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Sunny Oaks Effects Analysis

Heritage Resources



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Hello, I am Chris Euler, Assistant Forest Archaeologist for the Wayne National Forest and I will be discussing the Sunny Oaks Effects Analysis I conducted for Heritage Resources in the project area.



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Scope of this analysis: Legal Framework

- Section 106 of the National Historic Preservation Act of 1966
 - *“The head of any Federal agency having direct or indirect jurisdiction over a proposed Federal or federally assisted undertaking in any State and the head of any Federal department or independent agency having authority to license any undertaking shall ... take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register.”*
- 36 CFR 800 (as amended 2004)
 - § 800.3 (a) – *“The agency official shall determine whether the proposed Federal action is an undertaking ... and, if so, whether it is a type of activity that has the potential to cause effects on historic properties.”*
 - § 800.4 (a) (1) – *“Determine and document the area of potential effects...”*
 - § 800.4 (b) (1) – *“The agency official shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. The agency official shall take into account past planning, research and studies, the magnitude and nature of the undertaking and the degree of Federal involvement, 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.”*



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First of all I used section 106 of the National Historic Preservation Act which is also referred to simply as section 106. This essentially tells federal agencies to see that their projects, federally funded/permitted on or off of federal lands be accountable for effects to historic properties specifically those that are in or eligible for the national register of historic places. I also used 36 CFR 800 as amended in 2004. This describes how federal agencies are to carry out their responsibilities under section 106. In paragraph 800.3 it asks if it is an undertaking, Will it have an effect on historic properties? Moving on to 800.4 (a) (1), the federal agency must document areas of potential effects. Paragraph 800.4(b)(1) tells the the agency official they must make a reasonable and good faith effort to find and identify through field research, background research, consultation et cetera historic properties. The official shall also take into account Past planning studies et cetera , along with magnitude in times of undertaking how it will affect historic properties.

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Scope of this analysis:

- 36 CFR 800 (as amended 2004)
 - § 800.4 (b) (2) – *“Where alternatives under consideration consist of corridors or large land areas, ... the agency official may use a **phased** process to conduct identification and evaluation efforts. The agency official may also defer final identification and evaluation of historic properties if it is specifically provided for in ... a programmatic agreement”*
- *National Register Bulletin 15 – How to Apply the National Register Criteria for Evaluation*
 - **Criteria**– *(1) associated with events that have made a significant contribution to the broad patterns of our history; or (2) associated with the lives of persons significant in our past; (3) 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 (4) that have yielded, or may be likely to yield, information important in prehistory or history.*
- *Ohio Archaeology Guidelines (1994)*
 - *“These guidelines contain the standards and specifications by which the Ohio Historic Preservation Office reviews, evaluates, and comments on archaeological survey methods, results, recommendations, and reports, including, but not limited to, Section 106 of the National Historic Preservation...” (Ohio Historic Preservation Office, 1994)*

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In 36 CFR 800.4 b-2, when projects are being considered and they are large land areas, the official may use a phased approach to identify and evaluate historic properties. This has to be provided for in a programmatic agreement with all consulting parties. State historic preservation office, tribal government, et cetera. And this is something I would like you to pay close attention to because this is the approach we are using in the Sunny Oaks project. Moving on to the next legal framework is National register bulletin 15, how to apply it the national register criteria for evaluation. This is the basis of a lot of this analysis. The criteria number one, associated with the events that have made a significant contribution to the broad patterns of our history. Two, associated with the lives of persons significant in our past. Number three, it embodies the distinctive characteristics of a type, period or method or a high artistic value area. Or significant and distinguishable entity whose components may lack individual distinction. Pay a close attention to this, this is more of a visual criteria for the determination of the evaluation of the historic site. Number four, which is common for most archaeological sites. That will yield or likely yield important history or prehistory. You will hear this or these criteria used a lot whether they are eligible or ineligible and that all comes from this national register bulletin.

The next one we use is the Ohio archaeological guideline of 1994. This guides us in the methods we use to conduct all levels of archaeological research for the state of Ohio. These are the guides of what we use in the field. This is not an exhaustive list of the laws

we use but these are the primary ones for this analysis.


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Quick Definitions

- **Area of Potential Effect** - the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.
- **Effect** – alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register (of Historic Places).
- **“Eligible for the National Register”**- both properties formally determined as such in accordance with regulations of the Secretary of the Interior and all other properties that meet the National Register criteria (*National Register Bulletin 15*).
- **Historic** - district, site, building, structure, or object from the time of or after European contact.
- **Historic Property** – any Pre-contact or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties.
- **Multi-component** – The presence of one or more historic periods. In this document it primarily refers to sites that contain both pre-contact and historic districts, sites, buildings, structures, or objects.
- **Pre-Contact** – the historic period prior to European contact. Also referred to as prehistoric.
- **Prehistoric** - district, site, building, structure, or object from the time before European contact.
- **Programmatic Agreement** – a document that records the terms and conditions agreed upon to resolve the potential adverse effects of a Federal agency program, complex undertaking or other situations.
- **Undertaking** - a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; and those requiring a Federal permit, license or approval.


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Here's a list of quick definitions that will help in understanding language used in analysis. I would like to give you a moment to read over this. I would also like to draw your attention to the term pre-contact. For this analysis we are using pre-contact in place of the word prehistoric. It more clearly defines the era in which these sites take place.



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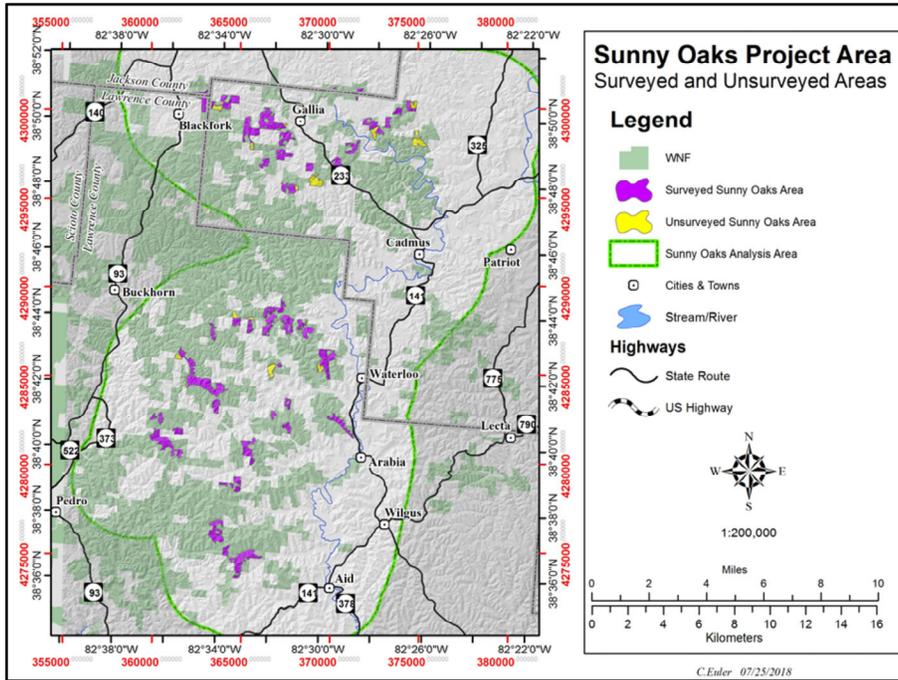
Scope of this analysis:

- A total of 3,812 acres have already been previously surveyed (Phase I Cultural Resource Survey)
- Currently, 506.2 harvest acres will need to be surveyed (Phase I Cultural Resource Survey)
- The project area was analyzed temporally understanding that for all effects (direct, indirect, and cumulative), it will be the period of time during which actions that have potential to disturb cultural resource sites will be taking place (e.g. the completion of implementation).
- Sites within a 3 km radius of the proposed treatment areas were analyzed as well, to determine how they may be effected by the project. They were categorized by their National Register of Historic Places (NRHP) status.



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The scope of the analysis. For the Sunny Oaks project we found that 3812 acres have already been surveyed for cultural resources using the phase 1 cultural resource survey standards for Ohio. Phase 1 is very specifically a survey using shovel testing, which is subsurface testing along with visual surveying at specific intervals and distances to identify cultural resources. This leaves 506.2 acres that will need a phase 1 cultural resource survey. The project area was analyzed temporally for direct, indirect, and cumulative effects that will take place during treatment that will potentially disturb cultural resources, which is during the implementation of the project. Sites within a three kilometer or 1.9 mile radius of the proposed treatment areas were analyzed to determine any and all effects to them.



Here's a quick map of the survey status of the proposed projects within the sunny Oaks project area. You will notice different colors. The purple is the Sunny Oaks area. The yellow is the un-surveyed Sunny Oaks area. You will notice the border surrounding the area.



Methodology

- Harvest Treatments
- As this project will be implemented in phases, all treatment areas will receive a full Phase I Cultural Resource Survey prior to implementation of treatment.
- We know that all cultural resources sites that have not been evaluated for the National Register of Historic Places (NRHP), eligible for the NRHP, or listed on the NRHP will be protected from ground disturbing activities through the implementation of design criteria that would result in all project activities avoiding these cultural resource sites.
- Approach for non-harvest treatments
- All prescribed fire areas (if not part of a harvest area), will be surveyed visually. The exception to this method will be any portion of the prescribed fire area that will result in ground disturbing activity (such as mechanically improved / created dozer line). These areas will receive a full Phase I survey that includes subsurface testing.



The methodology that we use for this analysis. As this project is to be implemented in phases, all treatment areas will receive a full phase 1 cultural resource survey before the implementation of the project. All cultural resource sites that have not been evaluated for, eligible for, or listed on the national register of historic places (also known as the national register) will be protected from ground disturbing activity in the project design through avoidance. Non-harvest treatments will receive a full visual survey, except in those areas where ground disturbing activity will occur, those areas will receive a full phase I survey.

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ADVERSE AND BENEFICIAL EFFECTS

- **Potential adverse effects:**
 - Timber Harvests
 - These effects are ground disturbing and could damage surface and subsurface cultural resources:
 - The construction of skid trails and access roads
 - The creation of log landings and equipment landings
 - Road reconstruction/maintenance
 - Prescribed Fire
 - Potential adverse effects from mechanically constructed fire line, which is ground disturbing and could damage surface and subsurface cultural resources
 - Heavy loading (build-up) of fuels around surface sites, which could result in greater heat transference to the site material.
 - The effect of site vulnerability due to climate change was taken into account, with the determination that there would be little to no effect on cultural resources.
- **Potential beneficial effects:**
 - The clearing of heavy fuel pockets may aid in reducing hazardous fire effects to cultural resources
 - The reduction of insect and disease threats through vegetative management, creating an environment with fewer forest hazards to cultural resources (e.g. uprooting of trees, falling trees, dense pockets of vegetation constricting sites and increasing weathering)

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Moving on to adverse and beneficial effects. The potential adverse effects, and I emphasize potential, would be from timber harvest. Effects that are typically from ground disturbing activities that are in the form of skid trails and access roads, log landings and equipment landings, road construction and maintenance. And from prescribed fires from mechanically constructed fireline, and heavy loading or buildup of fuels (vegetative material) around surface sites.

The good news is that there are some potential benefits that may come from the effects of treatment. They would be beneficial effects. The clearing of the heavy fuel pockets may help in reducing hazardous fire effects to cultural resources. Also the reduction of insect and disease threats that may have a negative impact to stand health and thereby cause damage to cultural resources through the uprooting of trees, falling of trees, dense pockets of vegetation, constricting sites, and increasing weathering.

Sites within the Analysis Area

- There is one site in the Sunny Oaks Project area on the Forest that is eligible for inclusion on the NRHP.
 - Cambria Iron Furnace: located along Cambria Creek in Jackson County, on the northern end of the proposed project area. It is the remains of a 19th century Iron Furnace that contributed to the iron production of the Hanging Rock Iron Region.
- The sites within the project area are representative of the wide variety of sites found on the Forest, and more specifically, the Ironton Ranger District.



For sites that we found within the analysis area there is one that really stood out that is eligible for the national register. It is located along Cambria Creek in Jackson County in the northern end of the project area and it is Cambria iron furnace.

It is the remains of a 19th century iron furnace that contributed to the iron production of the Hanging Rock Iron Region. It is a very fascinating site and it will be protected during the duration of the project. Also the sites within the project area are representative of a variety of sites found on the forest and really in the Ironton Ranger District. Typical sites that we expect to find.



Sites within the Analysis Area

FS Sites	Historic	Multicomponent	Pre-contact	Unknown	
Not Eligible for the National Register of Historic Places	559	14	143	0	716
Not Evaluated for the National Register of Historic Places	54	14	79	5	152
Eligible for the National Register of Historic Places	1	0	0	0	1
Unknown	10	0	1	15	26
TOTALS:	624	28	223	20	895

Total Sites in 3 Km of Project Area	Historic	Multicomponent	Pre-contact	Unknown	
Not Eligible for the National Register of Historic Places	559	14	144	0	717
Not Evaluated for the National Register of Historic Places	54	14	80	5	153
Eligible for the National Register of Historic Places	2	0	0	0	2
Unknown	24	2	33	17	76
TOTALS:	639	30	257	22	948



This is the table we use to come up with site numbers and distribution of sites across the forest. And you'll notice it uses the historic periods along with National Register statuses.

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Mitigations/Designs

- Currently, the Forest will use the standard Phase I survey (for timber harvests) that is outlined in the Ohio Archaeological Standards.
- Prescribed fire (as previously stated) will be surveyed using visual surveys on all areas except mechanically constructed fireline.
- Sites that are found to be ineligible for inclusion on the NRHP will not be managed for future preservation.
- Sites that are on the NRHP, eligible for inclusion on the NRHP, or evaluations cannot be immediately determined, will be flagged for avoidance with a 15 meter buffer (approximately 50 ft).

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For mitigations and designs of the project for use of this analysis, the forest will use the standard phase I survey for timber harvest that is outlined in the Ohio archaeological standards. For prescribed fire, as previously stated, it will be surveyed using visual surveys on all areas except mechanically constructed fire line. They will receive full phase I survey. Sites that are found to be ineligible for inclusion on the national register will not be managed for future preservation. All other sites that are eligible, unknown, or on the national register will be flagged for avoidance with a 15 meter buffer which is approximately 50 feet.

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Alternative 2

- The effects of Alternative 2 would minimize some ground disturbance and potential to disturb cultural resources, though the change from Alternative 1 is minimal.
- Due to this minimal change, the determination of effects on cultural resources would not change.

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For alternative two we found that it may minimize ground disturbance and some disturbance for cultural resources, but that is minimal, and we found that it would be no change from alternative one.

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Discuss Current Status & Next Steps for Project Programmatic Agreement

- The Wayne National Forest is currently working on a Programmatic Agreement with the Ohio Historic Preservation Office (OHPO) for the phased approach of this project. This is in accordance with 36 CFR 800.4
- Recent work sessions with the OHPO has led to the initial plan to use the current Phase I Cultural Resource survey with flexibility to substitute traditional survey methods with an agreed upon alternative method.
- Some of the possible alternatives (depending greatly upon the local context) might be:
 - Focused use of LiDAR
 - Magnetometers and other geophysical testing devices
 - Soil testing for trace material representative of past use/occupation/settlement
 - Analysis of conditions based on Forest records, historic records, and other archival research, in conjunction with land analysis with LiDAR, aerial photography, etc.
- OHPO suggested ways in which the Forest could improve archaeological understanding of sites beyond Phase I documentation.

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The current status and next steps for our programmatic agreement, a legal document that says we shall do such things in agreement with all of the parties stated as before. We are currently working on a programmatic agreement with the Ohio historic preservation office for the phased approach of this project. We are developing concurrently with the OHPO for different methods for our phase 1 surveys. They will be more informative and appropriate for portions of this project. This will only be carried out when extensive consultation with the Ohio Historic Preservation Office and appropriate tribes and other entities will lead to altering these methods. Some possibilities, which are rather fascinating, for these alternative methods might be a focused use of light detection and ranging technology, also known as LiDAR. It is like sonar from the air. Magnetometers and other geophysical testing devices like ground penetrating radar and other devices that use magnetics to find sites within the soil. Soil testing for traces of material that represent past use/occupation. And basically analysis of conditions based on our forest records, historic records and other archival research but also with the land analysis using the LiDAR and aerial photography and other things to put together a picture out of multiple sources. The OHPO suggested ways in which the forest could improve archaeological understanding of sites beyond phase 1 documentation if we use these methods. We will get more information back than just simply finding a site.



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I would like to conclude with the research I used to conduct this analysis. This is a primary work that I used to reference fire and other activities. If you want to take a look this will be available with the documents.

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With that, I would like to conclude and say thank you very much and I hope you found this informative. Thank you.