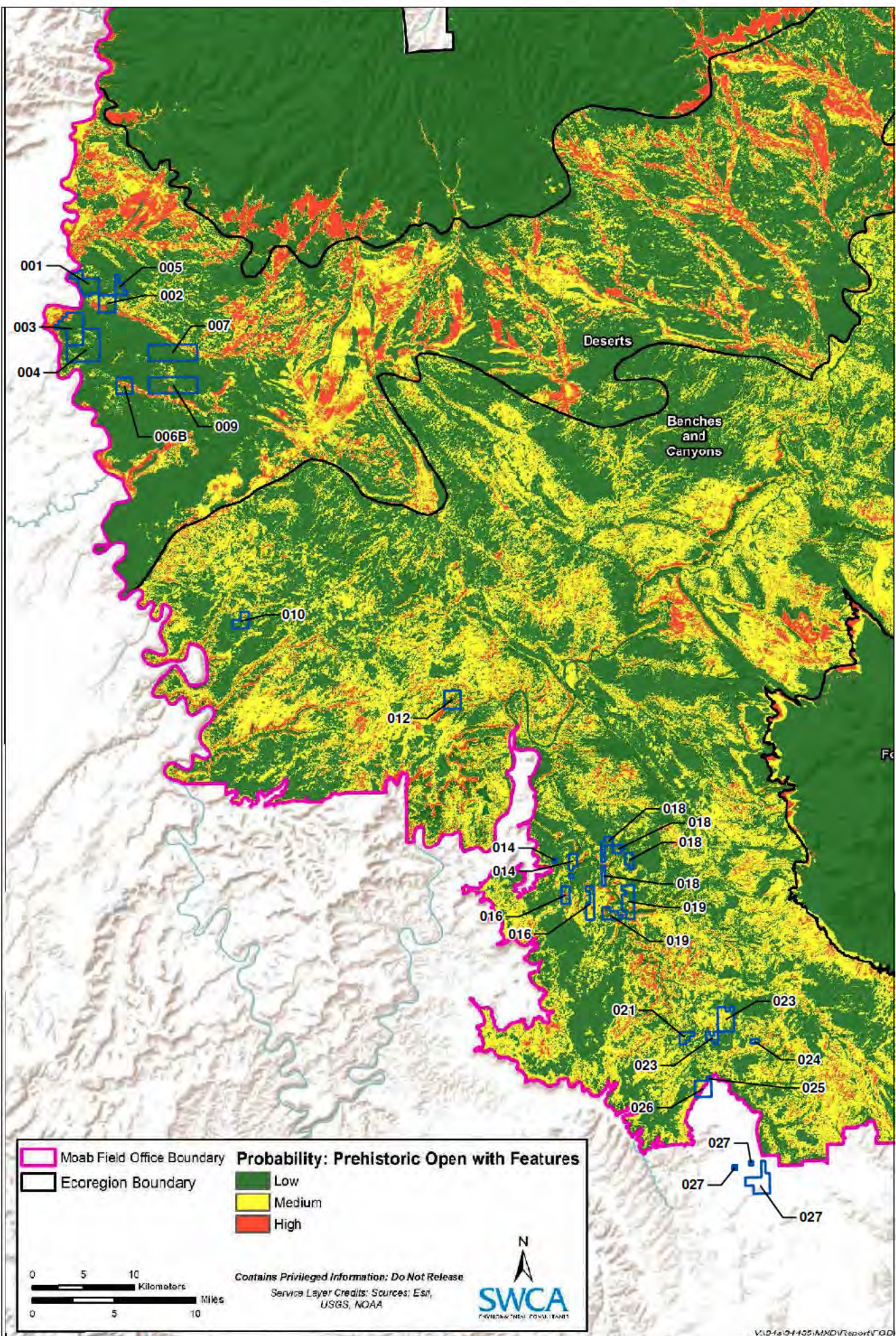


Figure 8-5. Probability map for Prehistoric Open Sites with Features.

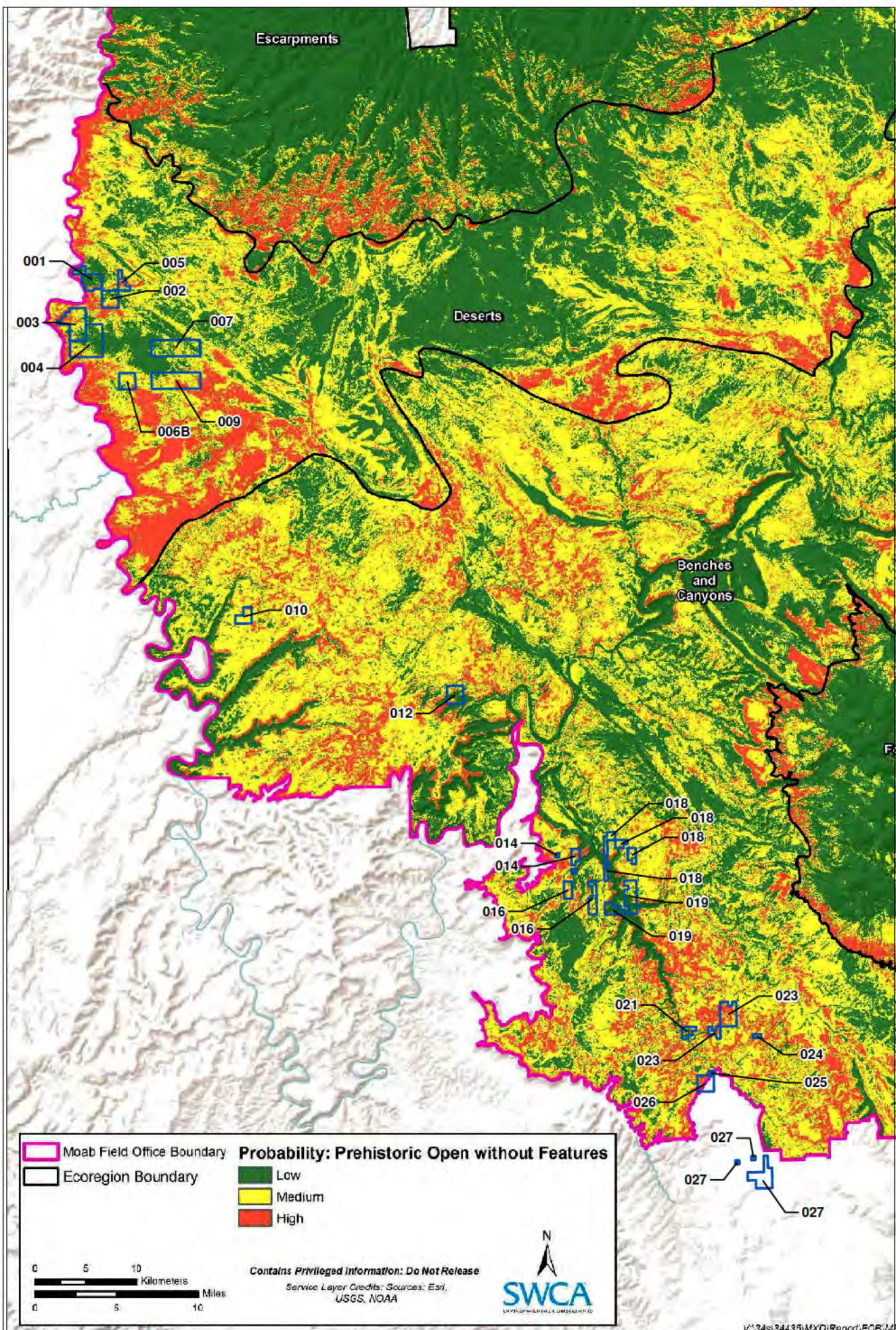


Figure 8-4. Probability map for Prehistoric Open Sites without Features.

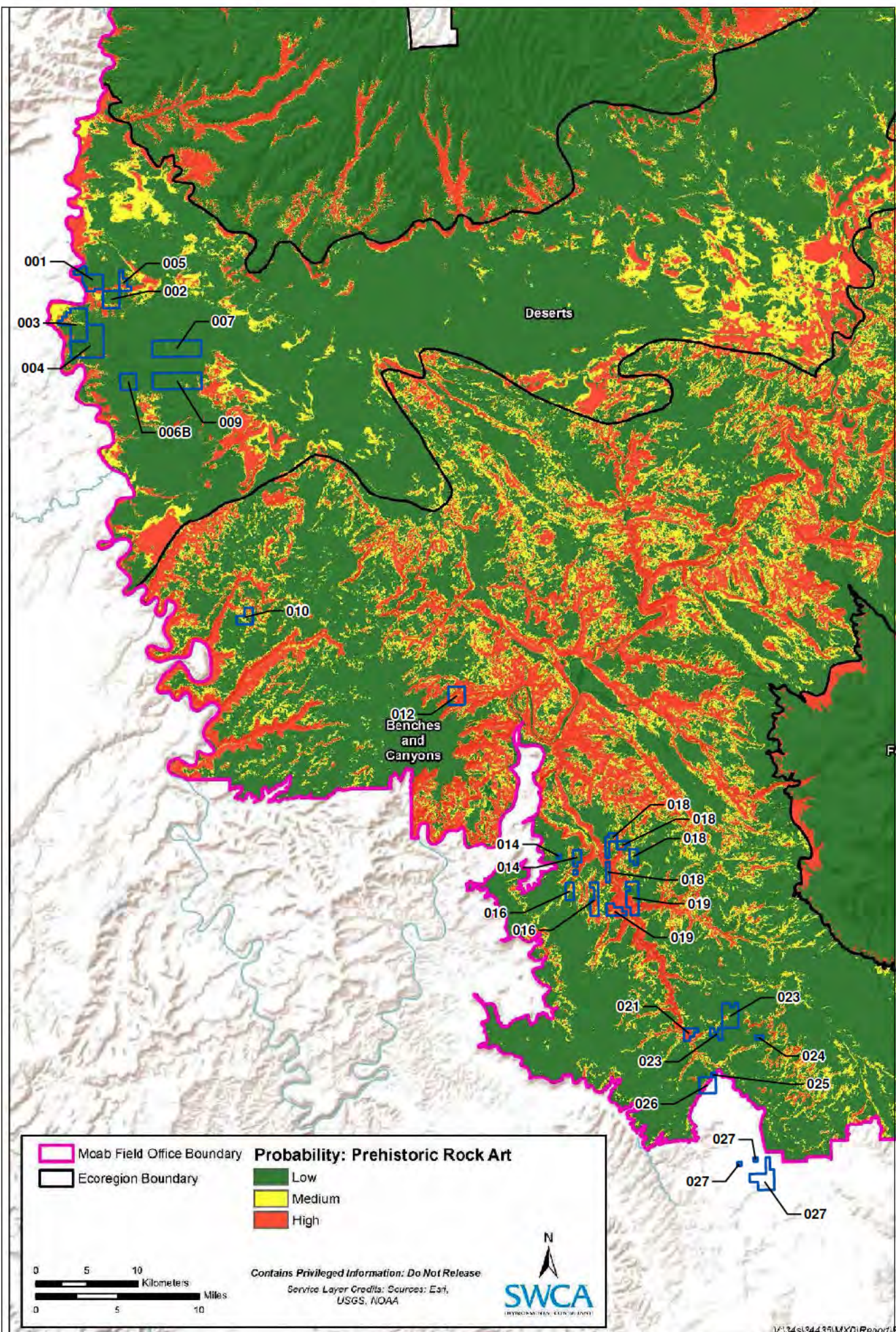


Figure 8-6. Probability map for Prehistoric Rock Art sites.

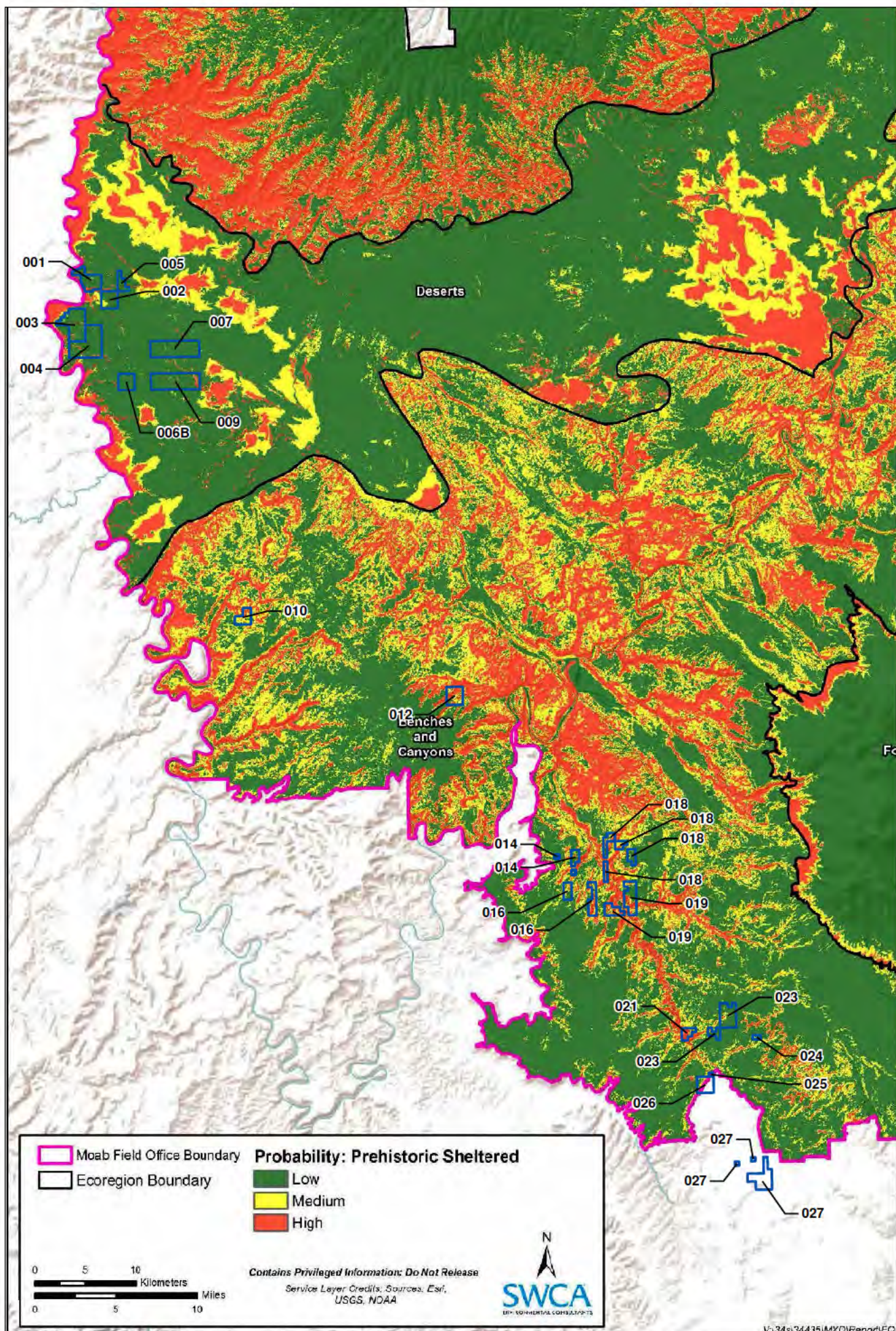
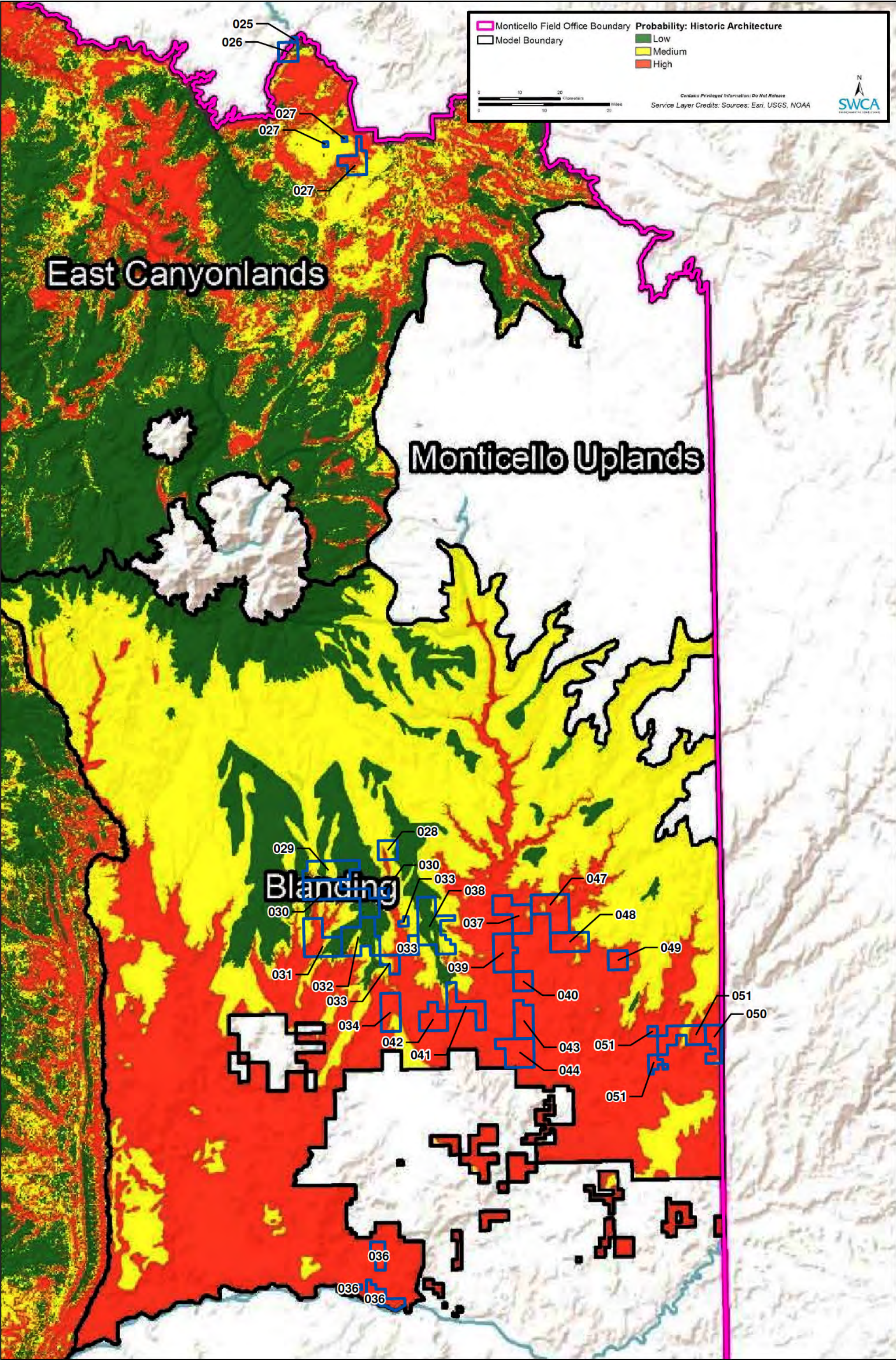
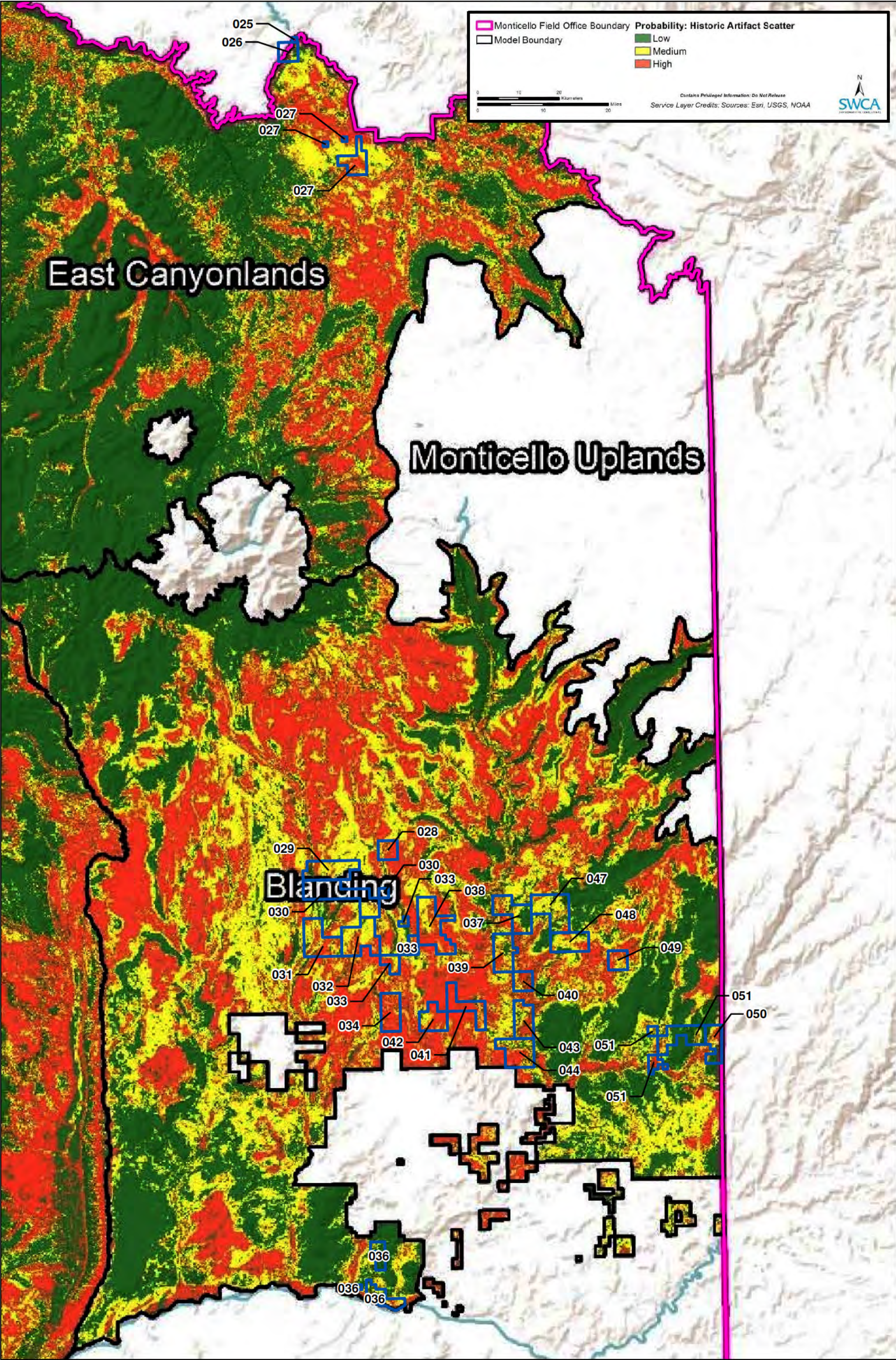


Figure 8.7. Probability map for Prehistoric Sheltered sites.

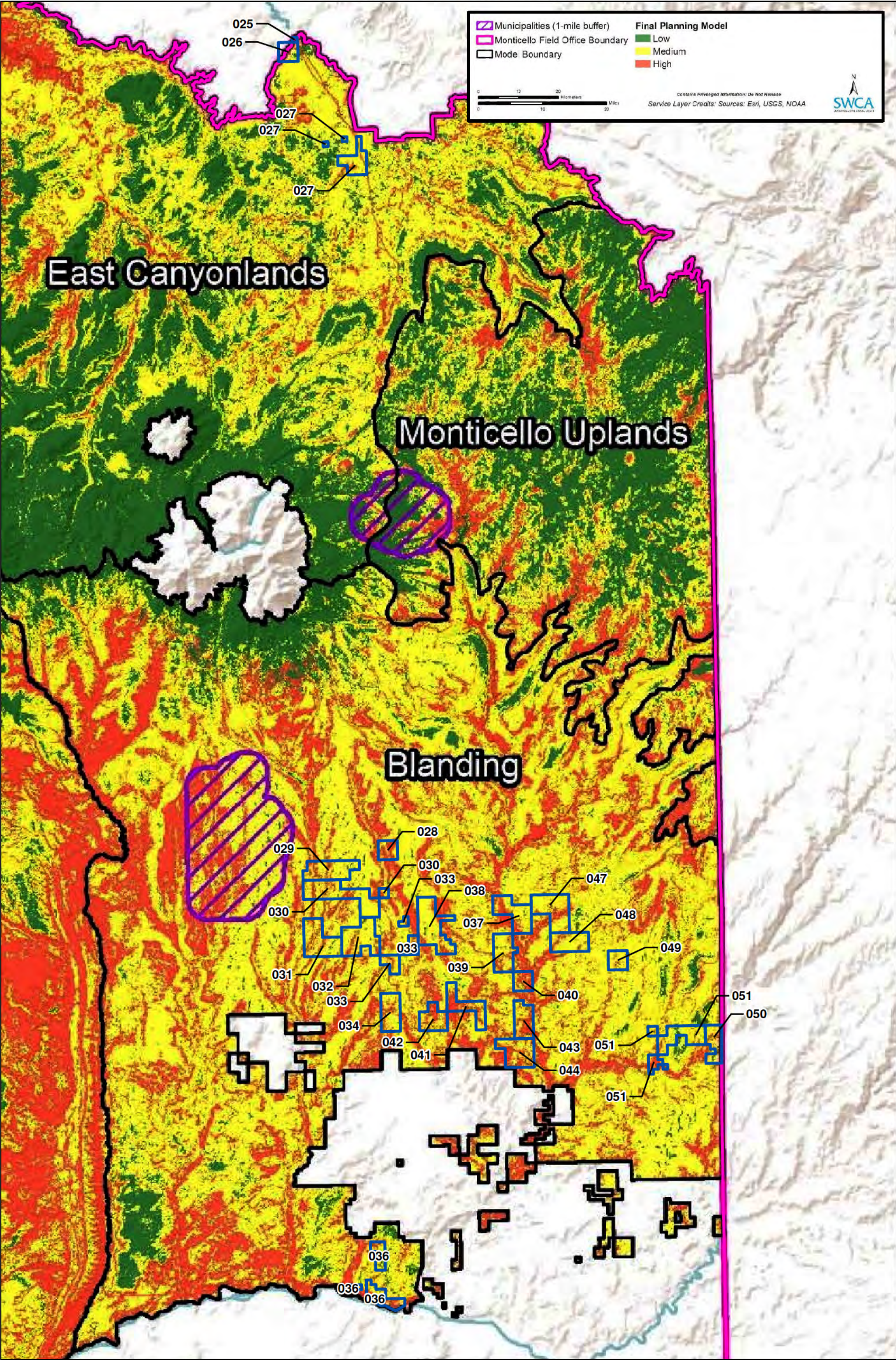
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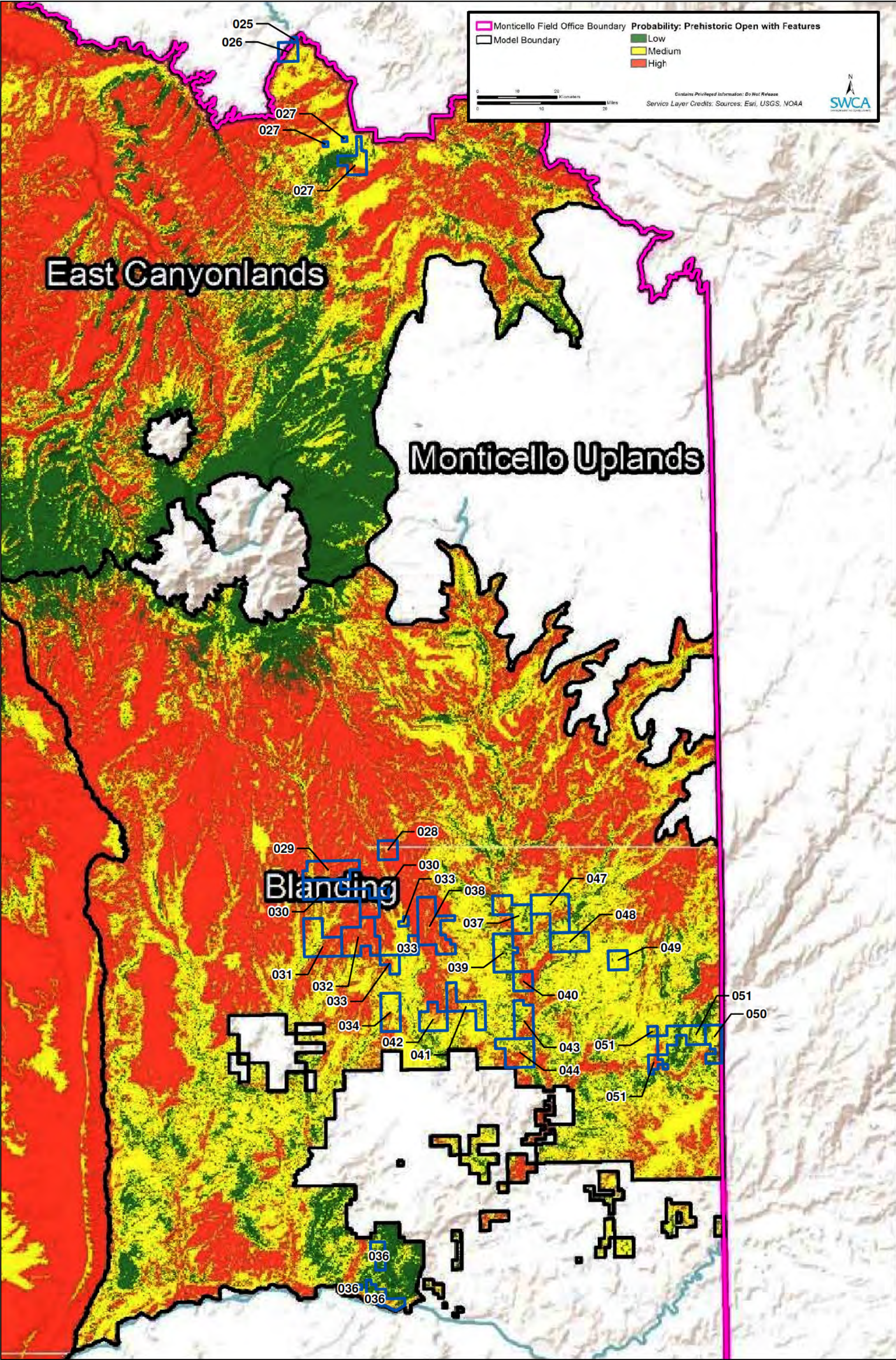
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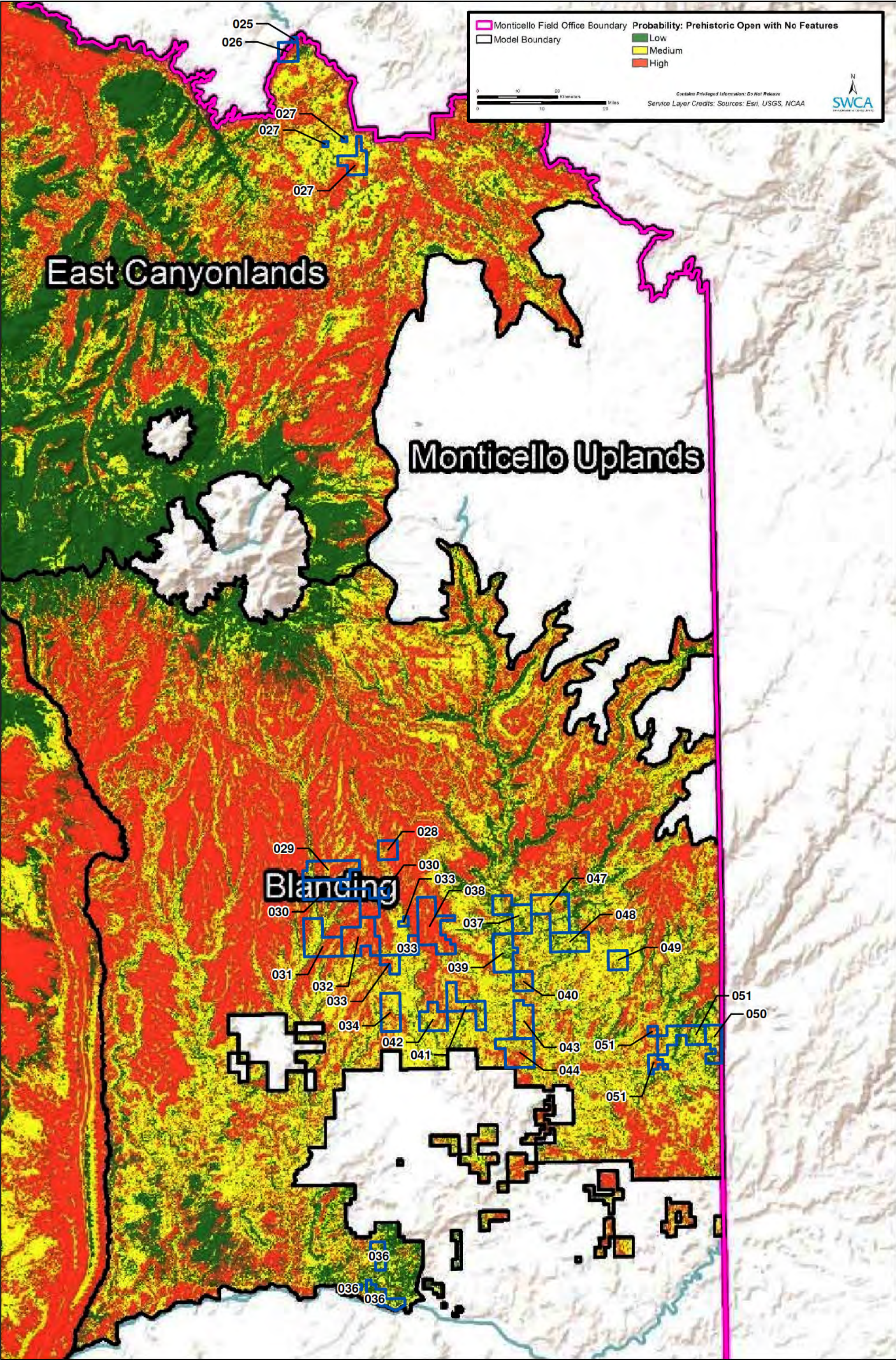
Mont. FO_Final Planning Model



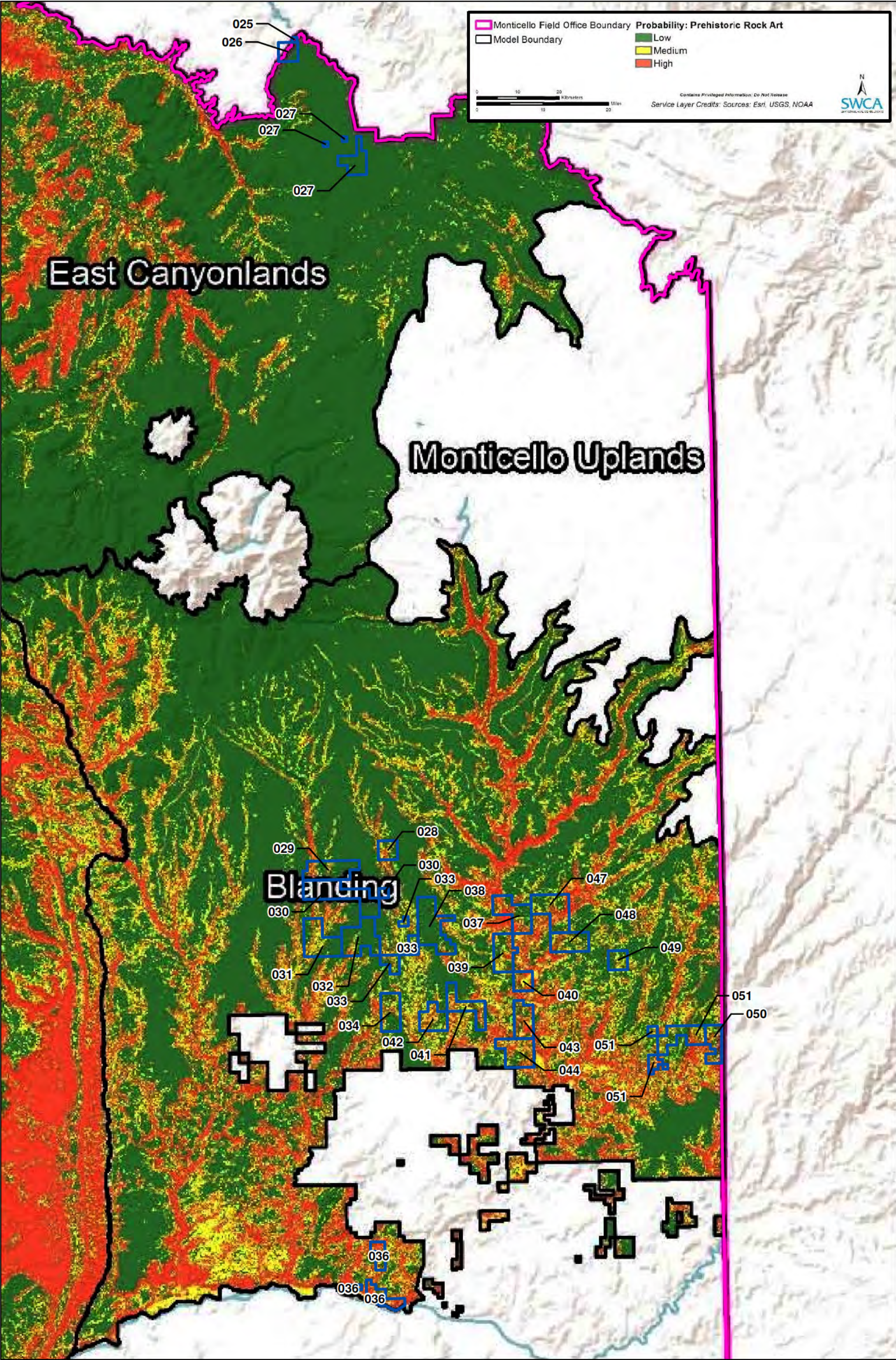
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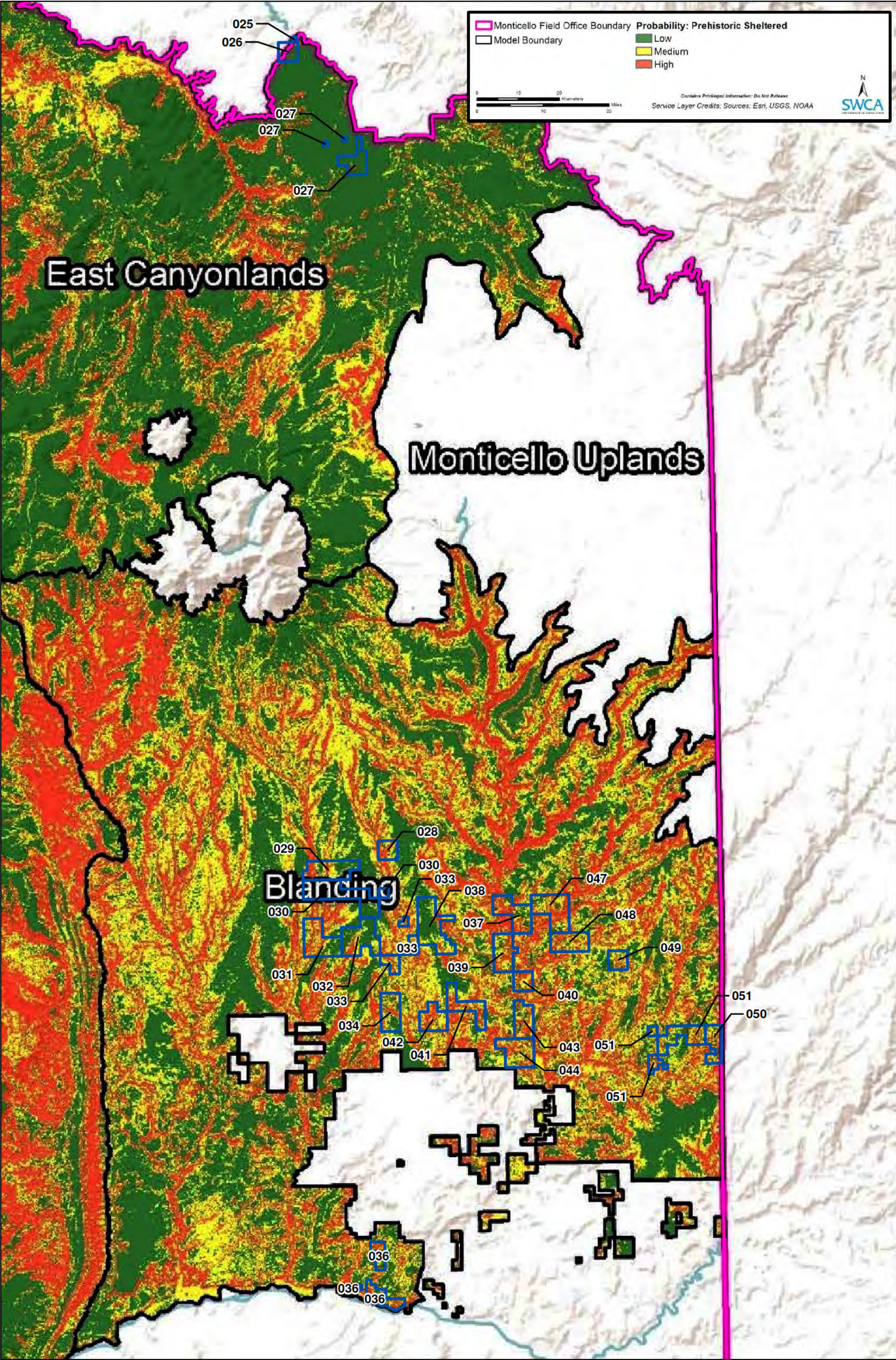
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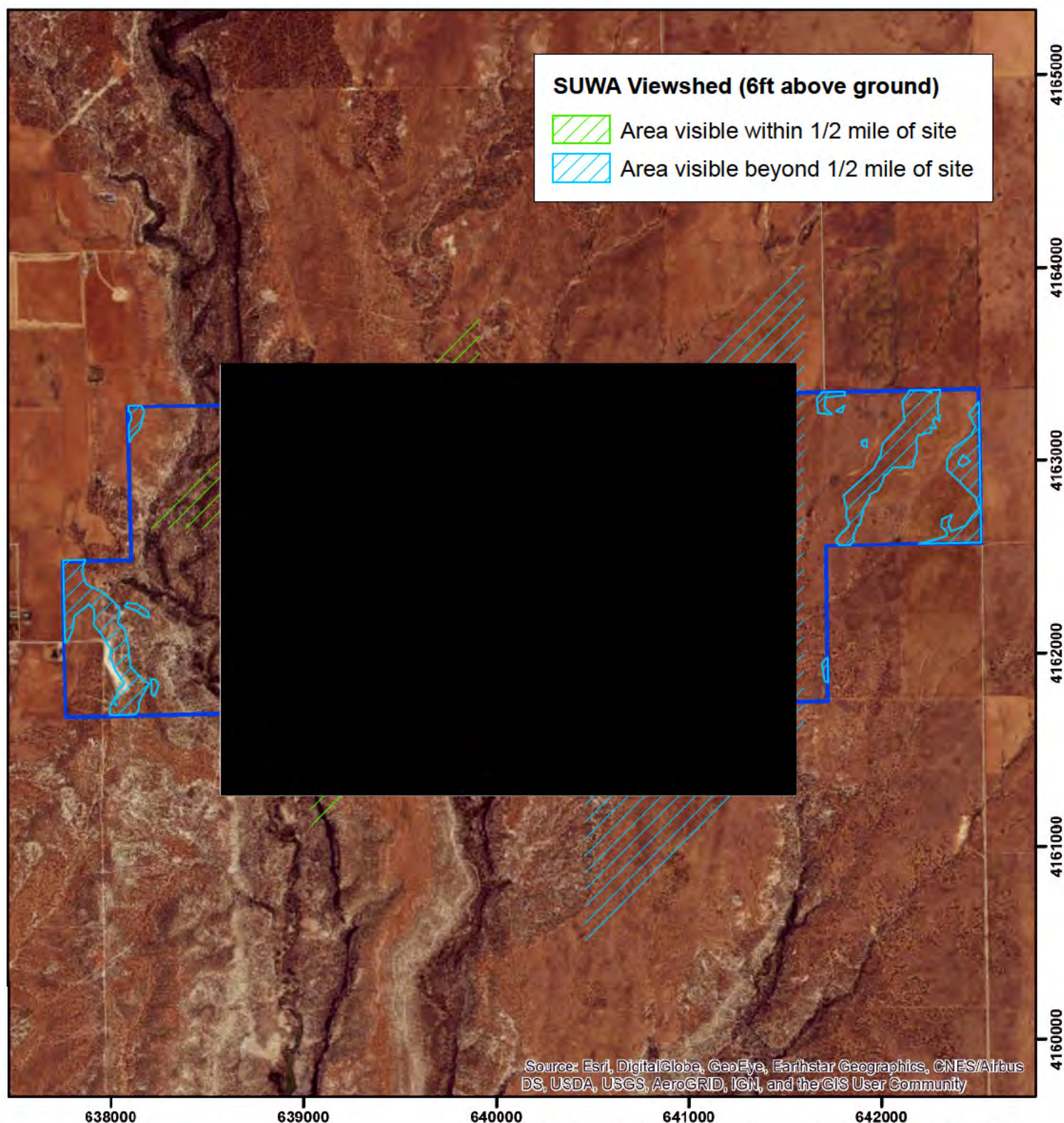


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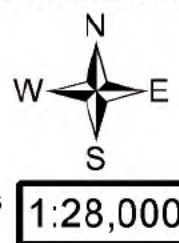
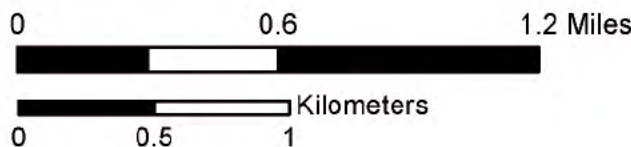
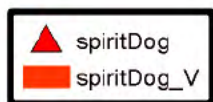
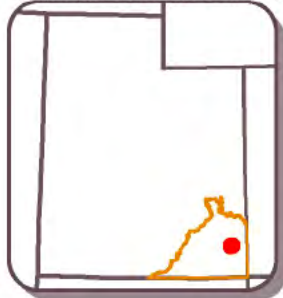
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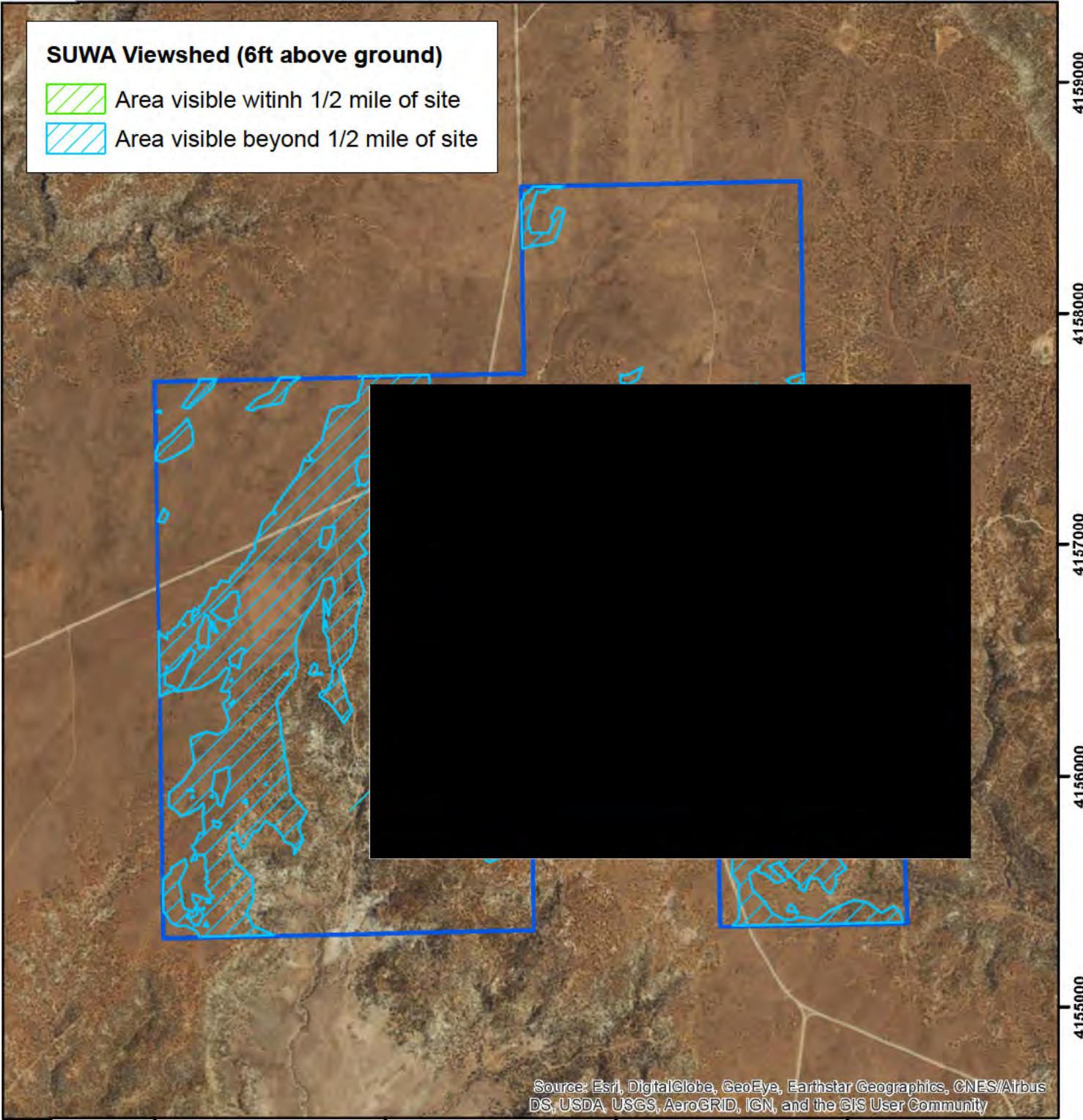


43 CFR 7.18 Prohibits the disclosure of site location information

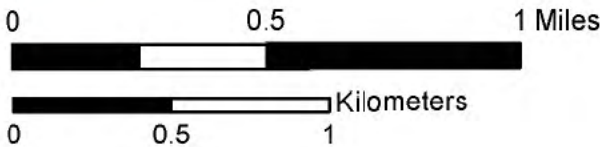
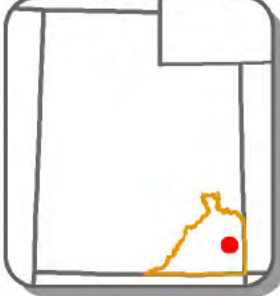
Location Map
Utah BLM Field Office Boundaries



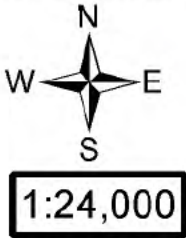
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.



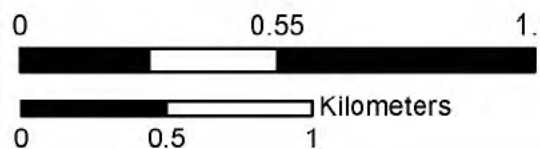
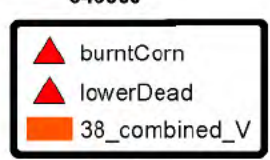
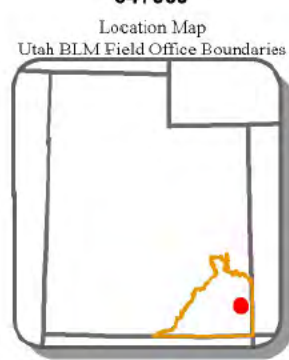
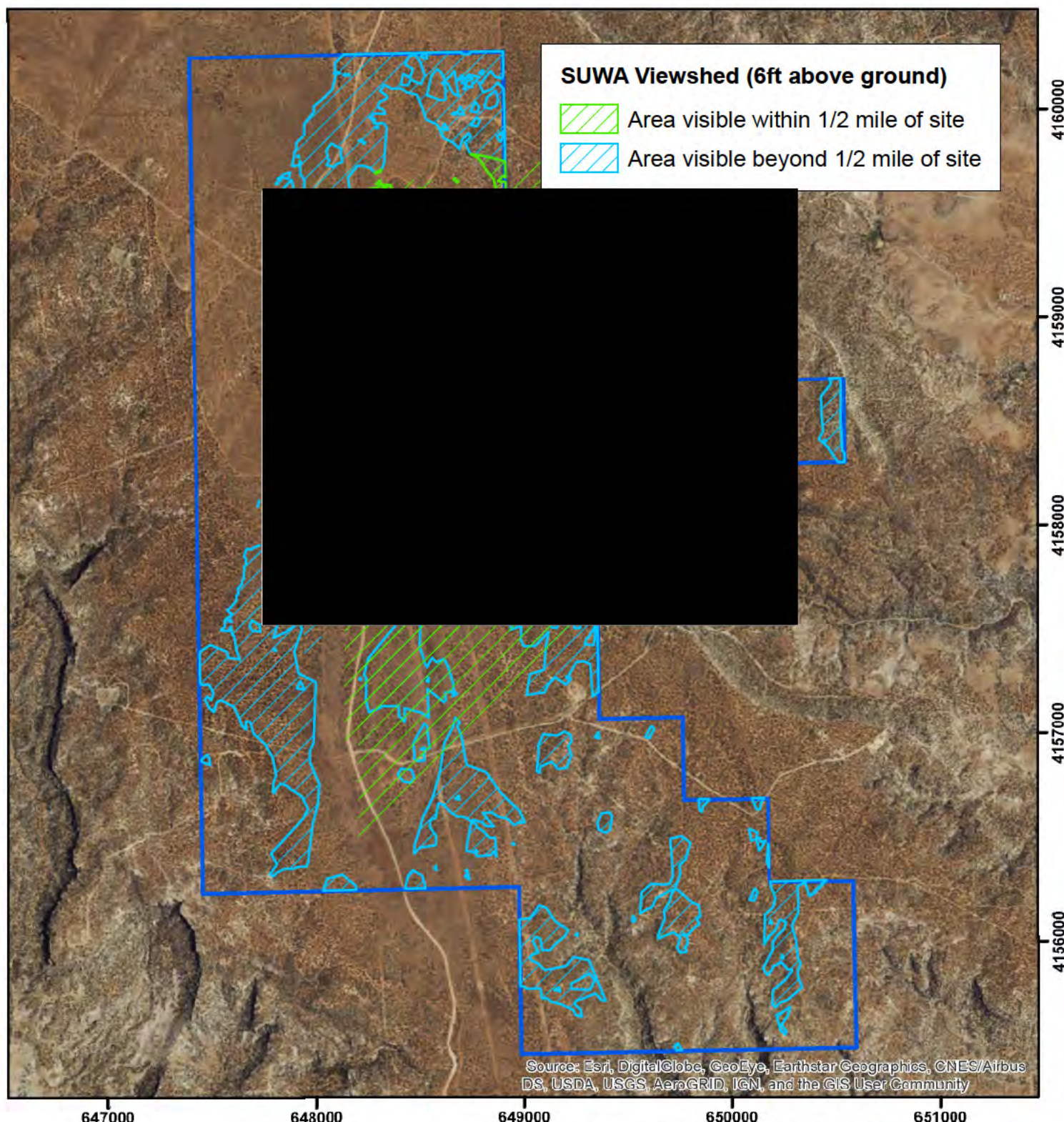
Location Map
Utah BLM Field Office Boundaries



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