

Cultural Attachment:
Assessment of Impacts to Living Culture

This report was prepared in response to an issue of significance raised by area residents regarding a proposal for a 765 kV transmission line from the Wyoming substation in West Virginia, to Cloverdale, Virginia. This study of "cultural attachment" took place between June 22 and August 31, 1995. The study focused on Peters Mountain, West Virginia, and adjacent territory in Virginia as the primary study area. To the authors knowledge this is the first Environmental Impact Study conducted under the National Environmental Policy Act to treat living culture as an "endangered Species".

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APPENDIX M:

APCo 765 kV Transmission Line

Environmental Impact Statement

Culture Attachment:

Assessment of Impacts to Living Culture

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SECTION 1: INTRODUCTION

This report was prepared in response to an issue of significance raised by area residents regarding a proposal for a 765 kV transmission line from the Wyoming substation in West Virginia, to Cloverdale, Virginia. This study of “cultural attachment” took place between June 22 and August 31, 1995. The study focused on Peters Mountain, West Virginia, and adjacent territory in Virginia as the primary study area. In addition, secondary areas were identified for limited study. For the boundaries of the study area, see Map 1.

The report is organized to follow our study process. First, the Discovery Process was employed to assess the current conditions of culture in the study area and delineate human geographic boundaries. Second, cultural attachment was defined and indicators for assessing the strength of cultural attachment were identified. Third, site-specific assessments were made regarding the current strength of cultural attachment. Finally, the potential impact to cultural attachment by Alternative was assessed.

The Discovery Process¹ methodology used to study cultural attachment was developed by James Kent Associates (JKA). It closely resembles the concept social psychologist, W.I. Thomas called ethnomethodology². Ethnomethodology is a qualitative process that is concerned with the common practices people employ to create a sense of order in their daily lives. Field workers listen to the conversation and stories of people in their own environment, where they are most comfortable and powerful. From these conversations, an understanding of how people participate in, value, and manage their environment is developed. The Discovery Process is used to examine cultural systems within a geographic context.

The phrase cultural attachment was not defined as a working concept in the sociological or anthropological literature reviewed. Therefore a working definition had to be created as part of the study process. The definition of cultural attachment used in this study was developed based on fieldwork in the study area and JKA’s experience in other cultural studies.

Definition. Cultural attachment is the cumulative effect over time of a collection of traditions, attitudes, practices, and stories that tie a person to the land, to physical place, and to kinship patterns.

It is critical that the reader understand the constraints of this report. Only findings and recommendations that relate to cultural attachment, as defined, are reported. Other types of attachments, such as attachment to views, rural lifestyle, property values, or other such phenomena are not included.

The study team found a distinction between cultural attachment and other attachments-cultural attachment is non-transferable. By definition, this phenomenon is linked to specific land, physical place and kinship patterns. Therefore it cannot be transferred to another location with a similar view, rural lifestyle, or property value. As a final note, the fieldwork that supports this document is not based on a survey of public opinion about the subject.

¹ Kent, James A., Richard J. Greiwe, James E. Freeman and John J. Ryan. Social Resource Management Guidelines: A Ten-Step Process for a Social Impact Assessment, USDA – Forest Service Surface Environment and Mining Division (SEAM), Ogden, Utah 1979.

² Turner, Jonathan H. The Structure of Sociological Theory, The Dorset Press, 1978.

SECTION 2: METHODOLOGY FOR DEFINING AND APPLYING CULTURAL ATTACHMENT TO THE STUDY AREA

JKA has developed methods (Discovery Process) for interacting with the formal and informal social systems in communities to access the social and cultural infrastructure of a geographic area. Discovery is a descriptive process for identifying various elements of a community. A describer's information comes from listening to people, not interviewing them, as they describe the community's geographic area, its networks, issues, history, and lifestyle. An outline of the methodology used for this project is presented to facilitate the understanding of project findings. Figure 1 on the following page depicts the study process from discovery to environmental consequences of alternatives.

The findings for this report are based on physical descriptions, citizen contacts, and reference materials.

Physical descriptions are site-specific observations of geographic and man-made physical attributes of an area.

Citizen contacts are interactions with individuals or families in the study area or people outside the study area who have important information about the project. Citizen contacts include direct communication with individuals and anonymous interaction with individuals in gathering places. For this project, physical descriptions were obtained throughout the study area and a total of approximately 175 citizen contacts were made within the study area.

Reference materials included Appalachian studies books and articles, local history books, reports from area educational institutions, census and economic data. Books, publications and other written materials that were used are listed in Section 5 Bibliography.

Attempts were made to contact individuals in a community who serve one of the following informal roles: caretakers, communicators, and historians. These individuals are identified through a "nomination" process, whereby individuals direct field workers to persons who fulfill the roles described.

Caretakers are individuals within a community who implicitly or explicitly take care of people, help others take care of themselves, or have skills or knowledge that others seek out. Caretakers also serve as verifiers of information and issues in their networks. Communicators are individuals within informal networks who actively possess, express and share information. Historians are individuals who can paraphrase or record the history of an area.

Culture Descriptors Used To Define The Study Area

In the interest of streamlining data gathering, JKA describers concentrate on identifying certain classes of information. Seven cultural descriptors are use: **settlement patterns, work routines, support services, publics, networks, recreation activities, and geographic features** within human geographic boundaries established during the discovery phase.

A **settlement pattern** is the distribution of a population in a geographic area, including the historical cycles of development. Settlement patterns identify where a population resides and the type of settlement categorized by its land use style, permanence, and seasonal characteristics. It also describes the major historical growth/no growth cycles or benchmarks in settlement.

A **work routine** is the way in which people earn a living, including where, when, and how. The types of employment, skills needed, wage levels, and natural resources required in the process are used to generate a profile of a community's work routines. The opportunities for advancement, the business/land ownership patterns and stability of employment activities are also elements of work routines.

A **support service** is any arrangement people use for taking care of each other. Support services include institutions serving a community (formal) and people's individual caretaking activities (informal). Formal support services include commercial businesses, religious institutions, social welfare agencies, governmental, organizations, and educational, medical, and municipal facilities. Informal support services center on the family, the neighborhood, and/or friendships. People use these informal support services on a day-to-day basis to satisfy their caretaking needs.

A **public** is a segment of the population or group of people having common characteristics, interests, lifestyle, or some recognized demographic feature (e.g. average age, income, or ethnicity). A public identifies a group of people who influence resource use locally or who live elsewhere and have an interest in the way resources are managed.

A **network** is made of people who support each other in predictable ways because of their commitment to a common purpose, their shared activities, or similar attitudes. Networks share information and ideas. Networks function at different levels: within a neighborhood or community, across several different communities, or throughout a region. There are two types of networks: formal and informal. A formal network is a group of people committed to an activity or purpose. Usually these groups are identified by the vertical structure of their organization and management systems. However, formal networks also refer to situations where several formal groups have banded together for a common goal or purpose. Informal networks are horizontal organizations of individuals operating without written operating rules or formal roles towards common social, family, or other goals.

A **recreation activity** is the way in which people spend their leisure time. Recreational activities include what recreational opportunities are available, the seasonability of these activities, the specialized equipment or resources used, and the money and time required to pursue the activities. The frequency of local/non-local users of recreational resources, the preferences of local/non-local users, and the location of the activities are also included.

A **geographic feature** is any significant physical or cultural feature that defines the extent of a community. Cultural and physical features generally separate the cultural identity and daily activities of a community from those living in other geographic areas. Cultural features are usually established by people or agencies over time and are based on historical, ethnic, or social events. Physical features include geologic, biologic, and climatic features, distances, or any other characteristics that distinguish one area from another. Examples include watershed, soil composition, and mountains.

Human Geographic Boundaries

Information from the cultural descriptors discussed in the previous section was organized into Human Resource Units (HRUs) that are displayed graphically on a map of the study area (see Map 2). This HRU map displays the cultural boundaries that distinguish the various human habitat areas. The names of the HRUs are as follows: (1) Narrows, (2) New Castle, (3) Newport, (4) Pearisburg/Walker Valley, (5) Zenith/Gap Mills, (6) Peterstown/Lindside, and (7) Waiteville/Paint Bank. Each of these areas is characterized by unique relationships to the seven cultural descriptors discussed above.

The HRU boundaries indicate how culture is not constrained by county or other political boundaries. They are naturally occurring boundaries within which people who share similar values, attitudes and lifestyles have their greatest strength and concern. This mapping of the social ecosystem provides the context within which the definition and assessment of the concept of cultural attachment took place.³ Narrative describing each HRU is not included in this document. The HRU designation is the method used by JKA to gain a comprehensive understanding of the culture in a specific geographic area. For the purpose of this report, the HRU designation serves as an interim step in the process to identify cultural areas of special concern.

Based upon the information obtained from the cultural descriptors and the insights gained from mapping the HRUs seven areas of special concern showed cultural characteristics for further study. The geographic areas of special concern were: (1) Peters Mountain; (2) Waiteville; (3) Sinking Creek Valley; (4) Clover Hollow; (5) Paint Bank; (6) Ballard-Bozoo; (7) Walker Valley.

Defining Cultural Attachment

Anthropologists have defined **culture** as a system of behaviors, values, ideologies and social arrangements that help human beings interpret their universe as well as deal with features of their environments-- both natural and social.⁴

Similarly, in this study **cultural attachment** has been defined as the cumulative effect over time of a collection of traditions, attitudes, practices, and stories that ties a person to the land, to physical place, and to kinship patterns. This definition evolved out of the fieldwork where stories were gathered from local people about their lives, from a review of the literature about Appalachia, and from discussions with academicians, and other professionals who are familiar with the study area.

Cultural attachment is the result of having lived in an area - and having had your ancestors live in that area. Cultural attachment is the result of having made many everyday decisions within the context of **land, place, and kinship**. Cultural attachment requires the active (rather than passive) process of people attempting to preserve their natural and social environment.

During the fieldwork for this study, three elements of attachment became prominent; they were attachment to land, to physical place, and to kinship patterns.

People talked about their relationship to land in terms of self-sufficiency (“the land will provide-water, food, fuel - a home”⁵), and stewardship (“This land isn’t mine, I am just taking care of it for the next generation.”⁶) In cultural attachment, land is not seen as a commodity but as a part of the family system that has a sacred quality.⁷ Production on the land is geared to family use, sharing and other culturally appropriate activities.

³ Kent, James A. and Anthony K. Quinkert. The Technical Basis for Delineation of Human Geographic Units, Small Business Innovative Research Project, Grant Number: 85-SBIR-8-0069, United States Department of Agriculture, 1986.

⁴ Wagner, Melinda Bollar, et.al., “Documentation of Certain Intangible Elements of Cultural Heritage, Folklife, and Living Culture: Cultural Attachment to Land in Craig County, Virginia”, Appalachian Regional Studies Center and Department of Sociology and Anthropology, Radford University, March 1995, page 2.

⁵ Quote from field notes.

⁶ Quote from field notes.

⁷ For a thorough discussion on the concept of Appalachian space see Hill, David, “Appalachian Heroes as an Indicator of Appalachian Space: Changes in the meaning of Appalachian Space and Time, 1858-1985”, Proceedings of the Second Biennial Linear Parks Conference 1987, Appalachian Consortium Press, Boone, North Carolina, 1987.

For instance, on the non-federal portion of Peters Mountain timber companies have learned how to work with the local culture. There is no clear cutting. Trees of a certain size are taken out one at a time and the land looks the same as before-the canopy was not broken. Many of these lands in the culturally attached areas have been in the same family for hundreds of years, while other families try to reassemble land parcels that their ancestors had as original holdings.

Talk about physical place related to geographic space, special areas with names such as Peters Mountain or Sinking Creek. Connected to these places are stories and values that create a bond with one's home. "Our people are attached to the valleys and mountains all around us. It's been our home for generations. They have the land, the place...people offer us money for our land but we don't sell it. You just don't want to be cut off from the sacredness of your land"⁸.

Place was also defined as intimate knowledge of the landscape, what happens in the landscape, what the landscape provides ("During the depression, the mountain took care of us", "if you take care of this place it will take care of you", "Those springs are our life line, they keep us healthy"⁹). In culturally attached areas, place was spoken of as having a living interactive quality that preserved the relationship between people and their landscape.

The third element, kinship patterns, was commonly expressed in conversation with study area residents. In culturally attached areas, the household was the basic unit of production. Families had decided physical place and land were their dominant values and the family and kin work to support those values. Mutual cooperation, kinship gatherings, discussions of the genealogy of family and place were prominent.

In his book, Appalachian Valley, George Hicks focuses on kinship as the central organizing principle of social life.¹⁰ Dwight Billings in a paper on pre-industrial Appalachia states "exchange between families reveals a deep cultural attachment to kinship and neighborhood ties and to a spirit of mutual cooperation".¹¹ It was in this element that the resilience of the culture could be seen. Family mechanisms were used to maintain participation and control over their environment. Minor changes that confront the family are often adsorbed and brought into the culture. This absorption mechanism allows for people to accommodate change without losing their culture. Major impacts from the outside disrupt these kinship patterns leading to the demise of cultural attachment.

While the reviewed literature had discussed these three elements as separate entities, it became apparent that they were intricately tied together in a dynamic ecosystem where cultural attachment existed. Where cultural attachment was weakened one or more of these elements had been intruded upon and participation and control over them had been eroded. If one of the elements such as place (outsiders buying property) is impacted or affected the other two elements are also affected (kinship patterns broken, land shifts from use to commodity). It was found, in people's talk, that there was constant attention to keeping these three elements in harmony. Figure 2 displays the functioning parts of this culturally attached ecosystem model.

⁸ Ibid. Page 104

⁹ Quotes from field notes

¹⁰ Hicks, George L, Appalachian Valley. Holt, Rinehart, and Winston, New York, 1976

¹¹ Billings, Dwight, et.al.; "Culture, Family, and Community in Pre-industrial Appalachia", Appalachian Journal, Winter 1986, pages 154 to 170.

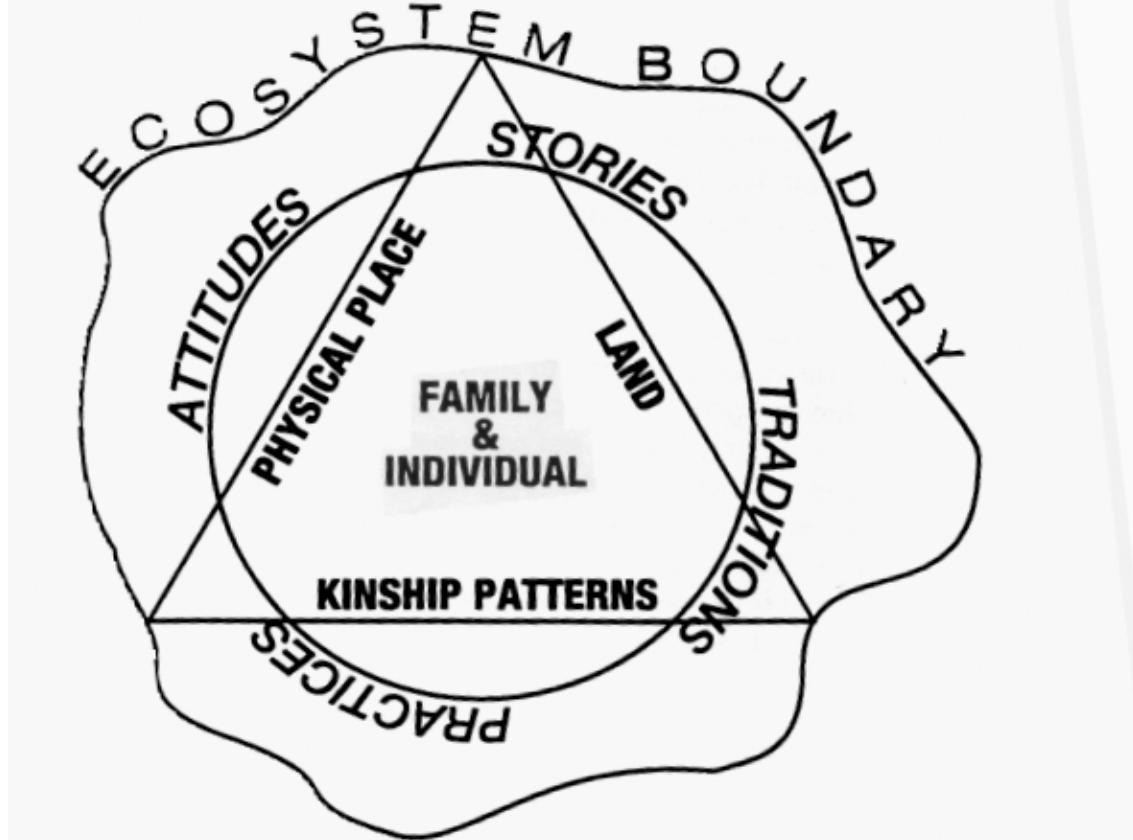


FIGURE 2: CULTURAL ATTACHMENT MODEL

The triangle represents the dynamic interaction of the three elements of land, physical place and kinship. In the middle of the triangle are the individual and family. In the circle are the cumulative affects over time of the traditions, attitudes, practices and stories.¹² The outer boundary represents the ecosystem within which cultural attachment occurs.

Some of the most important characteristics of cultural attachment imply a long relation± to the land, a set of work routines and support mechanisms that rely on the help neighbors and kin, and a common understanding within the community of the genealogy neighbors and places. One must have other people like oneself to continue to practice daily living in a way that supports cultural attachment. That is not to say that cultural attachment is so fragile that newcomers cannot be absorbed.

This active rather than passive definition of culture attachment was used in the field 1 determine where different geographic areas would be placed on a continuum from low cultural attachment to high cultural attachment.

Cultural Indicators Used To Assess Areas of Culture Attachment

“Cultural attachment indicators” were developed by JKA to identify areas where cultural attachment exists and to allow for a comparative assessment of cultural attachment in different geographic areas. Indicators are selected from within the study environment in order to provide a culturally sensitive measure of culture attachment. The indicators chosen for this project were developed as a result of describing the study area with the seven cultural descriptors. The most significant cultural descriptors in defining cultural attachment indicators were “settlement patterns” and “work routines”.

Five cultural attachment indicators were developed to identify the areas in which cultural attachment was practiced and to assess its extent:

¹² Jones, Loyal, Appalachian Values, The Jesse Stewart Foundation, Ashland, Kentucky, 1994.

Kinship -- A person who is culturally attached has a primary commitment to his/her kin. This expresses itself through mutual support to provide needed services such as child care, agricultural support, and entertainment/recreation. This occurs within the context of a commitment to place. A person who is not culturally attached is more likely to purchase services and seek entertainment/recreation outside of their place. They are also likely to define their family as those with whom they share a residence.

Place/work orientation -- A person who is culturally attached has a primary commitment to place. The choice of employment is secondary and is often a method of supporting the primary commitment to place. In contrast people who are not culturally attached place primary emphasis on the choice of work and then select a place to live.

Relationship to land -- A person who is culturally attached has a relationship to land, which is primarily based in non-economic values. Land is recognized as having intrinsic value, which is more important than its economic value. A person who is not culturally attached has a relationship to land, which is primarily based on its extrinsic or economic value.

Genealogy of homeplace -- A person who is culturally attached has an understanding and makes choices in his/her daily lives based on the genealogy of their homeplace. If one is a newcomer, he/she will have learned of the genealogy of the homeplace and adopted it.

Absorption -- People in areas which practice cultural attachment have developed a process for absorbing change in their environment. This informal system provides the basis for sustaining culture while dealing with new influences. In places where cultural attachment is not practiced, changes are based on whatever choices individuals or political bodies make since there is little or no culture left into which change can be absorbed.

Identified areas of cultural attachment studied are shown on Map 3. In some areas, the extent of cultural attachment is greater than in others. Areas were rated and placed in one of five categories: high, high/medium, medium, medium/low, or low. Areas with low cultural attachment, such as Pearisburg, Narrows, Glen Lyn, et. al. were not reported out

High -- cultural attachment is the dominant culture. All five indicators show that without intrusion, the culture will have a long-term sustainability.

High/medium -- cultural attachment is the dominant culture, however the culture has begun to face intrusion from internal or external forces. One or more indicators are showing a weakness that could affect sustainability.

Medium -- cultural attachment coexists with other cultures and is not the dominant culture. It might exist in clusters of families but overall indicator strength is degenerating due to intrusions. Sustainability is in doubt.

Medium/low -- cultural attachment exists in clusters that are not sustainable.

Low -- cultural attachment is virtually non-existent.

Table 1 shows the rating by indicators and the cumulative rating for each area of cultural attachment studied.

Area of Study	Peters Mountain	Walker valley	Waiteville	Sinking Creek	Clover Hollow	Bozoo/ Ballard	Paint Bank
Kinship	High	High	High/Med	Medium	Medium	Medium	Med./Low
Place/work	High	High	High	High/Med	Medium	Medium	Med/Low
Relation to Land	High	High	Medium	Medium	Medium	Medium	Low
Genealogy	High	High/Med	High/Med	High	Medium	Medium	Med/Low
Absorption	High	High	Medium	Medium	Medium	Medium	Low
Overall	High	High	High/Med	High/Med	Medium	Medium	Med/Low

Table 1: Rating of Cultural Indicator Attachment Study Areas by Cultural Attachment

SECTION 3: AFFECTED ENVIRONMENT

The study area covers a broad range of human and physical geography including parts of two states (West Virginia and Virginia) and all or portions of seven counties (Giles, Monroe, Craig, Montgomery, Mercer, Roanoke, and Summers). Parts of the study area are within growth corridors of urban areas such as Roanoke and Blacksburg. These corridors correspond with Highway 460 and Route 311 in Virginia.

Previous alterations to the landscape have included the construction of major roadways railroad lines, and numerous powerlines, which connect to the Glen Lyn power plant. Most of these changes have been in the urban growth corridor.

There are also areas, which are relatively remote with limited alterations to the physical and social environment over the last fifty years. There is a rich history to the entire study area which has included: the migration of early European settlers in the late 1700's, Civil War activities, the healing water spas at the end of the 19th century, the short-lived introduction of railroads for mining and logging, and the emigration to factory towns during the depression, and the military exodus during World War II. Culturally, the close family relationships and mutual support which characterized mountain living for the last two hundred years are still common in parts of the study area.

Knowledge gained about the study area and areas of special concern is presented in the context of consequences of the chosen alignment. JKA presents key findings from the study and then describes the alternatives as they relate to enhancing or impacting cultural attachment

Intrusion

The link between cultural attachment and powerline corridors becomes operative when assessing the impact of an intrusion (powerline) on the cultural landscape of an area. An intrusion is an outside force brought into an area, which will create a significant long-term change in the relationship between people, and land, which cannot be absorbed into the existing culture, thereby changing that culture. In areas where cultural attachment is strong, because individuals have consistently made choices over time, which support their culture, an intrusion is a threat to the living culture.

Intrusion as a process that disrupts and destroys culture is discussed by many authors who write about changes in Appalachia.¹³¹⁴ David Hill was a poignant commentator.¹⁵ He discussed assaults on established culture in the form of “technological advances developed outside the region, penetrating and saturating” the region. Hill identifies two intrusions, the railroad of the 1850’s and the United States highway system of the 1900’s that set the stage for exploiting the mountain environment. As Hill states the “new exploitive systems undercut the cultural patterns” which had developed through people’s relation to the land, physical place and kin.

Any outside-generated intrusion that breaches the boundary of a culturally attached area will be destructive to the human habitat. Change that comes in through the culture has a better chance of being accommodated and is therefore non-intrusive. A biological metaphor to explain intrusion is the cell. A cell is a self-contained living unit of matter that has a membrane that allows certain substances into the cell and prevents other substances from entering. The cell will absorb what it can and fight off what cannot be absorbed through osmosis. When the cell is breached internally by a mutation or by an external intrusion, the cell loses its ability to control osmosis. Once osmosis is lost, anything can enter the cell.

Healthy cultures have a similar ability to absorb some changes and reject others that threaten their ability to remain intact. An intrusion weakens and potentially destroys the relationship between people and land, place, and kinship patterns by disrupting the cultural “membrane” which protects these relationships. Since one is never sure which intrusion will rupture the membrane, one must assume it will be the next one if a community with strong cultural attachment is recognized as worth saving.

Specifically, loss of land to powerlines and roads are threats to cultural attachment. Some of the farms that are marginal now will be sold off and farming families will move. The loss of a family in a culturally attached area diminishes the support systems that are necessary for survivors to keep making commitment to the land. In addition, the “eminent domain” process to acquire right-of-way land would intrude on the relationship between land and people by allowing the land value to be measured in economic rather than cultural terms. It also involves forcing the sale of land, which has genealogical and cultural meaning. A community that functions well, through cultural attachment, will be destroyed--even if it takes years.

Identified Areas of Cultural Attachment

Identified areas of high, high/medium, and medium cultural attachment by alternative/segment are displayed in Graphic 1 on the following page. Alternatives that pass through one or more areas of high or high/medium cultural attachment are considered to be highly intrusive and will be destructive to the cultural attachment in the area. Alternatives that pass through one or more areas of medium cultural attachment are considered to be moderately intrusive unless there is an existing intrusion that is similar. For example, the Transmission Line Parallel 1 and 2 alternatives are proposed to parallel the path of an existing powerline intrusion. Because of the existing intrusion, impact of a new intrusion on a medium area of cultural attachment is reduced to a low impact.

SECTION 4: FINDINGS AND ENVIRONMENTAL CONSEQUENCES

In order to assess the impact of the 13 alternatives to cultural attachment, the relationship between powerlines

¹³ Eller, Ronald D., “Industrialism and Social Change in Appalachia, 1880-1930: A Look at Static Image”, In Colonialism in Modern America-The Appalachian Case, Boone: Appalachian Consortium, 1978.

¹⁴ Stein, Maurice, The Eclipse of Community, Princeton: Princeton University Press, 1960

¹⁵ Hill, pages 100-104.

and cultural attachment was determined, areas of cultural attachment were identified, and the extent of cultural attachment by area was assessed. This section contains the findings from that analysis.

Findings and environmental consequences are based on the rating of cultural attachment in a specific area and whether it will be an intrusion on the relationship between people and the land, place, and kinship patterns. In areas of high cultural attachment, a relatively undisturbed area where people actively support their culture through daily choices, an intrusion such as a powerline, four-lane road, or other major project which would be highly intrusive. In areas of low cultural attachment, intrusions and daily choices have already diminished cultural attachment to the point that it is on an unsustainable path.

Environmental Consequences by Alternative

Identified areas of high, high/medium, and medium cultural attachment by alternative/segment are displayed in Graphic 1 on the previous page. Alternatives which pass through one or more areas of high or high/medium cultural attachment are considered to be highly intrusive and a threat to the cultural attachment in the area. Alternatives that pass through one or more areas of medium cultural attachment are considered to be moderately intrusive unless there is an existing intrusion that is similar. For example, the Transmission Line Parallel 1 and 2 alternatives are proposed to parallel the path of an existing powerline intrusion. Because of the existing intrusion, impact of a new intrusion on a medium area of cultural attachment is reduced to a low impact.

Alternative 1: Proposed Action (with L and M Segments)

Federal Lands. The alternatives that cross the Peters Mountain area of cultural attachment are the only ones that will receive comment on the federal lands portion. These comments are based on a shared sense of cultural attachment that exists in the Peters Mountain area. Relationships to land, place, and kinship patterns include the federal lands in the Peters Mountain area. The relationship to place is focused on Peters Mountain, with poems and stories that establish the mountain as hero. Intrusions upon federal lands in the Peters Mountain area will damage the cultural infrastructure that ties people and land together.

There is a striking similarity between this phenomenon and the description of traditional cultural property that is often used in discussing Native American's cultural and spiritual relationship to land and place. Identification of this cultural phenomenon can be established through: active rituals on the land, burials of family members, family history rooted in stories about the land, and intimate understanding of the resources which the land provides for sustenance. All of these apply to the federal lands in the Peters Mountain area.

Non-federal Lands. Segments D, E, and F cross the Peters Mountain area of high cultural attachment. G and H cross the Waiteville area and K crosses the Sinking Creek area of high/medium cultural attachment.

This alternative would have high intrusive impacts on cultural attachment in the study area.

Alternative 2: Proposed Action (with S and T Segments)

Same as alternative 1.

This alternative would have high intrusive impacts on cultural attachment in the study area.

Alternative 3: Proposed Action Modified 1

Federal Lands. Same as alternative 1.

Non-federal lands. Segments NA, NC and AC-15 cross the Peters Mountain area of high cultural attachment. NMI and NN cross the Waiteville and K crosses the Sinking Creek areas of high/medium cultural attachment.

This alternative would have high intrusive impacts on cultural attachment in the study area.

Alternative 4: Proposed Action Modified 2

Federal lands. Same as Alternative

Non-federal lands. Same as alternative 3

This alternative would have high intrusive impacts on cultural attachment in the study area.

Alternative 5: Northern Link Modified 1

Non-federal lands. Segments NA, NC, and AC-15 cross the Peters Mountain area of high cultural attachment.

This alternative would have high intrusive impacts on cultural attachment in the study area.

Alternative 6: Northern Link Modified 2

Federal lands. Same as alternative 1.

Non-federal lands. Same as alternative 5.

This alternative would have high intrusive impacts on cultural attachment in the area.

Alternative 7: Transmission Line Parallel 1

Federal lands. No cultural attachment impact

Non-federal lands. Segment SS crosses the Clover Hollow area of medium cultural attachment in which a powerline intrusion currently exists.

This alternative would have low intrusive impacts on cultural attachment in the area.

Alternative 8: Transmission Line Parallel 2

Federal lands. No cultural attachment impact

Non-federal lands. Same as alternative 7.

This alternative would have low intrusive impacts on cultural attachment in the area.

Alternative 9: Dismal Creek Crossing 1

Federal lands. No cultural attachment impact

Non-federal lands. Segment SSS crosses the Walker Valley area of high cultural attachment.

This alternative would have high intrusive impacts on cultural attachment in the area.

Alternative 10: Dismal Creek Crossing 2

Federal lands. No cultural attachment impact.

Non-federal lands. Same as alternative 9.

This alternative would have high intrusive impacts on cultural attachment in the study area.

Alternative 11: Southern Corridor 1

Federal lands. No cultural attachment impact.

Non-federal lands. No identified areas of medium or greater cultural attachment have been identified in the study area along this alternative.

This alternative would have no identified intrusive impacts on cultural attachment in the study area.

Alternative 12: Southern Corridor 2

Federal lands. No cultural attachment impact.

Non-federal lands. Same as alternative

This alternative would have no identified intrusive impacts on cultural attachment in the study area.

Alternative 13: Non-GW&JNF

Federal lands. No cultural attachment impact.

Non-federal lands. No cultural attachment impact

This alternative would have no identified intrusive impacts on cultural attachment in the study area.

Cumulative Impacts

The primary cumulative issues of potential concern with regard to cultural attachment are: past roadway/linear projects, past transmission line projects, and foreseeable roadway/linear projects. The past roadway/linear and transmission line projects were used in our analysis of previous intrusions and their impact on cultural attachment. Previous expansion of US 460, railroad lines, and transmission lines have all influenced Relationship To Land, Absorption, and Kinship in the areas in which they exist.

Numerous developments, including manufacturing facilities, a power plant, commercial and light industrial

development along the US 460 corridor, and the impacts of urban growth and migration outside of Blacksburg have all contributed to the establishment of an urban corridor along US 460 through the study area. In general, cultural impacts are minimized by locating additional intrusions along urban corridors or paralleling existing intrusions.

Based on the list of foreseeable projects and the approved level of analysis, upgrading of Route 219 is the primary cumulative issue of potential concern. The proposed upgrade from 2 to 4 lanes would change the nature of impacts of the existing roadway in the Peters Mountain cultural attachment area. The potential for significant impacts exists due to the Route 219 upgrade. Alternatives 1, 2, 3, 4, 5, and 6, all cross Route 219 approximately 8 miles northeast of Peterstown. The combination of elongated, linear bifurcation could increase the impacts to the Peters Mountain cultural attachment area.

Mitigations

Cultural attachment does not lend itself to mitigation. Since cultural attachment is non-economic and non-transferable, it cannot be mitigated through reimbursement or relocation of individuals. For alternatives with high intrusive impacts on cultural attachment, where intrusions have been minimal and individuals make daily choices based upon their culture, avoidance is the most culturally appropriate action. For alternatives with low intrusive impacts on cultural attachment, special attention could be given to disruption of agricultural production. Examples of mitigation would include: working with farmers to site towers and rights-of-way, manual clearing of underbrush along the route instead of chemical application, and minimization of new road construction. For alternatives with no identified impacts, no mitigation is proposed.

SECTION 5: BIBLIOGRAPHY

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