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February 2013

Dorset Peru
Integrated Resource Project

Decision Notice and
Finding of No Significant Impact

Manchester Ranger District
Green Mountain National Forest
Towns of Dorset, Peru, Manchester and Winhall;
Bennington County, VT

Dorset Peak Vista

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DECISION NOTICE
and
FINDING OF NO SIGNIFICANT IMPACT
for the
DORSET PERU INTEGRATED RESOUCE PROJECT
FINAL ENVIRONMENTAL ASSESSMENT

USDA Forest Service
Green Mountain National Forest
Manchester Ranger District
Towns of Dorset, Peru, Manchester and Winhall;
Bennington County, VT

February 2013

1. DECISION NOTICE

1.1 INTRODUCTION

This document describes my decision, and the rationale for the implementation of the management activities proposed for the Dorset Peru Integrated Resource Project located on the Manchester Ranger District, Green Mountain National Forest (GMNF). The Decision Notice (DN) and Finding of No Significant Impact (FONSI) are based on an environmental assessment that documents the analysis of the proposed action and alternatives to meet the purpose and need for the Dorset Peru Project.

The Dorset Peru Project was designed to implement the 2006 GMNF Land and Resource Management Plan (Forest Plan), meet Forest Plan goals and objectives, and to move the project area Management Areas closer to their desired future conditions. The *Dorset Peru Integrated Resource Project Final Environmental Assessment* (Final EA) dated February 2013 was prepared by an interdisciplinary team (IDT) of Forest Service resource specialists following the implementing regulations for the National Environmental Policy Act (NEPA). It describes the project purpose and need, the alternatives considered for detailed analysis, and the potential environmental effects for each alternative including any proposed mitigation measures.

The Dorset Peru Project consists of integrated resource management activities including those that improve wildlife and fish habitat, enhance forest health, provide timber products, control non-native invasive plants, restore soil and water conditions, increase recreation and scenery viewing opportunities, address travel system needs (trails and roads), and protect or enhance heritage resource sites within the Dorset Peru Project Area. The Dorset Peru Project Area is located primarily in the towns of Dorset and Peru with the remaining portions in the towns of Manchester and Winhall, VT. The vast majority of proposed activities included in the Final EA are on National Forest System lands administered by the USDA Forest Service. Proposed activities also include a small amount of heritage restoration work on State land and some fish passage improvement for culverts on town roads.

The Final EA analyzes three alternatives including the No Action alternative (Alternative A), the Proposed Action (Alternative B), and an alternative that eliminates timber harvesting in stands that would be accessed from Bromley Forest and Chandolin Roads in the Town of Winhall

(Alternative C). I believe this range of alternatives adequately addresses the project purpose and need, the issues raised during the initial scoping process, and the comments received during the required 30-day public comment period. Three additional alternative actions were considered but eliminated from detailed analysis in the Final EA. The description of these alternatives and rationale for not analyzing them is discussed in Chapter 2, pages 44 to 46 of the Final EA.

1.2 PUBLIC INVOLVEMENT

Public issues and management concerns related to the Proposed Action were identified by reviewing Forest Plan direction for the Dorset Peru Project Area and by contacting interested and affected members of the public, and Forest Service employees in a process called "scoping" as called for in the Council on Environmental Quality (CEQ) regulations for implementing the NEPA (40 CFR 1500-1508, specifically 1501.7 on scoping).

The Dorset Peru Project was initiated in the spring of 2007 in meetings with town officials, community members, stakeholders and Vermont Department Forest Parks and Recreation (VFPR) and Vermont Fish and Wildlife Department (VFWD) staff; and a public field trip to Dorset Mountain held in June 2007. A public meeting was held in October 2009 at Bromley Mountain in Peru, VT to present information on resource inventories that were conducted in the project area, and to provide an opportunity for public input on this information. In April and May 2010 meetings were held in Dorset and Peru, VT to further collaborate with the public. Individuals, organizations, towns and agencies were invited to: 1) learn about the Forest Service desire to implement integrated resource management activities; 2) provide local knowledge and ideas for possible site-specific activities and opportunities; and 3) identify areas of particular interest in the project area. Potential management opportunities were identified through exchange of ideas between meeting participants.

Two public field visits were held during the summer of 2010: one to explore the potential East Dorset Trail, the other to look at existing and potential wildlife openings. The ideas for management activities developed through public collaboration and resource specialists' condition assessments were explored and expanded upon throughout the next year. During this same time period Forest Service staff collected more detailed inventory information to further verify and refine management activity options. The Forest Service narrowed the list of potential project activities based on these efforts and presented them at a public meeting held in Peru, VT in May 2011.

Additional feedback provided by the public during and after the May 2011 meeting resulted in the proposed action detailed in the *Dorset Peru Integrate Resource Management Project Scoping Information* document dated July 20, 2011. This Scoping Information was mailed or emailed to approximately 280 individuals, organizations, towns and agencies for a 30-day comment period ending August 26, 2011. It was also posted on the GMNF web site at the same time as the mailing. Notification of the project has also been published in the quarterly *GMNF Schedule of Proposed Actions* (SOPA) since April 2010. The SOPA is made available for those interested in projects proposed to implement the Forest Plan.

Public comments received during the initial scoping period resulted in one (1) major issue that was used to develop an alternative for detailed analysis in the Final EA: "*the Forest Service should reconsider using Bromley Forest Road and Chandolin Road for use by log trucks and harvest."*

There were an additional two (2) resource related major issues that did not result in alternatives but were addressed with mitigations, and are associated with resources that are discussed in Chapter 3 of the Final EA and/or filed in the Dorset Peru project planning record. The *Dorset Peru Integrated Resource Project Scoping Period Comment Content Analysis and Response to Comments* dated July 2011 was prepared to disclose how all comments were addressed during this phase of the analysis process.

The *Dorset Peru Integrated Resource Project Preliminary Environmental Assessment: 30-Day Comment Document* was made available to an extensive list of individuals, agencies, and organizations in August 2012. The Preliminary EA was also available on the GMNF website. The public was notified by a legal notice in the Rutland Herald on August 13, 2012 triggering an opportunity to comment on the Preliminary EA and the proposed management activities for a 30-day period from August 14 to September 12, 2012.

There were 14 timely comments received for the Preliminary EA. One new major issue was identified from these comments and was addressed through an additional mitigation. There were also parts of the EA that were clarified or improved as a result of the content of comments. The *Dorset Peru Integrated Resource Project Preliminary Environmental Assessment 30-Day Comment Period: Comment Content Analysis and Response to Comments, February 2013,* was prepared to disclose how all comments were addressed in this final phase of the analysis process.

All public suggestions, input, and feedback provided during project development; and formal comments received during the initial scoping and Preliminary EA comment periods were all factors that I considered when making my decision for the Dorset Peru Project. Further details related to the public involvement process and the issues identified for the analysis are found on pages 22 to 25 of the Final EA.

1.3 DECISION AND RATIONALE FOR THE DECISION

1.3.1 Decision

My decision is to select Alternative B, the Proposed Action, for implementation. My decision is based on the results of the analysis documented in the Dorset Peru Project Final EA, project planning record, and public comments received during initial scoping (July 2011), and the Preliminary EA 30-day comment period (August 14 to September 12, 2012). The Final EA fully describes the Alternative B selected actions and their site-specific locations on pages 27 to 47, and Figure A-2. My decision also includes the adoption of mitigation measures that were developed to address resource concerns associated with Alternative B (see Appendix B).

1.3.2 Rationale

Both action alternatives considered for detailed analysis in the Final EA (Alternatives B and C) meet the purpose and need for the project, and are within the acceptable environmental and social thresholds documented in the Final EA. However, after a thorough review of the Final EA and supporting documentation found in the Dorset Peru project planning record, in addition to consideration of all public comments, my conclusion is that Alternative B best meets the overall intent of the project's purpose and need which is to move the existing resource conditions within the project area toward the Green Mountain National Forest Plan (Forest Plan) desired future condition (Final EA, pp. 6 to 21).

I have selected Alternative B because it will best meet the Forest Plan goals and objectives for the project area in the most comprehensive way compared to the other alternatives. Alternative B will improve habitat diversity and timber stand conditions on 2,047 acres including the area in forested stands behind Bromley Forest and Chandolin Roads which would have been excluded under Alternative C. In 2005, improved and consolidated legal access to these forested stands was gained when the United States (Forest Service) acquired a parcel of land from a willing seller near the end of Chandolin Road (Tract 291). Acquisition of this parcel met Forest Plan priorities for purchase, including "improving management effectiveness, providing administrative access to the National Forest and providing resources for forest products" (Forest Plan, page 41).

I also considered four other access options to the stands behind Bromley Forest and Chandolin Roads (see Final EA, 2.2.3 Alternatives Considered but Eliminated from Detailed Analysis). All of the options were found to be infeasible due to geographic, environmental, financial and legal access constraints. Securing access to this area of National Forest began with the acquisition of Tract 63 in 1985, and was subsequently consolidated and improved with the acquisition of adjacent Tract 291 in 2005. To expend additional time and resources to investigate and/or execute an alternative means of legal access to these stands would not be in the best interest of the American public.

The GMNF behind Bromley Forest and Chandolin Roads contains stands that have a high tree density (i.e., overcrowded) thus increasing the risk of mortality from competition. These stands also show evidence of damage from insects and disease, as well as ice storm damage. Vegetation management activities proposed in Alternative B will improve short-term and long-term timber quality and forest health including wildlife habitat improvement. Active management in several of these stands will also increase the size and quality of trees as well as the production of sawtimber. Timber harvest will also contribute to a sustainable supply of forest products and provide local and regional economic benefits, including increased employment opportunities.

Proposed vegetation management will contribute to forest structure, age and composition objectives identified in the Forest Plan to enhance long-term habitat diversity. The GMNF behind Bromley Forest and Chandolin Roads is within the Escarpment Management Area of the Forest Plan which emphasizes natural plant communities that have historically existed on the western slopes of the Green Mountains, such as oak forests. The current distribution of oak habitat in the project area, and the entire GMNF in general, is limited due to land use history that led to the decline of oak forests. There are management opportunities within Alternative B to enhance natural community diversity in this area, and to enhance regeneration of oak in particular. Management of two stands behind Bromley Forest and Chandolin Roads (approximately 44acres) will also help to address an under-representation of regenerating or young forest, as identified in the assessment of habitat diversity within the Project Area.

Public comments received during this project highlighted the concern that hauling timber over Bromley Forest and Chandolin Roads would be unsafe because of the steepness and narrowness of the road; would result in damage to the road; would impact the residential community's use and enjoyment of the area for recreational activities and would decrease property values; and would result in noise and dust. I have taken these concerns very seriously during my decision making process. During this project we met with homeowners over these concerns on multiple occasions and also met with the Town of Winhall Select Board to discuss the use of these roads for hauling timber and other management activities. The Select Board did not object to our proposed use of Bromley Forest and Chandolin Roads. Nevertheless,

mitigation measures have been developed to help address these public concerns (see Appendix B, p. B-1).

To be clear my decision authorizes the forested stands behind Bromley Forest and Chandolin Roads that are located on National Forest System lands to be managed for timber activities as prescribed in the Final EA, Alternative B; my decision does not authorize the use of Bromley Forest and Chandolin Roads since these are town roads under the jurisdiction of the Town of Winhall. The Winhall Select Board has indicated that these roads are "town highways" open to all public use including commercial truck use associated with logging, plumbing, propane delivery, home construction, other commercial use, etc. The use of these town roads by logging operators under contract with the Forest Service is consistent with recent and past use by other private and public operators on other similar Town (public) roads. Over the last 5 years the Forest Service has successfully and safely implemented a number of timber sales and other natural resource projects associated with the Nordic Project in Winhall and the neighboring towns of Peru, Landgrove and Londonderry. All of the logging activities has occurred in or adjacent to residential areas with log trucks hauling across various levels of town roads without incident.

As stated in the Final EA (Chapter 3, Social Section 3.1.4, pp. 56 and 57) the use of the town roads, Bromley Forest Road and Chandolin Road, would be of short duration, approximately 17 weeks over one or two winter seasons generating an average of 1 or 2 loads of logs a day. After careful review of the analysis as documented in the Final EA (Chapter 3, Social Section 3.1, pp. 54 to 57), and based on discussions with the Winhall Select Board, I am confident that Alternative B can be carried out in a safe and professional manner, and will not have long-term adverse effects on the residential community and to the road.

1.3.3 Management Actions

Alternative B includes the following specific management actions; these activities are summarized in Table 2 at the end of this section:

1.3.3.1 Habitat Diversity

Appendix A, Tables A-1 and A-2 provide a summary of wildlife habitat and vegetation management treatments included in my decision. Refer to Decision Notice Figure A-2 (Activities Map) for wildlife habitat treatment locations. Refer also to the timber Section 1.3.3.2 in this decision document for a more detailed discussion of the harvest treatments associated with habitat diversity.

Diversify the Composition and Ages of Forest Types to Improve Wildlife Habitat
The harvesting of timber will diversify the composition and ages of forest types which will improve overall compositional and structural diversity, and so improve wildlife habitat throughout the project area. This decision includes the following activities:

- Increase early-successional (regenerating) habitat through clearcut, seed tree, and shelterwood harvesting on approximately **517 acres**.
- Enhance softwood and oak species composition and increase mixedwood and softwood habitat through approximately **229 acres** of single-tree and group selection harvesting in hardwood, mixedwood, and softwood stands.

- Enhance early-successional habitats in the Remote Wildlife Habitat MA through the development of **107 acres** of "late-stage" openings (see below under Openings section).
- Enhance late successional habitats in the Remote Wildlife Habitat MA through **385 acres** of thinning and improvement cuts to extend the growth and longevity of trees in areas of extended rotations of 150 to 200 years.

Diversify Aspen Habitat
The decision includes regeneration of aspen clones within approximately **93 acres** of existing hardwood and mixedwood habitats using a variety of silvicultural methods in order to enhance the abundance and distribution of this important but limited habitat feature. Clearcut harvesting on 49 acres will create stands that have a high proportion of aspen while thinning and improvement cuts on 44 acres will release aspen clones and create a more vigorous aspen component within each stand.

Enhance Oak Habitat
The decision includes enhancing oak habitat within the Green Mountain Escarpment MA through regenerating one **28-acre** hardwood stand, C59/S11, using a shelterwood with reserves harvest while enhancing existing oak in the stand. The objective for this stand is to initiate the conversion of this stand to an oak-northern hardwood forest type.

Several stands within the Escarpment MA and elsewhere (including Comp 57/ Stds 1, 2, 5, 10; Comp 58/ Stds 15, 22; Comp 59/ Stds 11, 15, 16, 18; Comp 60/ Stds 36, 37; Comp 61/ Std 37; Comp 63/ Std 30) include oak as a minor component of the stand. These stands are dominated by other forest types, such as northern hardwoods or hemlock-northern hardwoods, but include scattered oak trees, saplings, and/or seedlings. The proposal will increase the abundance of oak on **360 acres** of these hardwood and mixedwood stands while implementing the treatments proposed for these stands. Prescriptions for these stands will include release of existing oak seedlings, saplings, and small trees from competing vegetation, thereby increasing the proportion of oak in the stands, and ensuring a healthy seed source for future regeneration and mast crops for wildlife.

Two new openings will be created in Compartment 57 (in Stands 1 and 5) that also have scattered red oak trees. FS staff anticipates that red oak seedlings may germinate and grow in these openings if the new open conditions, aspect, and soils are suitable. If red oak seedlings are abundant and vigorous in these openings, FS staff will manage them for red oak regeneration by implementing opening restoration treatments to favor the development of sturdy tap roots on the red oak seedlings, and limit competition from red maple and beech. If successful, FS staff may in the future decide to allow one of these openings to revert to forest as a red oak stand.

Deer Winter Areas
Wintering habitat for white tailed deer will be maintained and enhanced through vegetation management to improve availability and quality of winter cover and browse. Only a small proportion of the State-mapped deer wintering areas overlap with NFS lands that are suitable for timber management within the project area. Timber and vegetation management elsewhere in the project area will provide improved, year-round habitat for deer. Even-aged regeneration treatments (clearcut, seed tree, and shelterwood), will promote hardwood and aspen regeneration for browse. Some uneven-aged treatments (single-tree and group selection) will be laid out to encourage softwood regeneration that will provide winter cover. Permanent upland wildlife openings containing grasses, forbs, and shrubby browse provide important year-round habitat for deer, even if they are not within or adjacent to mapped deer wintering areas.

Refer to the Timber Section for discussion of the proposed even-aged and uneven-aged harvest treatments and to section below.

Maintain, Restore, and Expand Existing Permanent Upland Openings and Create New Upland Openings

The decision includes management of 17 permanent upland openings for a total of **250 acres**. This management includes continued maintenance or restoration of some openings that currently exist, expansion of some existing openings into neighboring stands to create larger openings, and creation of new openings.

Restoration and maintenance of openings will be accomplished through timber harvest, mechanical chipping, or mowing; cutting with chainsaws, brush saws, or other hand tools; prescribed burning; or a combination of these treatment methods. Each stand typically will receive one to three treatments over a period of 5 to 7 years with some stands receiving multiple treatments in the same year. The treatment type, the number of treatments and the timing of treatments will be site-specific, depending on existing conditions compared to desired vegetative composition and structure identified for each stand.

The decision actions will restore or create 17 upland openings. Two of the existing openings currently are managed and maintained under previous NEPA decisions: one 10-acre meadow and one 9-acre hayfield, for a total of **19 acres**. Five small existing openings in various stages of re-growth, for a combined total of **seven acres**, will serve as the seeds for expansion into four larger openings, for an expanded total of **44 acres**. In addition, 11 new openings will be created as part of this proposal, for a total of **187 acres**. Most of these enlarged or new openings will be between 10 and 20 acres in size. These larger openings provide a relatively-greater benefit to wildlife than smaller openings, and FS staff anticipates that future maintenance will be more cost effective. Once established, these newly created permanent upland openings will be restored as needed using the same treatment methods proposed for existing upland openings.

The management approach for six of the new large openings (three each in Compartments 56 and 62 for a total of **107 acres**) will be different than for other openings in the project area and on the GMNF. These six openings fall within the Remote Wildlife Habitat management area, and will be designated as “late-stage” permanent upland openings. Within each compartment, three grouped openings will be regenerated on a rotating 7-year schedule so that at any given time, the vegetation in one stand will be 0 to 6 years old, one stand will be 7 to 13 years old, and one stand will be 14 to 20 years old. Each stand will be regenerated after the twentieth year. These late-stage stands will increase the continuing availability of older early-successional habitat (7 to 20 years) that will complement the permanent upland openings maintained on annual to five-year schedules, and temporary openings created through silvicultural treatment that grow through early-successional stages to mature forest.

Authorization for future, continuing maintenance of all openings maintained, restored, or created as part of this project would be sought through future NEPA decisions.

Four other existing openings within the project area, two alpine ski trails and two powerline rights-of-way, are included under long-term special use permits and maintained by the holders of those permits. These openings are not considered part of the proposed action and are not included in Appendix A-1.

Apple Tree/Soft Mast Release and Pruning

The proposal includes release and pruning of apple trees at four sites (see Appendix A, Table A-1)) where they are known to occur. It is anticipated that more apple trees will be discovered during project inventory, planning and implementation. Any newly-discovered apple trees will be considered for inclusion in the proposal for release and pruning activity. Treatment will include removal of over-topping trees that shade the apples, as well as small saplings and pole-size trees near or under the canopy of individual apple trees. This work will be completed using hand tools such as bow saws, chain saws, and other portable cutting devices designed for removal of woody vegetation.

Create Down Woody Debris Habitat
Cut and remove trees growing in and near select historical sites such as foundations of homes or mills, stone walls, charcoal kilns, etc. (refer to the Heritage Section). Trees cut to maintain these structures will be left on site and placed in such a way as to provide nesting, foraging, and travel habitat for small mammals, reptiles, and amphibians.

1.3.3.2 Timber

My decision includes a variety of timber harvest treatments on a **total of 2,047 acres** within the project area to provide forest products to the local and regional economies, improve forest health and diversity, and to move the existing forest habitat composition and age class toward the objectives as provided in the Forest Plan and HMU analysis. Table A-2, Appendix A summarizes the harvest treatments, number of harvest acres for each Compartment/Stand and the actual treatment acres for each harvest method. Table A-4 lists stand improvement (TSI) and tree planting activities. Table A-5 lists site preparation for natural or artificial regeneration to be implemented for all stands receiving regeneration cuts. Refer to Decision Notice Figure A-2 (Activities Map) for harvest treatment locations.

Harvest Treatments
The following is a summary of the harvest treatments and methods to be implemented within the Dorset Peru Project Area:

1. Uneven-aged Harvest Treatments

Approximately **572 acres** of uneven-aged harvest treatments will be conducted. An uneven-aged system is a silvicultural system involves manipulation of a forest to simultaneously maintain: a) continuous high-forest cover, b) recurring regeneration of desirable species, and c) orderly growth and development of trees through a range of diameter or age classes to provide a sustained yield of forest products. Cutting methods that develop and maintain uneven-aged stands are single tree selection and group selection.

- Approximately **518 acres of single tree selection** will be conducted in 19 hardwood stands and five mixedwood stands. Individual trees of all size classes are removed more or less uniformly throughout the stand creating or maintaining a multiage structure to promote growth of remaining trees and to provide space for regeneration. Multiple entries of this activity ultimately results in an uneven-aged stand of 3 or more age classes. Single tree selection maintains a fairly uniform and continuous crown cover appropriate for regenerating shade tolerant species.

  In addition, small groups or gaps of 1/20 to 1/5 acre in size may be mixed in to help establish a multiage structure. This action will produce sawtimber and pulpwood products, and reduce overall stocking of trees to appropriate levels for small amounts of sunlight to reach the forest floor. This will favor mostly regeneration of shade tolerant

species of trees in the understory such as sugar maple, beech, hemlock, spruce and fir; and create a stand of trees of different sizes and ages.

Where inclusions of aspen may occur, or where shade intolerant or intermediate shade intolerant species such as paper birch, black cherry, or red oak exists, the gaps created with this method will be slightly larger, no larger than a 1/4 acre. This will favor the growing of aspen and desirable shade-intolerant hardwoods that requires more sunlight. This method will be applied to hardwood stands (comprised of beech, birches, maples, ash, and oak) and mixedwood stands (comprised of hardwoods mixed with white pine, spruce, fir and hemlock).

- Approximately **54 acres of group selection** will be conducted in two hardwood stands and one mixedwood stand. This harvest method, similar to the larger gaps described above, will harvest small groups of trees 1/20 to 2 acres in size and favor the growing of shade intolerant (sun-loving) species such as aspen, paper birch, and black cherry, and intermediate shade tolerant species such as red maple, yellow birch, red oak, white ash, and white pine.

2. Even-aged Harvest Treatments

Approximately **1251 acres** of even-aged harvest treatments will be conducted. An even-aged system is a silvicultural system that produces stands in which all trees are about the same age; that is, the difference in age between trees forming the main crown canopy level will usually not exceed 20 percent of the rotation length.

Intermediate Cuts – *the removal of trees from a stand sometime between the beginning of formation of the stand and the regeneration cut. Types of intermediate cuts include thinning, release, and improvement cuttings*.

- Approximately **316 acres of thinning** will be conducted in 12 hardwood stands and one mixedwood stand by removing individual trees to provide pockets of sunlight, growing space for improving growth on reserved trees while enhancing forest health through salvage of some dying trees. Basal area will be reduced to about 70 square feet per acre for hardwood stands and to about 100 square feet per acre in mixedwood stands. Red spruce, hemlock, and red oak trees and aspen clones in some of these stands can also be released from competition through thinning.

- Approximately **399 acres of improvement cutting** will be conducted in 21 hardwood stands and three mixedwood stands by removing individual less desirable trees to improve the composition and quality of the trees within the stand, and to release desirable species such as red spruce, hemlock, red oak, and aspen. Residual spacing will be similar to a thinning treatment.

Regeneration Cuts – *trees are removed from the stand to create conditions that will allow the forest to renew or reproduce itself.*

- Approximately **420 acres of shelterwood** cutting will be conducted in 17 hardwood stands. A shelterwood treatment is the cutting of essentially most trees, leaving those needed to produce sufficient shade to produce a new age class in a moderated microenvironment. The sequence of treatments can include three types of cutting: 1) an optional preparatory cut to enhance conditions for seed production and to develop windfirmness, 2) an establishment cut to prepare the seed bed and to create a new age

class, and 3) a removal cut to release established regeneration from competition with the overstory. These shelterwood stands will be separated by forested conditions and manageable stands so that they do not border each other.

- **Shelterwood preparatory cut (three-cut treatment)** will be conducted in three hardwood stands (81 acres). An initial light preparatory cut similar to a thinning that enhances conditions for seed production and windfirmness will be conducted. Approximately 2-3 years later, a shelterwood establishment cut will occur, leaving about 1/3 of the trees. Once regeneration has been established, a removal cut will occur to remove the remaining overstory and release the understory.

- **Shelterwood establishment cut (two-cut treatment)** will be conducted in 12 hardwood stands (292 acres). Approximately two thirds of the trees will be removed within each of these stands with the first cut leaving about 30 to 40 square feet of basal area per acre for seed and shelter trees. The remaining trees providing seed and shaded "shelter" to the new crop of understory trees may be harvested in about 3 to 5 years following initial harvest if compatible with other resources and after regeneration has been established.

- **Shelterwood with reserves** will be conducted in two hardwood stands (47 acres). Approximately two-thirds of the trees will be removed within these stands leaving about 30 to 40 square feet of BA per acre in residual hardwood stands for seed and shelter trees. The remaining trees provide seed and shaded "shelter" to the new crop of understory trees. No overstory removal is planned. The remaining portion of the stand is retained at least 20 percent into the next rotation of the new stand, usually 40 to 60 years, and could be removed at that time during the first thinning of the new stand as larger sawtimber.

- **Overstory removal on 20 acres** (from advanced regeneration) will be conducted in one hardwood stand. Overstory removal is the cutting of trees constituting an upper canopy layer to release understory trees. The primary source of regeneration is advance reproduction. This is a result of a stand that was previously harvested.

- Approximately **47 acres of seed tree** harvest will be conducted in two hardwood stands. Seed tree harvests remove most of the mature timber from an area in one cut except for a small number of desirable trees retained to provide seed or shelter for regeneration. These seed tree stands will be separated by forested conditions and manageable stands.

- Approximately **49 acres of clearcuts** will be conducted in one hardwood, one mixedwood, and one softwood stand to regenerate the aspen/birch type and release existing softwood regeneration. The regenerated clearcut stands will have most trees removed leaving about 10 to 15 square feet of basal area (BA) per acre in desirable trees. In addition, patches of trees will be left uncut within about 10 percent of the stands to meet other wildlife, visual, soil and water Forest Plan standards and guidelines.

3. Land Clearing to Convert Forest to Openings

Approximately **224 acres of harvest without restocking** will be conducted in 17 hardwood stands, two mixedwood stands, and two softwood stands. The timber harvest will be followed by land clearing to convert forested stands to permanent upland openings of early successional habitat. Patches of trees will be left uncut within about 10 percent of the stand area to meet other wildlife, visual, soil and water Forest Plan standards and guidelines. These stands will be separated by forested stands.

4. Estimated Timber Volume

The amount of sawlogs and pulpwood that could be produced from all uneven-aged and even-aged treatments is estimated to be 10.364 million board feet (MMBF) or 17,273 hundred cubic feet (CCF). The breakdown of wood products is approximately:

- 11,400 CCF of sawlogs
- 5,873 CCF of pulpwood

Another measurement some may be more familiar with is:

- 6,840 thousand board feet (MBF) of sawtimber
- 7,434 cords of pulpwood (divide pulp wood volume by 2 to get an MBF equivalent)

Connected Actions

Connected actions are management activities that are automatically triggered by other actions. The following activities are connected actions within the Dorset Peru Project Area as a result of timber harvest treatments (Appendix A, Tables A-4 and A-5 and Figure A-2 Activities Map):

Post-Harvest Activities (Stand Improvement, Permanent Opening Creation, Site Preparation, Stocking Surveys, and Tree Planting):

- Stand Improvement: There are approximately **89 acres of stand improvements** (precommercial thinning) to improve the composition, structure, condition, health and growth of young even-aged stands. These stands are generally less than 25 years old, created from past even-aged regeneration harvests. Within these stands, crop trees of desired species will be selected on a spacing of about 16 x 16 feet. Less desirable competing trees touching the crowns of the crop trees will be cut away to allow for better growth of selected crop trees intended to become a component of future commercial harvest.

- Site Preparation: There are approximately **1,089 acres of site preparation** to provide for natural or artificial regeneration of harvested stands. Site preparation involves hand or mechanized manipulation of a site designed to enhance the success of regeneration. There are a variety of treatments to accomplish this. For this project, the primary treatments are manual methods such as, cutting competing vegetation with a chainsaw or cutting blade, soil scarification by raking, and burning.

    - Site Preparation for Natural Regeneration - Manual (use of a chainsaw or cutting blade) - following harvest by the shelterwood, single/group selection, seed tree, and clearcut methods; saplings of tree species 1 to 6 inches Diameter at Breast Height (DBH) that may be bent or broken, not commercially valuable or less desirable will be cut within one year following the harvest. This preparation of the site allows more space and sunlight for the establishment of more desired timber species.

  - Site Preparation for Natural Regeneration - Manual (scarification by raking) – involves the removal of vegetation or interfering debris, or disturbance of the soil surface, to enhance reforestation. Post-harvest monitoring can determine if raking within a stand will enhance regeneration. Soil scarification can also be accomplished through ground disturbance by logging such as during summer logging. This treatment is proposed for the following stands:
    - Compartment 57, Stands 1, 2, and 10
    - Compartment 59, Stand 16
  - Site Preparation for Natural Regeneration - Burning – use of prescribed fire can be an effective way to control competing vegetation and reduce ground litter to promote germination. This type of treatment is particularly useful for stands with oak in them in order to enhance the success of oak regeneration. This treatment will be conducted for the following stands:
    - Compartment 57, Stands 1, 2, and 10
    - Compartment 59, Stands 11 and 16

- Permanent Opening Creation: There are approximately **224 acres of vegetation clearing** to complete the creation of permanent upland openings after the stands have been harvested. Following harvest, saplings of tree species 1 to 6 inches DBH that are not needed for wildlife will be cut within one year following harvest. This post-sale treatment allows for the growth of early successional habitat. Stumps will be left in openings or piled in wind rows, and/or slash burned followed by seeding.

- Stocking Surveys: Tree stocking surveys will be conducted following the first and third year of harvest to monitor regeneration success in all stands receiving regeneration treatments (clearcuts, shelterwoods, shelterwood with reserves, overstory removals, single tree selection, and group selection harvest methods).

- Tree Planting: Although unlikely, if stocking surveys determine natural regeneration is not adequate in any of the regeneration harvest treatment areas (clearcuts, shelterwoods, shelterwood with reserves, overstory removals, single tree selection, and group selection harvest methods), tree planting will be necessary. To have adequate stocking, a stand should have at least 50 percent of the plots with at least one acceptable growing stock by the third year after harvest. If planting is necessary, a mix of native softwood species will be planted on a 4 foot by 4 foot spacing in areas proposed for regeneration to softwoods or mixedwood. The mix of native softwoods will improve cover and forage availability for big game. In areas to be regenerated to hardwoods, desired species will be planted. In the case of the proposed clearcuts, quaking aspen and paper birch are the desired hardwood species. Direct seeding through broadcast or aerial means is another option to hand planting.

Transportation Network: Town roads, NFS Roads and skid roads/trails will be used for log truck access to existing log landings. Existing log landings and skid roads/trails that meet current Forest Plan Standards and Guidelines will be used again for logging. There is a need to locate and construct new log landings, and some sections of skid roads/trails to access all areas being considered for harvest. It is anticipated that approximately 12 to 16 existing log landings will be used, and 3 to 6 new log landings will be constructed to meet the needs associated with proposed harvest treatments. Specific locations for new landings and skid roads/skid trails will be mutually agreed to by the sale(s) purchaser and the Forest Service.

The construction of temporary roads, and any improvement and/or maintenance needs associated with the existing transportation network to support timber harvest activities are discussed in the Transportation Section of the Final EA.

Implementation of Harvest Treatments (Timing)
The harvesting to be implemented within the project area will be packaged in a series of timber sales and/ or stewardship contracts and agreements which will be conducted within a 5 to 7 year period. This project lends itself to the implementation of several timber sales or stewardship contracts/ agreements of various sizes. The size and timing of the contract offerings and implementation of harvests will be determined by market conditions, interest and collaboration for stewardship contracts, and feedback from timber purchasers.

1.3.3.3 Fisheries

Refer to Final EA Figures A-2 and A-3 (Activities Maps) for fisheries habitat treatment locations included in my decision.

Placement of Large Woody Debris
To increase existing Large Woody Debris (LWD) amounts from 70 to 93 pieces per mile to approximately 200 pieces per mile, a total of about 894 trees will be cut along streamside areas and placed as LWD in sections of Mad Tom and Little Mad Tom Brooks, and in the headwaters of the Mettawee River (total stream length of approximately 7.2 miles). This will restore stream processes and LWD functions, such as creating pools, adding protective cover, and trapping and sorting of spawning gravel. This includes the following activities:

- Mettawee headwaters: Cut and place approximately 112 trees into sections of the stream along 0.86 miles (4,541 linear feet).
- Little Mad Tom Brook: Cut and place approximately 197 trees into sections of the stream along 1.84 miles (9,715 linear feet).
- Mad Tom Brook: Cut and place about 585 trees into sections of the stream along 4.50 miles (23,760 linear feet).

Of the trees to be felled, about half will be a minimum of 12 inch DBH with the other half between 8 to 12 inches DBH. The primary placement of trees will be accomplished through directional felling. A grip hoist or log carrier may be used to assist in placing the trees in desired stream locations. Heavy equipment will not be used in the placement of LWD.

Provide Fish Passage
Replace or retrofit three culverts to provide upstream aquatic organism passage in: 1) a tributary of Mad Tom Brook on an undesignated trail on a portion of the “East Dorset Trail”; 2) Farnum Brook on TH #14 in Peru; and 3) in the headwaters of the Mettawee River on Tower Road in Dorset. Fish passage improvement work at culverts may require the use of heavy equipment where access and stream size would render such activities feasible and necessary. Project work will include completion of detailed, existing condition assessments, designing of retrofits to existing structures or replacement of crossing structures in the same location, and constructing the retrofits or replacements. Replacement structures will be bottomless arch culvert designs or bridges.

1.3.3.4 Non-Native Invasive Plants

When Non-Native Invasive Plants (NNIP) infestations occur at or adjacent to sites of other project activities within the Dorset-Peru project area and have the potential to spread as a result of those activities, NNIP treatment will occur prior to or in conjunction with project activities. Treatment methods and mitigation measures will be in keeping with those in the Green Mountain Invasive Plant Control Project Decision Notice dated October 19, 2010.

NNIP control on non-NFS lands will be considered pending the identification of willing landowners and/or partners.

1.3.3.5 Soil and Water

Soil and wetland rehabilitation work will be integrated into several Recreation and Transportation projects (see these sections for additional information). Table 1.3-1 shows the activities related to soil and water improvement to be implemented within the project area. Refer to Decision Notice Figures A-1 and A-2 (Activities Maps) for locations of activities.

Critical soil areas, such as stream crossings or steep road grades, will be seeded and mulched to quickly stabilize and revegetate the area. Projects will be implemented within the next 2 to 7 years. All projects will be implemented using an excavator or with hand tools.

Table 1.3-1. Activities related to soil and water improvement.

Site and Location	Action and Reason for Project
1. Dorset Peak East (old skid road where it climbs up the ridge).	Close and restore all portions of this old skid road. Water bars will be installed to prevent existing and future erosion, and the lower (east) end of the road will be blocked with boulders, barriers, or an earthen berm. Estimated length of the skid road to be closed is 0.75 mile.
2. Dorset Peak South Approach (old skid road).	Close and restore (includes water-bar construction) the northern-most section of road, 0.2 miles in length, heading toward Dorset Peak. This trail section will not be incorporated into the new NFS trail system.
3. Dorset Mountain West Side (old skid roads).	Close and restore (includes water-bar construction) all sections. Estimated length of old skid road to be closed is 1.4 miles.
4. Beech Ridge Access	Close un-needed segments of the old skid/woods roads (on NFS land) leading off of the Beech Ridge access road using earthen berms or boulders. Install signs at each closure identifying appropriate road uses (for example, hiking, and cross country skiing). This will help stop illegal ATV/ORV use, and allow the soil and vegetation to be restored. Estimated length of skid/woods roads to be closed is 1.1 miles.
5. Forest Road 285 (a Forest Service right-of-way, the first section of which is a town trail).	Close this road using an earthen berm or boulders at the start of NFS ownership. Install water bars to prevent existing and potential future erosion, and control illegal ATV use. Estimated length of road to be closed is 0.5 mile.
6. Old Mad Tom Trail/Proposed East Dorset Trail (formerly a town road as well as NFS	Close, remove culverts, and install water bars on sections of this trail not incorporated into proposed new NFS trail system. Closing these sections will allow soils to stabilize

Table 1.3-1. Activities related to soil and water improvement.	
Site and Location	**Action and Reason for Project**
Trail).	and re-vegetate over time reducing the risk of eroded soil reaching the stream. Estimated length of trail to be closed is 1.5 miles.
7. Pierce Road Extension (woods road on NFS land off the end of the traveled portion of Pierce Road).	Install drivable water bars and drainage ditches to minimize current and future erosion. Estimated length of road to be improved is 1.0 mile.
8. Compartment 50 Erosion Control.	Water bars will be improved, and additional water bars added to numerous old skid roads on west-facing side slopes in Compartment 50. This will correct existing erosion and prevent it in the future.

1.3.3.6 Recreation

My decision includes improvements to recreational opportunities by re-establishing or reconstructing three trails, creating two trailheads, and improving one trailhead within the project area. Refer to Decision Notice Figures A-1 and A-2 (Activities Maps) for locations of activities.

East Dorset Trail
The Forest Service will redevelop the trail along Mad Tom Brook renaming it the East Dorset Trail since the snowmobile trail that runs from FR 21 to Mad Tom Road is now known as the Mad Tom Trail. The project will involve re-establishing 3.1 miles of trail including drainage work, brush removal and trail tread stabilization, and the development of 0.5 miles of new trail eliminating two stream crossings and moving the trail away from the brook to a more sustainable trail location. Trail reconstruction is proposed to occur in phases. The first phase will re-establish the trail from FR 21 and from Mad Tom Road. The second phase will re-establish the relocated middle portion of the trail. This section of the trail experienced landslides from Tropical Storm Irene and will need a few years to stabilize before a trail can be constructed. Forest Service staff anticipates trail reconstruction to be done using a small tractor/excavator where feasible, and hand tools on most areas of the trail due to the terrain. A bridge is proposed for the one stream crossing that will still be required. This crossing may initially be constructed with stepping stones until funding is available to construct the bridge.

The project will require the creation of two trailheads, one off of Mad Tom Road in East Dorset in the Dorset Town trail right-of-way so that people do not park along the road, and another trailhead on FR 21. The trail is will be a primitive hiking, snowshoeing and cross country skiing trail. The trail has a number of historic features providing opportunities for interpretation. The East Dorset Trail meets the Mad Tom Trail near FR 21.

Emerald Lake Connector Trail
The Forest Service will develop a connecting hiking, snowshoeing and cross country skiing trail between the Mad Tom Trail (FT 355) and Emerald Lake State Park. Trails in the State Park could then link to the Dorset Mountain trails. The connector trail will go through the NFS lands adjacent to FT 355 on Mad Tom Road and on Bowen Hill Road. The land adjacent to the northern portion of FT 355 is forested and will remove the need for a section of the connector trail to be located on Mad Tom Road. The land on Bowen Hill Road is an open meadow. It is anticipated construction will only require hand tools and brush hogging a path.

Dorset Mountain
Dorset Mountain currently has a number of old skid roads and unmanaged hiking trails that are featured in day hiking guides and used for hiking, snowshoeing and skiing. Many of the trails are steep, eroded, or wet. The Forest Service will develop a trail system to little Dorset Peak with access from Grouse Lane, and Legal Town Trail 6 off of Dorset Hill Road The project will include: construction of approximately 3 miles of switchback trail designed for mountain biking and hiking from the Grouse Lane trailhead to the trail on the east ridge of Dorset Mountain, rehabilitation of approximately three miles of existing trail on the east ridge of Dorset Mountain including drainage work, brush removal, puncheons and trail tread stabilization; and the relocation of approximately one quarter mile of trail that became a stream bed as a result of Tropical Storm Irene. The trail would also be open to non-motorized winter uses such as snowshoeing and cross-country skiing. Trail construction is anticipated to be accomplished using hand tools on much of the trail due to the steep terrain, although a small tractor/excavator may be used where feasible. The Forest Service will close and restore the unmanaged trail on the west side of Dorset Mountain (see the Soil and Water section, 1.3.3.5, for additional information). This trail and the right-of-way from Tower Road were damaged in Tropical Storm Irene.

An existing parking area on Grouse Lane will be improved and used as a trailhead. To prevent unauthorized motorized use that is currently occurring on NFS lands, gates or barriers will be installed at the beginning of the trail from the Grouse Lane trailhead and the southeastern spur trail that provides access to the Legal Town Trail 6. The Dorset Mountain trail will feature a vista from the summit of little Dorset Peak and could connect to Emerald Lake State Park at some point in the future.

1.3.3.7 Scenery

Refer to Decision Notice Figures A-1 and A-2 (Activities Map) for visual management treatment locations included in my decision.

Vista Maintenance and Creation

Enhance visual resources in five areas by creating openings or selective cutting of trees.

- West side of FR 21 next to a pull-off: Establish a 180 degree vista in C61/S23, S42, S43, and S45 by creating a three to seven acre opening using large mechanical cutting devices (commonly called a “brontosaurus”) or through commercial timber harvesting.
- West side of FR 58 across from a pull-off: Establish a vista in C58/S28, S29, S30 and S31 by creating a two to five acre opening using a brontosaurus or through commercial timber harvesting.
- East side of the AT/LT: Establish a vista in C56/S20 through selective cutting and pruning within 200 feet of the trail tread using hand tools.
- Dorset Peak: In C196/S16 and S998 maintain and enhance the existing vista by creating small openings and selective cutting using hand tools.
- East Ridge Trail on Dorset Mountain: Maintain existing vistas in C195/S9 and C195/s6 by maintaining a one to two acre clearing using hand tools.

1.3.3.8 Transportation

Refer to the Dorset Peru Analysis (Dorset Peru IRP project planning record), and Decision Notice Figures A-1 and A-2 (Activities Map) for the location of the existing road network and key

transportation related activities included in my decision. All road activities will be implemented using customary mechanized power equipment and machinery unless noted otherwise.

Improve Safety on Forest Roads

- Review area roads for current and expected use and budgets, and assign an Objective/Operational Maintenance Level (OML) appropriate for each road to ensure the Forest's ability to maintain roads according to Highway Safety Act standards where needed.
- Remove and replace any non-compliant traffic and route marker signing on all existing or new project area NFS roads with new, more highly visible (retro-reflective) signing. Add any new signing as required by the current edition of the Manual on Uniform Traffic Control Devices (MUTCD).

Align NFS Road Infrastructure with Current and Future Predicted Transportation Needs

The assignment of an Operational Maintenance Level (OML) to roads provides guidance on how it should be managed and maintained. In summary, OML 3, 4 and 5 roads are managed and maintained for passenger vehicles; OML 2 roads are managed and maintained for high clearance 4-wheel drive vehicles; and OML 1 roads are closed to vehicles although they can occasionally be opened as intermittent service roads. More detailed descriptions of OML 1 to 5 roads can be found in the Dorset Peru Travel Analysis (January, 2012, p. 9); the Forest Plan, p. 153; and in FSH 7709.58.

- National Forest System Road (NFSR) 21: To better align use with short and long term road maintenance costs, change road maintenance activities from OML 3 (passenger car) to OML 2 (high clearance) from milepost 2.77 to 5.48. The character of the road will be allowed to change slowly over time. NFSR 21 section under Forest Service jurisdiction from milepost 2.65 to 2.77 will remain as OML 3 to provide passenger car surface to proposed new trailhead parking area. Create an approximately 25 feet by 70 feet, five car, three season trailhead parking area along NFSR 21 at approximately milepost 2.76 for proposed East Dorset Trail down to Dorset Legal Trail 10 and Forest Road (FR) 259, Mad Tom Road, in Dorset where the Town may consider a trailhead and parking area. Install a new 24 foot, single arm road gate at milepost 2.65 (end of Town road jurisdiction) just east of the FR 58 intersection to protect NFSR 21 and NFSR 58 road surfaces during late winter and mud season. During road maintenance planning and activities, improve or replace larger road culvert pipes (greater than 48 inches in diameter) carrying live streams to allow aquatic organism passage.
- NFSR 21A: Keep this spring-fall parking area off the Town of Peru portion of FR 21 Mad Tom Notch Road at OML 3 continuing to maintain it for public and administrative passenger car use.
- NFSR 21B: Keep this winter parking area off the Town of Peru portion of FR 21 Mad Tom Notch Road at OML 3 continuing to maintain it for public and administrative passenger car use, allowing for winter plowing and maintenance by the Town of Peru or under agreement with VAST.
- NFSR 21C: Improve and add this existing road off FR 21 at mile 1.661 and to the south the right-of-way to U.S. Tracts 31 and 31b to the National Forest System (NFS) of roads as a 0.60 mile long, OML 1 road for important administrative access to Compartments 56 and 62 for creation and maintenance of wildlife openings. Work will include ditching, template shaping, grade dips, and spot graveling to allow high clearance (4WD) administrative access. Install a 14 foot, single arm road gate at the entrance near FR 21 to prevent unauthorized public motorized access.

- NFSR 58: Keep at OML 3 (2.07 miles) continuing to maintain road to Highway Safety Act standards. Expand the parking area near the trailhead at the end of the road by 40 feet to the south making a new lot that is 25 feet deep by 70 feet long to accommodate existing and future use. This expansion will allow the lot to comfortably accommodate up to five cars. During road maintenance planning and activities, improve or replace larger road culvert pipes (greater than 48 inches in diameter) carrying live streams to allow aquatic organism passage.
- NFSR 79: Change from OML 2 to OML 3 and improve and maintain to Highway Safety Act standards to allow for improved access to the Hapgood Pumphouse facilities adjacent to the road. Remove the northern curb-cut and entrance from FR 22 North Road (TH 4) maintaining only the southern entrance.
- NFSR 258: Improve and add this existing road off FR 258 Pierce Road (TH18) at mile 0.42 and to the north the right-of-way to U.S. Tract 27 to the NFS boundary as a 0.50 mile long OML 1 road (NFSR 258) for important administrative access to Compartment 62 for creation and maintenance of wildlife openings. Work will include ditching, template shaping, grade dips, and spot graveling to allow high clearance (4WD) administrative access. Install a 14 foot, single arm road gate north of TH 18 end to prevent unauthorized public motorized access.
- NFSR 283: Decommission as NFSR in Forest road database (0.50 miles of OML 1), but retain right-of-way to U.S. Tract 41 (Compartment 50) for possible future access needs. Establish where right-of-way is located. Use of access and right-of-way to U.S. Tract 41 (Compartment 50) will be via a temporary haul road that will be discontinued and closed-off after use.
- NFSR 285: Decommission as NFSR in Forest road database (1.0 miles of OML 1) but retain all right-of-way rights to U.S. Tract 64 (Compartment 57) for administrative access needs. This is Dorset Legal Trail 8 (0.97 miles long) and should not be in Forest database as NFSR. Work with the Town of Dorset and private landowners on existing gate and other access issues to clarify responsibilities and obligations.
- NFSR 461: Add a new road to the NFSR in the Dorset Mountain area (U.S. Tract 271) off of Dorset TH 10 (Tower Road) via Grouse Lane (existing Appurtenant Easement No. 3 to U.S. Tract 271), and an existing 0.12 miles native surface road on NFS lands. Improve an existing 50 feet by 150 feet parking area/trailhead at the end of this road on NFS lands for public access to the proposed Dorset Mountain trails. The road will be improved and maintained to OML 3 requirements and will be approximately 0.32 miles long (including Grouse Lane portion). The parking lot will accommodate up to 10 cars.
- Construct the following temporary haul roads for timber access:
  - U.S.Tract 63 temporary haul road access: Implement temporary haul road access to a landing area on NFS lands under a timber sale or stewardship contract off of NFS right-of-way at end of Chandolin Road (Winhall TH 72) for access to Compartments 59, 60, and 63.
  - U.S. Tract 214 temporary haul road access: Implement temporary haul road access to landing areas on NFS lands under a timber sale or stewardship contract to U.S. Tracts 214, 463, and 485 in Compartments 57 and 59 via Beech Ridge Road. This will likely require petitioning the Selectboards of Manchester, Winhall, and Dorset for use of the road for this purpose.
  - U.S. Tract 10c temporary haul road access: Implement temporary haul road access to landing area in Compartment 58/61 via use of the existing FT 355 snowmobile trail/new East Dorset trail. This temporary haul road enters FR 21 at milepost 2.77.
- Improve access to NFS lands over new permanent or temporary access permits or easements at the following areas:

  - North off SR 11/30 east of the SR 11/30 and Bromley Forest Road intersection for potential access to Compartments 59, 60, and 63
  - North off SR 11/30 west of the SR 11/30 and FR 286 intersection for potential access to Compartment 63
  - North off SR 11 east of the SR 30 and SR 11 intersection for potential access to Compartments 63 and 64.
- Construct temporary short haul roads to new and existing landings to provide access for timber management. Previously used temporary roads will need to be reopened to access existing landing locations that meet current standards for use. Temporary roads will be restored to pre-sale conditions after use according to Forest Plan Standards and Guidelines as a part of the timber sale to prevent unauthorized motorized use. Skid roads leading from these temporary roads and log landings will be closed off at the completion of harvest activities to prevent unauthorized vehicle use into the Forest.

Increase Cooperation with Local Governments on Management of the Forest and Town Road Infrastructure as it Relates to Forest Access

- Dorset Town Highways: Explore a Road Cooperative Agreement with the Town of Dorset to possibly include Town roads and trails providing trailhead access to NFS lands at Legal Trail 10 off Mad Tom Road and TH 10 (Tower Road) or roads providing timber access off Legal Trail 8 (Tennis Way) or the Beech Ridge Pent Road. Depending on success of any proposals for new trails, trailheads, parking areas, and aquatic passage culvert work, it may be in the interest of both the Forest Service and the Town to cooperate on any associated road improvement or maintenance needs where funding is available and there is a mutual interest.
- Peru Town Highways: Explore increased cooperation on FR21 (Mad Tom Notch Road) and FR 258 (Pierce Road) through the existing Road Cooperative Agreement with the Town of Peru to reduce soil erosion and any unauthorized off-road, 4 wheel drive and ATV activity, and provide for timber and wildlife management access to NFS lands in Compartments 56, 58, 60, 61, 62, and 63. With Town approval improvements could include spot graveling, road template shaping, water bar, culvert, and ditching work, brushing, and other similar road maintenance activities.
- Winhall Town Highways: Explore possibilities for cooperation on Town roads accessing Compartments 57, 59, 60 and 63. These would be TH 72 (Chandolin Road), TH 57 (Bromley Forest Road), and the Winhall portion of the Beech Ridge pent road.
- Manchester Town Highways: Explore possibilities for cooperation on Town roads accessing Compartments 57 and 59. This would be the Manchester portion of Winter Street and the Beech Ridge pent road.

Close Unauthorized Non-System Roads

Close-off any unauthorized roads and skid trails at or near the main road entrance by: placing large boulders (or similar physical barrier); re-planting some native vegetation; and re-establishing the main road template and/or ditchline as needed. Until the vegetation is established small, temporary travel management signing may be installed to discourage unauthorized use. Small, single car pull-off areas may be created (when needed) at existing unauthorized road entrances where the pull-off can be located by extending the shoulder of the main road (without cuts or fills) and where they will not be separated by ditches or drainage structures. Law enforcement would monitor the various locations for illegal use.

1.3.3.9 Heritage

Refer to Decision Notice Figures A-1 and A-2 (Activities Map) for the general locations of heritage resource site related activities included in my decision. Activities associated with heritage resources within the project area include the following:

- Conduct maintenance and restoration work at the small, historic North Dorset ("Whitney") cemetery located at Emerald Lake State Park. This action involves manual labor to clean stones, re-erect fallen stones and in one or two cases mend a broken stone. Labor will be provided by adult volunteers, and direction provided by the Forest Archaeologist. Efforts will be coordinated with State Park personnel and may include opportunities for State Park campers to observe and/or participate. No actions will be taken until there is coordination with the North Dorset/Whitney Cemetery Association.
- Create 'Down Woody Debris Habitat' in coordination with Wildlife biologists. This means brush and trees (generally small, non-merchantable saplings, poles and brush, and the occasional encroaching hardwood) growing in or near select historical sites would be cut and removed with hand tools. The cut vegetation will be left on site and placed in such a way as to provide nesting, foraging, and travel habitat for small mammals, reptiles and amphibians. This could be accomplished through partnerships, stewardship contracting and/or Vermont Youth Conservation Corps (VYCC) crews. Four good examples of sites that could benefit from this activity follow:
    - Stabilize the Cochrane-Manley mill and kiln site near the proposed East Dorset Trail. The remains of this historic mill (just off the Trail, in association with 3 charcoal kilns) will be treated by removing vegetation per the above description.
    - Stabilize the historic house site remains located at the corner of Mad Tom and Bowen Hill Roads. This center-chimney foundation may represent the 19th c. Wheeler homestead, and is currently obscured by dead-and-down trees, brush, weeds and some litter. Two or three hardwood trees within the foundation area may need to be removed by a certified sawyer.
    - Stabilize the East Dorset Blast Furnace. This activity consists primarily of the removal of a dozen or so small trees growing out of the remains of this significant industrial site. The site is owned by the State, so this project will be coordinated and implemented with Emerald Lake State Park personnel.
    - Clean up and interpret the well-preserved Bromley Brook charcoal kilns remains along the AT/LT just north of the trailhead at SR 11/30. "Clean up" activities will consist of the removal of small saplings, dead-and-down material, and weeds. Interpretive material will be posted at the trailhead bulletin board, not on-site.
- Preservation of stone work along the East Dorset Trail as part of the trail rehabilitation. Technical advice from historic preservation specialists at the State Historic Preservation Office will be solicited. Contribute historic interpretive material about the East Dorset Trail and historic sites along it relying on existing documentation and the Dorset Historical Society.
- Conduct prehistoric site inventory activity. While much of the project area appears to have relatively low potential for the presence of prehistoric Native American sites, it surrounds private and State lands along the Battenkill which have high potential for such sites. A limited test pit survey – less than 100 small (50cm sq) test pits at 10m intervals, dug to an average depth of 50cm - will be conducted on NFS lands (the former O'Neal farm) due to high potential for site presence on the higher ground above a significant spring feeding the wetland.

Table 2: Summary of Alternative B Management Actions.	
Management Action	**Amount**
Habitat Diversity	
Increase early successional habitat with regeneration harvests	517 acres
Enhance softwood and oak species composition and increase mixedwood and softwood habitat	229 acres
Remove non-native tree species with clearcut and land clearing	124 acres
Enhance early-successional habitats through the development of “late-stage” openings	107 acres
Enhance late successional habitats by thinning and improvement cuts to extend the growth and longevity of trees in areas of extended rotations of 150 to 200 years.	385 acres
Provide aspen regeneration	93 acres
Enhance oak habitat	130 acres
Maintain, and/or restore existing permanent upland openings (mechanical, mowing; hand cutting, prescribed burning and/or a combination of treatments)	26 acres
Create permanent upland openings	224 acres
Apple tree/soft mast release and pruning	4 acres
Create down woody debris habitat	Stands found during project layout
Timber Resource	
HARVEST TREATMENTS	
Total uneven-aged harvest	**572 acres**
Single tree selection with gaps	518 acres
Group selection	54 acres
Total even-aged harvest	**1251 acres**
Thinning	316 acres
Improvement cuts	399 acres
Shelterwood preparatory cut (three-cut method)	81 acres
Shelterwood establishment cut (two-cut method)	292 acres
Shelterwood with reserves	47 acres
Overstory removal	20 acres
Seed tree cut	47 acres
Clearcut to regenerate aspen and/or birch, native softwoods, and spruce/fir	49 acres
Total land clearing to convert into upland opening	224 acres
Total Harvest	**2047 acres**
Total Timber Volume	**10.364 MMBF**
Timber stand improvement	89 acres
Site preparation for natural regeneration or artificial regeneration	1,089 acres
Fisheries Resource	
Large woody debris (LWD) placement (stream habitat restoration)	3 streams; about 7.2 miles
Fish passage improvements	3 culverts
Non-Native Invasive Plants	
NNIP control	Yes. as needed
Soil and Water	
Soil and water resource improvement	Yes, 6.5 miles

Table 2: Summary of Alternative B Management Actions.	
Management Action	**Amount**
Recreation	
Improve recreation opportunities	Yes
Designate and create new non-motorized trails	Yes, 10.5 miles
Create, expand improve trailheads	Yes, 3 trailheads
Scenery	
Vista maintenance and creation	Yes, 5 areas
Transportation	
Road sign replacement	All NFS Roads
Enlarge parking area: NFS Road 58 NFS Road 461	 5 vehicle capacity 10 vehicle capacity
Construct NFS Road 21 parking area	5 vehicle capacity
Changed Operational Maintenance Level (OML) of NFS Roads: • NFS Road 21 (OML 3 to OML 2); 2.71 mi. • NFS Road 79 (OML 2 to OML 3); 0.1 mi.	 Yes Yes Total: 2.81 miles
NFS Roads de-commissioned: • NFS Road 283; 0.5 mi. • NFS Road 285; 1.0 mi.	 Yes Yes Total: 1.5 miles
Install new NFS Road gates and associated signing: NFS Road 21 MP 2.65 NFS Road 21C MP 1.66 NFS Road 258 end of TH18	 Yes Yes Yes
Improve NFS Road 79; Remove curb-cut and northern entrance, maintain southern entrance	Yes
Improve and add NFS Road to the NFSR system: NFS Road 21C (OML 1; 0.6 miles) NFS Road 258 (OML 1; 0.5 miles) NFS Road 461 (OML 3; 0.32 miles)	 Yes Yes Yes
Improve or replace culverts: NFS Road 21 NFS Road 58	 Yes Yes
Construct temporary haul roads: U.S. Tract 41 (establish ROW) U.S. Tract 63 U.S. Tract 214 U.S. Tract 394 (inc. curb-cut permit for U.S. Tracts 394b and 294c)	 Yes Yes Yes Yes
Construct temporary short haul (skid) roads and trails to new and existing landings	Yes
Explore Road Cooperative Agreements with Towns	Yes
Close un-authorized roads and skid trails	Yes
Heritage Resource	
Cemetery maintenance and restoration	Yes
Site stewardship (control encroaching vegetation)	stands found during project layout
Preserve stone work	Yes
Site testing and inventory	Yes

1.4 OTHER ALTERNATIVES CONSIDERED

1.4.1 Alternative A: No Action

The No Action alternative provides a baseline for estimating the effects of the action alternatives. Under the No Action alternative (Alternative A) no new management activities would take place. Alternative A, however, does not mean that the existing management activities would cease. For example, existing road and trail maintenance would continue, as would wildlife opening maintenance as long as prior NEPA documentation has been completed.

I did not select Alternative A because it does not meet the resource objectives as provided by the Dorset Peru Project purpose and need and would not move the project area toward Forest Plan desired future conditions (Final EA, pp. 6 to 21). There would be no increase in recreational opportunities (Final EA, pp. 63 to 66), no increase in habitat diversity associated with forest type composition and age class (Final EA, pp. 71 to75); no improvement in the abundance and quality of wildlife food and cover (Final EA, pp. 71 to 75, 93); no availability of forest products for the local or regional economy (Final EA, p. 86), no improvement to soil or wetland conditions (Final EA, p. 112), no improvement of aquatic and fish habitat (Final EA, p. 118); no creation of vistas for viewing the landscape (Final EA, p. 127), no improvements to the transportation (roads, trails and parking) network (Final EA, p. 63), and no protection, restoration or maintenance of heritage sites (Final EA, p. 130).

1.4.2 Alternative C: Eliminate Timber Harvesting in C59/S15 and18, C60/S35,36, and 37

This alternative proposes the same management activities as in Alternative B except that it eliminates timber harvesting in C59/S15 and18, C60/S35, 36, and 37, and would therefore eliminate the need for access over Bromley Forest and Chandolin Roads.

I did not select Alternative C because I believe that this alternative would unnecessarily remove the vegetative treatment of C59/S15 and 18, and C60/S35, 36, and 37 and our ability to manage these lands for the long-term. After review of the Final EA and supporting documentation found in the Dorset Peru project planning record, I believe the timber harvest will improve the long-term forest health and habitat diversity in these stands and that public safety can be maintained on Bromley Forest and Chandolin Roads during the timber harvesting operation. During this project we met with Bromley Forest homeowners over these road concerns on multiple occasions and also met with the Town of Winhall Select Board to discuss the use of these roads for hauling timber and other management activities. The Select Board did not object to our proposed use of Bromley Forest and Chandolin Roads as these are open, public roads. I have reviewed the comments received for the Dorset Peru Integrated Resource Project and conclude the Mitigation Measures listed in Appendix B will help address the concerns regarding the use of Bromley Forest and Chandolin Roads for access for timber harvesting operations (also see Section 1.3: Decision and Rationale for Decision).

1.5 FINDINGS REQUIRED BY LAW AND REGULATION

This section provides my findings associated with the Dorset Peru Project in regards to compliance with appropriate laws and regulations.

1.5.1 National Forest Management Act Compliance

Forest Plan Consistency; 16 U.S.C. 1604(i) (Sec. 6, NFMA)

The National Forest Management Act (NFMA) requires the development of long-range land and resource management plans, and that all site-specific project activities be consistent with direction in the plans. The GMNF Land and Resource Management Plan (Forest Plan) was completed and approved in 2006 as required by NFMA. The Forest Plan provides the direction for all resource management activities on the GMNF. The Dorset Peru Project implements the Forest Plan.

The Forest Plan has been reviewed in consideration of this project. I have determined that the actions of Alternative B are consistent with the Forest Plan direction (goals and objectives). Specifically, Alternative B will move the project area toward the desired future condition for the Diverse Forest Use (MA 3.1); Wilderness (MA 5.1), Remote Backcountry Forest (MA 6.1), Remote Wildlife Habitat (MA 6.3), Appalachian National Scenic Trail (MA 8.1), Robert T. Stafford White Rocks National Recreation Area (MA 8.3), and Green Mountain Escarpment (MA 8.5); Management Areas (Forest Plan, pp. 47,49 and 50,54,60,66,79, and 86, respectively; and Final EA, p. 5). This decision is also consistent with the Forest-wide Standards and Guidelines (Forest Plan, pp. 10 to 45), and Standards and Guidelines for MA's 3.1, 5.1, 6.1, 6.3, 8.1, 8.3, and 8.5 (Forest Plan, pp. 48, 50 to 53, 55 to 57, 61 and 62, 67 to 72, 80 and 81, and 86 to 89, respectively). This decision tiers to the Record of Decision for the Forest Plan Final Environmental Impact Statement (FEIS) dated February 2006. All of the expected impacts from this project are consistent with, and within the range of, the impacts disclosed in the Forest Plan FEIS.

My decision is based on the best available science, including a review of the record that shows a thorough review of relevant scientific information, a consideration of responsible opposing views, and the acknowledgment of incomplete or unavailable information, scientific uncertainty, and risk. My decision implements the GMNF Forest Plan. As required by NFMA Section 1604(i), I find this project to be consistent with the Forest Plan including goals, objectives, desired future conditions, and Forest-wide and Management Area Standards and Guidelines.

Lands Suitable for Harvest; 16 U.S.C. 1604(k) (Sec. 6, NFMA)

I have determined that the land on which harvesting will be done is suitable for timber production.

1. The land included for harvesting is on forest land defined as suitable for timber production (Forest Plan, Appendix D, pp. D-1 to D-3; Forest Plan FEIS, p. 3-280 and Appendix B). This has been verified through on-the-ground examination of the stands proposed for harvest. Documentation of these examinations is found in the Dorset Peru project planning record.

2. Technology is available to ensure timber production from the land without irreversible resource damage to watershed conditions. This is documented in Chapter 3 of the Dorset

Peru Project Final EA (Soil and Wetlands, pp. 113 to 117), and (Fisheries and Water, pp. 119 to 122).

3. The lands proposed for timber harvest have not been withdrawn from timber production by an Act of Congress, the Secretary of Agriculture, or the Chief of the Forest Service.

4. The land has not been deemed inappropriate for timber production due to assignment to other resource uses or considerations of cost efficiency.

Appropriateness of Even-Aged Timber Management; 16 U.S.C. 1604(f) (Sec. 6, NFMA)

Even-aged management has been selected as an appropriate method to meet the vegetation management and wildlife objectives in the Dorset Peru Project Area. The following reasons were used to determine the appropriateness of even-aged management:

1. Even-aged silvicultural systems can be applied to suitable lands to provide a variety of habitat conditions for wildlife and create a balanced distribution of age classes to meet timber objectives (Forest Plan, p. 11).

2. Harvesting trees with the application of even-aged silvicultural methods (regeneration and intermediate cuts) are appropriate to achieve resource objectives (Forest Plan, p. 24).

3. Forest Plan direction for: the Diverse Forest Use MA (MA 3.1) states that "[m]anagement practices will include both even-aged and uneven-aged silvicultural systems…to meet timber, wildlife, ecological, visual, and recreation objectives" (Forest Plan, p. 47); the Remote Wildlife Habitat MA states that "[b]oth even-aged and uneven-aged silvicultural practices will be used to meet wildlife habitat objectives" (Forest Plan, p. 60); the Green Mountain Escarpment MA states that "[a] variety of traditional and experimental silvicultural practices for management of the forested natural communities will be evident" (Forest Plan, p. 86); and the Eligible Wild, Scenic and Recreational Rivers MA (MA 9.4) specific to Recreational river segments states that "[t]he choice of even-aged or uneven-aged silvicultural systems will depend primarily on the objectives of the Management Areas through which the stream passes" (Forest Plan, p. 109).

4. The selected silvicultural methods for each stand identified in Alternative B are consistent with the rationale for using these methods provided for in the Forest Plan (Forest Plan, p. 23; Final EA, pp. 6 to 14, and 26 to 35, and Appendix A). A certified Silviculturist has reviewed and prepared each stand prescription.

Optimality of Clearcutting; 16 U.S.C. 1604(f) (Sec. 6, NFMA)

In accordance with Forest Plan direction (Forest Plan, p. 24), I have determined that clearcutting is the optimum harvest method to: convert one softwood stand (25 acres, C56/S8) to regenerate aspen and spruce/fir habitat type, convert one hardwood stand (15 acres, C60/S5) to regenerate aspen/birch, convert one mixedwood stand (9 acres, C61/S25) to regenerate softwoods and aspen/birch, and create permanent wildlife openings (224 acres; C56/S2, C56/S4, C56/S8, C56/S10, C56/S12, C56/S17, C56/S28, C57/S1, C57/S5, C58/S8, C60/S5, C61/S13, C61/S14, C61/S24, C61/S43, C62/S1, C62/S2, C62/S12, C62/S21, C62/S27, and C63/S48/S2) (Final EA, pp. 32 and 33, and Appendix A, Table A-2 and Table A-3).

Field surveys indicate that aspen clones are dispersed among the dominant northern hardwoods or that aspen is in danger of dying out and succeeding to other forest species due to its old age (Dorset Peru Project Final EA, pp. 7, 8, and 68 to 81; and habitat management unit analysis; and silvicultural prescriptions in the project planning record). Clearcutting is the optimum method in these instances to increase the amount of aspen/birch through regeneration and retain these habitat types for wildlife habitat and vegetative diversity (Forest Plan, p. 24). Clearcutting will also take advantage of opportunities to remove diseased, damaged, or high risk portions of these stands (Forest Plan, p. 24; Final EA, p. 85, and Appendix A, Table A-2).

Clearcutting of aspen stimulates root suckering and increases stocking and early growth. Aspen is a very shade intolerant species and will not regenerate under the shade of other trees. Research has shown that for effective sprouting to occur, there must be full sunlight. Other harvest systems will not provide the conditions needed for optimal aspen regeneration. Shelterwood harvest methods (standard and delayed) were considered. However, these methods would not leave the area in the desired "open" condition to the same extent as clearcutting. The shade of the residual overstory that would remain with these techniques would hinder, and most likely prohibit, the adequate regeneration of the aspen clones found on the site.

Clearcutting is the optimal method to convert mixedwood stands to native softwood and improve the condition of these stands that have a high risk of dying (Forest Plan, p. 24). Other silvicultural harvest methods would not provide the desired open site conditions needed for rapid conversion of non-native or mixedwood stands to native softwood species (silvicultural prescriptions in the project planning record).

Clearcutting is also the optimal method to create permanent upland openings in woodlands (Forest Plan, p. 24). Other silvicultural harvest methods would not be able to create the desired site conditions needed for conversion of existing hardwood, mixedwood or softwood stands to provide for permanent early successional habitat (silvicultural prescriptions in the project planning record).

Other Vegetative Manipulation Requirements including Assurance of Restocking; 16 U.S.C. 1604 (Sec. 6, NFMA)

Based on my review of the Dorset Peru Project Final EA, I find that the selection and location of the proposed activities, the application of Forest Plan Standards and Guidelines, and site-specific design criteria will ensure the vegetative management activities in this project will comply with the requirements of 16 U.S.C. 1604, and the Forest Plan. According to these requirements, projects involving manipulation of tree cover shall:

1. Be best suited to the multiple use goals established for the area, with potential environmental impacts, being considered in this determination. I find that the Final EA and analysis demonstrate that Alternative B is consistent with the multiple use goals and objectives stated in the Forest Plan. Reference the Final EA, Forest Service Authority, Policy, and Management Direction (pp. 4 to 6); Purpose and Need for the Proposed Action (pp. 6 to 21; and outcomes produced by each alternative: see Alternative A (pp. 25 and 26), Alternative B (pp. 26 to 41), Alternative C (p. 42), and Comparison of Alternatives (Table 2, pp. 46 to 48).

2. Occur on lands where adequate restocking within five years can be assured. All silvicultural prescriptions for treating stands were approved by a certified Silviculturist and meet direction

of the Forest Plan. Review of forest stocking records has clearly shown successful restocking by applying the standard silvicultural and site preparation methods identified in this analysis. Soil conditions, moisture regimes, and present vegetative stocking levels are the same or very similar to other areas on the Forest where restocking has been successful.

3. Not be chosen primarily because they will give the greatest dollar return or the greatest output of timber, although these factors shall be considered. Alternative B was chosen based on a combination of factors including the protection of other resource values, management to achieve Forest Plan goals and objectives, maintaining safe public access, providing recreational opportunities, providing a diversity of vegetative age classes and tree species types, improving forest health and wildlife/fish habitat conditions, protecting soil/water and historic areas, and commodity output needs, as well as economic considerations. Refer to the Sections 1.3.1 and 1.3.2 on pages 3 and 4 in this document. Refer also to the Final EA, pp. 85, and 87 and 88 for details associated with the economic analysis for the project.

4. Be chosen after considering potential effects on residual trees and adjacent stands. To the degree that they are related to specific Dorset Peru Project issues, effects on vegetation are disclosed in Chapter 3 of the Final EA (Habitat Diversity, pp. 75 to 80; Management Indicator Species, pp. 94 to 97; and Threatened, Endangered, and Sensitive Species (Wildlife), pp. 82 to 84). In particular, the discussion of habitat diversity cumulative effects (Dorset Peru Project Final EA, pp. 81 to 84) takes into consideration the actions occurring on, and effects to, stands adjacent to those being manipulated, both on NFS lands and private lands. The general effects of activities on vegetation are disclosed in the Forest Plan FEIS, 3-48 to 3-97).

5. Avoid permanent impairment of site productivity and ensure conservation of soil and water resources. Reference the Final EA for soil and wetlands resources (pp. 113 to 117), and fisheries and water resources (pp. 119 to 122), project mitigation measures (Appendix B), and Forest Plan Standards and Guidelines.

6. Provide the desired effects on water quantity and quality, wildlife and fish habitat, regeneration of desired species, forage production, recreation uses, aesthetic values, and other resource yields. These considerations are addressed throughout Chapter 3 of the Final EA (pp. 53 to 130).

7. Be practical in terms of transportation and harvesting requirements, and total costs of preparation, logging and administration. I am basing this determination on the fact that the selected activities are consistent with Forest Plan direction and are similar to those that have been or are currently being practiced on the GMNF. All harvest activities are close to existing roads and will require no extraordinary investments or expenditures in order to complete harvest operations (Final EA, p. 34). Refer also to the Final EA for details on the Timber Management and Economic Analysis (pp. 87 and 88).

1.5.2 Endangered Species Act Compliance; 16 U.S.C. 1531-1536, 1538-1540

The Endangered Species Act requires that federal activities do not jeopardize the continued existence of any species federally listed or proposed as threatened or endangered, or result in adverse modification to such species' designated critical habitat. In accordance with Section 7(c) of this Act, a report of the listed and proposed, threatened, or endangered species that may be present in the project area was reviewed.

As required by the Endangered Species Act, Biological Evaluations (BEs) for animals and plants were completed for proposed, threatened or endangered species specifically for the Dorset Peru Project. These documents can be found in the Dorset Peru project planning record. The conclusions of the BEs analysis are summarized in the Final EA (animals, pp. 100 to 107; and plants, pp. 107 to 111).

Animals:
The BE analysis for animals indicates that it is unlikely that three of the threatened or endangered species, gray wolf, eastern cougar and Canada lynx, occur on the GMNF due to lack of preferred habitat, or extirpation from Vermont. The fourth threatened or endangered species, Indiana bats, have occurred on and near the GMNF during recent years, and likely continue to occur within the project area (Tumosa 2001h; VTFWD, unpublished data). Indiana bats have occurred in small numbers in two hibernacula located in the immediate area; one (Aeolus or Dorset Cave) is within the Dorset Peru Project Area, the other (Skinner Hollow) is about four miles south of the project area boundary. Although Indiana bats are known to have suffered mortality from WNS, inconsistent results from surveys and analyses of other data preclude definitive conclusions about the current population status in Vermont (Darling and Smith 2011). Consequently, a conservative approach leads to the assumption that Indiana bats still may occur and roost in the project area, especially in the valley bottoms along US Highway 7 and State Route 30 within five miles of the hibernacula, and during the fall swarming period. Due to cool temperatures at higher elevation, much of the project area is unlikely to include suitable maternity roosting habitat, and the likelihood of occurrence for Indiana bats diminishes rapidly beyond five miles from the hibernacula (Final EA, p. 98). With adherence to all the protective measures included in the GMNF Forest Plan and the management plan for timber harvest within 5 miles of the Aeolus and Skinner Hollow Caves, the likelihood of adverse impact to Indiana bats or their habitats would be negligible according to the Dorset Peru Project BE analysis (p. 8).

Plants:
There are no federally listed plant species on the GMNF. Alternative B will therefore have no effect on any proposed, threatened or endangered plant species or their critical habitat.

1.5.3 Regional Forester's Sensitive Species

Forest Service Manual (FSM) 2670 direction requires analysis of potential impacts to sensitive species, those species for which the Regional Forester has identified population viability is a concern. These species are listed as Regional Forester's Sensitive Species (RFSS). The BEs have included the consideration of animal and plant RFSS and the conclusions of the analysis can be found in the Final EA (animals, pp. 100 to 107; and plants, pp. 107 to 111).

Animals:
Seven RFSS are unlikely to occur in the project area (e.g., sedge wren, brook floater, boulder beach tiger beetle), or likely to occur only occasionally as transient individuals (e.g., common loon, bald eagle, peregrine falcon, Bicknell's thrush). No critical or important habitat for any of these species is located within the Project area. Ten RFSS with moderate to high likelihood of occurrence in the Dorset Peru Project Area occur primarily in wetland or riparian habitats, venturing to varying degrees into the immediately-adjacent terrestrial habitats: rusty blackbird (Tumosa 2001c, Avery 1995), wood turtle (Marchowsky 2001b, Andrews 2005, VRAA 2012a), Jefferson salamander (Wright 2002a, Andrews 2005, VRAA 2012b), blue-spotted salamander (Wright 2002b, Andrews 2005, VRAA 2012c), four-toed salamander (Sweeney 2002, Andrews

2005, VRAA 2012d), creek heelsplitter (Marchowsky 2003c), and four dragonflies: harpoon clubtail (Coletti 2002d), southern pygmy clubtail (Coletti 2002a), forcipate emerald (Coletti 2002b), and gray petaltail (Coletti 2002c, NYNHP 2010b). Impacts to these species from actions proposed in the Dorset Peru IRP, either as direct impacts to individual animals or as indirect impacts to habitats, likely would be negligible (BE pp. 10-11).

The West Virginia white is a butterfly that occurs in rich, intact, deciduous mesic forests. The species also occurs in mixed woods, hardwood swamps, and riparian woodlands (Chandler, 2001b, NYNHP 2010a). The BE analysis assumes that the West Virginia white could occur on some of the rich hardwood stands in the Dorset Peru Project Area. Some suitable habitat may be lost through timber harvesting but abundant suitable habitat would continue to exist in the project area and on the GMNF in general. The proposed actions would not cause a trend towards federal listing or loss of viability within the planning area for this species (BE p.11).

Four RFSS are bats that occur on and near the GMNF: eastern small-footed bat, little brown bat, northern long-eared bat, and tri-colored bat. All four species have been identified in the two hibernacula in the region (Aeolus and Skinner Hollow Caves). The project area provides foraging and roosting habitat for all four species. Standards and guidelines contained in the Forest Plan that address retention of roost trees, protect wetlands, and maintain open habitats, development of a timber harvest management plan for lands within 5 miles of Aeolus and Skinner Hollow hibernacula, and the emphasis on winter timber management substantially reduce the likelihood of adverse impacts to RFSS bats (BE p.13).

Alternative B may affect individuals of the previously discussed RFSS species, but actions are not likely to cause a trend towards federal listing or loss of viability within the planning area for any species (BE p.14)

Plants:

1. Based upon the analysis of effects, determinations were made that the proposed project or its alternative may affect individuals of 14 plant species on the RFSS list that have potential habitat there, but is not likely to cause loss of viability or a trend toward federal listing for any of them. The 14 species are:
   Plants of openings: Hay sedge (*Carex argyrantha*), Bronze sedge (*Carex foenea*) – VT E, Musk flower (*Mimulus moschatus*) – also associated with stream sides, Fall dropseed muhly (*Muehlenbergia uniflora*), Pennsylvania buttercup (*Ranunculus pensylvanicus*), Pointed blue-eyed grass (*Sisyrinchium angustifolium*), Eastern blue-eyed grass (*Sisyrinchium atlanticum*)
   Plants of stream sides: Musk flower (*Mimulus moschatus*) – also associated with openings, Bog chickweed (*Stellaria alsine*)
   Plants of forested stands: Summer sedge (*Carex aestivalis*), Large yellow lady's slipper (*Cypripedium parviflorum* var. *pubescens*), Butternut (*Juglans cinerea*), Ginseng (*Panax quinquefolius*), Large whorled pogonia (*Isotria verticillata*), Round-leaved orchis (*Platanthera orbiculata*),

1.5.4 National Environmental Policy Act

The National Environmental Policy Act (NEPA) requires public involvement and consideration of potential environmental effects. The entirety of documentation for this decision supports

compliance with this Act including Council on Environmental Quality (CEQ) NEPA implementing regulations (40 CFR 1500 -1508).

1.5.5 Clean Water Act

The intent of the Clean Water Act is to restore and maintain the integrity of waters. The Forest Service complies with this Act through Forest Plan Standards and Guidelines, specific project design criteria, and mitigation measures to ensure protection of soil and water resources (Final EA, Soil and Wetlands, pp. 113 to 117, and Fisheries and Water, pp. 119 to 122).

1.5.6 Clean Air Act

The Air section of the Dorset Peru Project Final EA (Section 3.11, pp. 120 to 123) analyzes the effects of the proposed activities on air quality. This analysis found that National Ambient Air Quality Standards are not likely to be exceeded by activities planned in Alternative B.

1.5.7 National Historic Preservation Act; Archeological Resources Protection Act; and Native American Graves Protection and Repatriation Act

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effect of a project on any district, site, building, structure, or object that is included in, or eligible for inclusion in the National Register. It also requires federal agencies to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment.

The Archaeological Resources Protection Act covers the discovery and protection of historic properties (prehistoric and historic) that are excavated or discovered in federal lands. It affords lawful protection of archaeological resources and sites that are on public and Indian lands.

The Native American Graves Protection and Repatriation Act addresses the discovery and protection of Native American human remains and objects that are excavated or discovered on federal lands. It encourages avoidance of archaeological sites that contain burials or portions of sites that contain graves through “in situ” preservation, but may encompass other actions to preserve these remains and items.

The Dorset Peru Project is in compliance with these Acts. Alternative B will not have an adverse effect on any historic or potential prehistoric Native American sites within the Dorset Peru Project Area (Final EA, Heritage Section 3.13, pp. 128 to 130; and Appendix B, p. B-7 and B-8).

1.5.8 Wilderness Act

The Wilderness Act established a National Wilderness Preservation System to be composed of federally owned areas designated by Congress as "wilderness areas". These areas are administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness. The Act provides for the protection of these areas, the preservation of their wilderness character, and for the gathering and dissemination of information regarding their use and enjoyment as wilderness.

The Dorset Peru Project is in compliance with this Act. There are no management activities that will be implemented within the Wilderness Management Area (MA 5.1).

1.5.9 Wild and Scenic Rivers Act

The Wild and Scenic Rivers Act institutes a national wild and scenic rivers system that includes selected rivers which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values. It provides for them to be preserved in a free-flowing condition, and that they and their immediate environments will be protected for the benefit and enjoyment of present and future generations.

The Dorset Peru Project is in compliance with this Act

1.5.10 National Trails System Act

The purpose of the National Trails System Act includes the designation of the Appalachian Trail to help institute a national system of trails for the ever-increasing outdoor recreation needs of an expanding population. It also promotes the preservation of, public access to, travel within, and enjoyment and appreciation of outdoor areas and historic resources of the Nation.

The Dorset Peru Project is in compliance with this Act.

1.5.11 Wetlands (Executive Order 11990)

Executive Order 11990 directs the agency to avoid to the extent possible the adverse impacts associated with the destruction or modification of wetlands, and to avoid support of new construction in wetlands wherever there is a practical alternative.

The Dorset Peru Project is in compliance with this Executive Order. There will be no adverse effects associated with wetlands from management activities included in Alternative B (Final EA, Soil and Wetlands Section 3.9, pp. 113 to 117; and Appendix B, p. B-4).

1.5.12 Floodplains (Executive Order 11988)

Executive Order 11988 directs the agency to avoid to the extent possible the adverse impacts associated with the occupancy and modification of floodplains, and to avoid support of floodplain development wherever there is a practical alternative.

The Dorset Peru Project is in compliance with this Executive Order. There will be no adverse effects associated with floodplains from management activities included in Alternative B (Final EA, Fisheries and Water Section 3.10, pp. 119 to 122; and Appendix B, pp. B-4 and B-5).

1.5.13 Environmental Justice (Executive Order 12898)

Executive Order 12898 requires consideration of whether projects would disproportionately impact minority or low-income populations. This decision complies with this Executive Order. Public involvement occurred for this project, the results of which I have considered in this decision. Public involvement did not identify any adversely impacted local minority or low-income populations. This decision is not expected to adversely impact minority or low-income populations (Dorset Peru (Final EA, Environmental Justice Section 3.14, pp. 130 to 131 Environmental Justice Report, project planning record).

1.5.14 Other Relevant Laws

I have considered other relevant laws and regulations that this decision may affect. I have fully considered the effects of this decision on the public, as well as the public's issues and concerns brought forward during the comment periods and feel that these issues have been adequately addressed in the Final EA, its appendices and in this Decision Notice. I have determined that my decision to implement Alternative B of the Dorset Peru Project meets all applicable laws, regulations, and policies, as well as Forest Service direction and guidance as outlined in the Forest Service Manuals and Handbooks.

2. FINDING OF NO SIGNIFICANT IMPACT (FONSI)

I have determined that the selected activities described in Alternative B are not a major federal action, individually or cumulatively, and will not significantly affect the quality of the human environment. Therefore, an environmental impact statement is not needed. This determination is based on the context and intensity of the activities:

2.1 CONTEXT- 40 CFR 1508.27(a)

The analysis of Alternative B was conducted on a localized area with implications only for this area. All irreversible resource commitments and irretrievable losses of resources are limited to the immediate Dorset Peru Project Area and do not have effects beyond the immediate locale. The cumulative effects of past, present and reasonably foreseeable future actions combined with the actions of Alternative B are displayed by the various resource sections throughout the Affected Environment and Environmental Consequences section (Chapter 3) of the Final EA. As a result of the analysis of those effects, I conclude that the context of this decision, both from a biological and social standpoint, is localized. I realize that some wildlife species, for example large mammals and migratory birds, and various MIS, range outside of the Dorset Peru Project Area boundary. Considering this, my decision is consistent with the management direction outlined in the Forest Plan, and with the Forest Plan FEIS that analyzed, at a larger scale, the effects of the type of activities that will be implemented through this decision.

2.2 INTENSITY- 40 CFR 1508.27(b) (1-10)

Intensity is a measure of the severity of effects and is based on determinations for the following ten factors:

2.2.1 Impacts that may be both beneficial and adverse.

Impacts associated with my decision are disclosed in the Affected Environment and Environmental Consequences section (Chapter 3) of the Final EA. Both beneficial and adverse effects have been taken into consideration when making this determination of significance. Each impact, beneficial or adverse, was considered individually, and no beneficial impact was considered to offset any adverse effect in determining severity and significance. There are no direct, indirect or cumulative adverse impacts that are significant in their effect upon other resources, as they pertain to the relevant issues analyzed in the Final EA. Impacts from this decision are not unique to this project alone. Previous projects having had similar activities and effects were also taken into consideration when measuring severity and significance.

2.2.2 The degree to which the proposed action affects public health or safety.

There is no indication based on the environmental analysis and implementation of projects similar to the Dorset Peru Project in the past that there will be serious implications to public health or safety. The selected alternative makes extensive effort to address safety issues by including improvements to the transportation (roads, trails and parking) network within the project area (Final EA, pp. 38 to 41). Mitigation measures also reduce safety risks associated with timber harvest activities that may impact users of the road and trail network (Final EA, Appendix B, pp. B-1 and B-2). The project does not involve or have any implications to National Defense or Security.

2.2.3 Unique characteristics of the geographic area.

The Final EA did not identify any unacceptable impacts to any unique geographic areas. According to the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (40 CFR Part 1508.27(b) (3)), unique characteristics are defined "such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas."

A cultural resource inventory has been completed for the Dorset Peru Project Area and all known resources will be protected by buffering them from any management activities (Final EA, pp. 129 and 130; and Appendix B, pp. B-7 and B-8). Additionally, the potential for impacting yet undiscovered sites is adequately mitigated in the Forest Plan Standards and Guidelines and in the standard Forest Service timber sale contract provisions.

The Dorset Peru Project Area includes 834 acres of State lands, Emerald Lake State Park and Hapgood State Forest, and 212 acres in four Dorset Town Forests: Cutler Memorial, the Pinnacle, Owls Head and Freedleyville (Final EA p. 2). Prime Farmlands (PF) and Farmlands of State Importance (FSI) exist in the Project Area on the broad, well drained, gently-sloping lands along the Mettawee River, Batten Kill River, and Otter Creek. Nearly all this land is in private ownership. Activities implemented on adjacent NF lands would have no effect on these lands, since no soil disturbing activities would be implemented by the Forest Service. Most National Forest System (NFS) lands in the Dorset Peru Project Area occur at middle and upper elevations. Less than 50 acres of PF and FSL occur (in total) on NF lands. These lands are at middle elevations on slopes of less than 15%, on deep or moderately deep, well drained loamy soils. Harvesting of trees would occur on some of these lands. Implementation of Forest Plan S&Gs, mitigation measures (Final EA, pp. 111 to 115; and Appendix B, p. B-4), and Acceptable Management Practices for Maintaining Water Quality on Logging Jobs in Vermont would minimize the effects on soil productivity associated with harvest. Lands with soil classified as PF or FSL would retain this designation after harvest.

The wetlands in the Dorset Peru analysis area vary in size and location. There are eleven wetlands equal to or greater than 0.5 acres in or adjacent to planned harvest activities. Nearly all these wetlands have beaver ponds. Most of these wetlands are State Class II Wetlands, which have special protection under the State Wetlands Rules. Numerous other small wetlands, most under a tenth of an acre in size, are scattered throughout the analysis area. These are State Class III Wetlands, which have no special protection under state laws. These small wetlands occur in concave landscape positions as small openings in the forest, dominated by forbs, ferns and/or sedges. Design of project activities, adherence to Forest Plan Standards and Guidelines (S&Gs), and implementation of mitigation measures will minimize impacts to wetlands and maintain wetland functions (Final EA, pp. 114 to 119; and Appendix B, p. B-4). It

is my conclusion that there will be no significant environmental effects to wetland areas, in particular, where commercial timber harvest or trail construction will occur.

All activities included in Alternative B that are within stream corridors are consistent with the Forest Plan S&Gs outlined for the protection of these streams. Impacts of relevant activities on streams within the Dorset Peru Project Area are found in the Fisheries and Water Section 3.10 (Final EA, pp. 121 to 124), and Soil and Wetlands Section 3.9 (Final EA, pp. 113 to 119).

The Otter Creek is identified as an eligible National Recreation River in the 2006 Forest Plan, but has not been congressionally designated. I have concluded that all action alternatives are consistent with the Forest Plan in the Eligible Wild, Scenic, and Recreational River Management Area and will not affect the outstandingly remarkable values associated with the Otter Creek that would preclude it from consideration to be added to the National Wild and Scenic River System.

Ecologically critical areas are those areas that exhibit unique ecological characteristics or, if altered, may affect the viability of threatened or endangered plant or animal species. Botanical and wildlife surveys were conducted throughout the Dorset Peru Project Area and Biological Evaluations (BE) were completed for threatened, endangered, and sensitive (TES) plants and animals (filed in the Dorset Peru project planning record). The animal and plant BEs found that Alternative B will not adversely affect any TES (Final EA, TES Wildlife Section 3.6, pp. 104 to 107; and TES Plants Section 3.7, pp. 108 to 111). Refer also to Sections 1.5.2 and 1.5.3 of this decision document for more information related to TES animals and plants.

No other ecologically critical areas will be impacted by Alternative B. I conclude that there will be no significant impacts to ecologically critical areas.

Based upon these considerations, I conclude there will be no significant effects on unique characteristics within the geographic area.

2.2.4 The degree to which the effects on the quality of the human environment are likely to be highly controversial.

The selected activities of Alternative B will contribute toward reaching the desired future condition, and goals and objectives outlined by the Forest Plan. The Dorset Peru Project Final EA is tiered to the Forest Plan Final Environmental Impact Statement (FEIS) and Record of Decision (ROD) signed by the Regional Forester in April 2006 (Final EA, pp. 5 and 6). Forest-wide effects of actions similar to those of Alternative B have been disclosed in that FEIS. All actions are of a similar type and intensity to activities that have occurred in the past throughout the Forest and in this area, and have not shown to be scientifically controversial to the extent that the quality of the human environment is significantly impacted.

Fourteen (14) comments were received in response to the mailing of the Dorset Peru Project Preliminary EA for public comment (see *Dorset Peru Integrated Resource Project Preliminary Environmental Assessment 30-Day Comment Period: Comment Content Analysis and Response to Comments* in the Dorset Peru project planning record). The number of public comments or differing opinions does not, in and of itself, make an issue controversial. Controversy as described above is a dispute within the scientific community. I expect this decision will not be acceptable to everyone. However, based on the comments received, and the involvement of Forest Service resource specialists and experts from other agencies, it is my

determination that the effects of the management actions in Alternative B are not thought to represent a scientifically controversial impact upon the quality of the human environment.

2.2.5 The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

The actions included in my decision are similar to many past actions, both in the Dorset Peru Project Area and in other areas across the GMNF. The commercial timber sale will involve common harvesting practices and standard contractual requirements. The Forest Service Dorset Peru Project Interdisciplinary Team that conducted the analysis encountered nothing that would indicate a unique or major unknown risk to the human environment. The effects of these actions as disclosed in Chapter 3 of the Final EA are within the range of effects disclosed at a broader scale in the Forest Plan FEIS, are similar to effects of other like actions, and are reasonably predictable. I conclude that there are no unique or unusual characteristics about the area, which have not been previously encountered, that would constitute an unknown risk to the human environment.

Comprehensive literature reviews by resource specialists concluded that changes to local conditions from global climate change have been minimal or non-existent to date, and that substantial change is not within the analysis timeframe for this project. The response of tree, herbaceous plant, and wildlife species to proposed management will depend on changes in on-the-ground conditions from timber harvest, prescribed fire, and other activities (Final EA, pp. 84, 93, 100, 111, 118, 119, 124, and 127). Therefore the effects disclosed in the Final EA and project planning record from proposed management is appropriately based on our extensive knowledge of how resources on the GMNF have responded to similar management in recent years. Literature and stocking surveys on the Forest both indicate that harvested areas should regenerate with the desired species and meet the project purpose and need (Final EA, Timber Management and Economic Analysis Section 3.4, p. 93).

2.2.6 The degree to which the action may establish a precedent for future actions with significant effects, or represents a decision in principle about a future consideration.

This is not a precedent setting decision. Similar actions have occurred previously in the local area and across the Forest. The effects of Alternative B are within the range of effects of these other similar actions and within the range of effects disclosed in the Forest Plan FEIS. All actions are wholly consistent with the Forest Plan, and therefore this is not a decision in principle. This decision does not commit me to actions on lands outside the Dorset Peru Project Area that may have significant effects. I conclude that this action does not establish precedence for future actions with unknown adverse impacts to the environment.

2.2.7 Whether the action is related to other actions with individually insignificant but cumulative significant impacts.

The Affected Environment and Environmental Consequences section of the Final EA (Chapter 3) discusses the combined effects of this project with other past, present, and reasonably foreseeable future actions. None of the actions of Alternative B are severe enough to create an unacceptable and significant impact when related to other actions. Based on the disclosure of effects in the Final EA and the Forest Plan FEIS, I conclude that there are no significant cumulative impacts associated with Alternative B.

2.2.8 The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places, or may cause loss, or destruction of significant scientific, cultural, or historical resources.

There are several known Heritage Resource sites (or areas with potential to contain sites) within the Dorset Peru Project Area. Design of management activities, adherence to Forest Plan S&Gs, and the implementation of mitigation measures provide for the protection of these resources (Final EA, pp. 133 and 134; and Appendix B, pp. B-7 and B-8).

There are no standing historic structures, extensive cultural landscapes, or areas identified by American Indian Tribes as traditional use or sacred areas (Final EA, pp. 132 and 133). Alternative B will have no effect on historic properties, and will provide an opportunity to enhance and stabilize several of the historic period archaeological sites.

No significant impacts will occur to any proposed or listed National Historic Place nor will there be any loss or destruction of scientific, cultural, or historic resources (Final EA, p. 134).

2.2.9 The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

The actions of Alternative B will not lead to significant impacts to endangered or threatened species or their habitats ((Final EA, TES Wildlife Section 3.6, pp. 104 to 107; and TES Plants Section 3.7, pp. 108 to 111 and Dorset Peru project planning record). See Endangered Species Act Compliance Section 1.5.2 of this decision document.

2.2.10 Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

The activities of Alternative B are consistent with, and follow the management direction and standards and guidelines mandated by the Forest Plan. The FEIS and Record of Decision for the Forest Plan indicate the consistency of the Forest Plan with laws and requirements imposed for environmental protection. The Final EA (pp. 4 to 6) and this decision document disclose that Alternative B is in compliance with Federal, State and local laws and regulations, and other resource protection requirements. Any required permits will be obtained before implementation occurs. The actions do not threaten a violation of federal, state, or local environmental protection laws.

3. ADDITIONAL INFORMATION

3.1 APPEAL RIGHTS

This decision is subject to administrative review (appeal) pursuant to 36 CFR Part 215. The appeal must be filed (regular mail, fax, email, hand-delivery, or express delivery) with the Appeal Deciding Officer at:

Colleen Madrid, Appeal Deciding Officer
Attn: Appeals & Litigation
USDA-Forest Service, Eastern Region
626 E. Wisconsin Ave.
Milwaukee, WI 53202
414-944-3963 (FAX)
appeals-eastern-regional-office@fs.fed.us (email)

The office business hours for those submitting hand-delivered appeals are: 7:30 am to 4:00 pm (Central Time), Monday through Friday, excluding holidays. Electronic appeals must be submitted in a format such as an email message, plain text (.txt), rich text format (.rtf), or Word (.doc or .docx) to:

appeals-eastern-regional-office@fs.fed.us

In cases where no identifiable name is attached to an electronic message, a verification of identity will be required. A scanned signature is one way to provide verification. Appeals, including attachments, must be filed within 45 days from the publication date of the legal notice announcing the decision for the Dorset Peru Project in the *Rutland Herald*, (Rutland, VT), the newspaper of record. Attachments received after the 45-day appeal period will not be considered. The publication date in the *Rutland Herald*, newspaper of record, is the exclusive means for calculating the time to file an appeal. Those wishing to appeal this decision should not rely upon dates or timeframe information provided by any other source.

Individuals or organizations who submitted written or oral comments during the 30-day comment period specified at 36 CRF 215.6 (August 14 to September 12, 2012) may appeal this decision. It is the appellant's responsibility to provide sufficient project-specific or activity-specific evidence and rationale, focusing on the decision, to show why the Responsible Official's decision should be reversed. As a minimum, the notice of appeal must meet the appeal content requirements at 36 CFR 215.14(b).

3.2 IMPLEMENTATION DATE

If no appeal is received, implementation of this decision may occur on, but not before, five (5) business days from the close of the appeal filing period. If an appeal is received, implementation may not occur for fifteen (15) days following the date of appeal disposition.

3.3 RESPONSIBLE OFFICIAL AND CONTACT

I am the Responsible Official for the Dorset Peru Project (William F. Jackson, District Ranger for the Manchester Ranger District, Green Mountain National Forest).

For information concerning the Dorset Peru Project, the Final EA and supporting documentation, my decision, and/or the Forest Service appeal process, please contact Melissa Reichert, Green Mountain and Finger Lakes National Forest Supervisor's Office, 231 N. Main Street, Rutland, VT 05701, (802) 747-6754 (voice), 802-747-6766 (fax), or mmreichert@fs.fed.us (email).

The detailed planning record for the Dorset Peru Project Final EA is available for public review at the Manchester Ranger District, 2538 Depot Street (SR 11/30), Manchester, VT 05255.

/S/ *William F. Jackson* — *February 28, 2013*

WILLIAM F. JACKSON
District Ranger
Manchester Ranger District

Date

Appendix A: Summary of Wildlife Habitat and Timber Management Treatments

Tables A-1 through A-4 provide the wildlife habitat and timber management treatments for Alternative B.

Table A-1: Summary of wildlife habitat treatments

Apple tree/soft mast release and pruning: Release and prune all apple trees throughout the stand.

Comp	Stand	Acres	Treatment Acres	Additional Information
56	8	30	1	Within stand proposed for clearcut/permanent opening
58	15	47	1	Partly within inventoried roadless area (IRA).
62	101	1	1	
62	103	1	1	
--	--	--	--	Other stands found to include apple trees that are discovered during project layout.
Total Acres		**79**	**4**	

Clearcut for aspen/birch regeneration (also included in Table A-2: Summary of Proposed Timber Treatments).

Comp	Stand	Acres	Treatment Acres	Additional Information
56	8	30	25	
60	5	37	15	
61	25	9	9	
Total Acres		**76**	**49**	

Restore and/or maintain existing permanent upland opening: Mechanical, mowing, hand cutting, and/or burning treatment methods.

Comp	Stand	Acres	Treatment Acres	Additional Information
39	106	10	10	Meadow maintained under a previous NEPA decision
56	102	3	3	Expand into Stand 8
61	104	1	1	Expand into Stand 14
61	106	1	1	Within IRA; expand into Stands 24 and 43
62	101	1	1	Expand into Stands 2, 27, and 103
62	103	1	1	Expand into Stands 2, 27, and 101
227	102	9	9	Hayfield maintained under a previous NEPA decision
Total Acres		**26**	**26**	

Land clearing to create permanent upland opening (also included in Table A-2: Summary of Timber Treatments); Restore as needed: Mowing, hand cutting and/or burning treatment methods.

Comp	Stand	Acres	Treatment Acres	Additional Information
56	2	12	8	Combine with part of S12 for one opening.
56	4	43	6	Combine with parts of S28 and C 62/S21 for one opening.
56	8	30	5	Combine with S102 for one larger opening.
56	10	33	3	Combine with part of S17 for one opening.

Table A-1: Summary of wildlife habitat treatments				
Comp	**Stand**	**Acres**	**Treatment Acres**	**Additional Information**
56	12	36	10	Combine with part of S2 for one opening.
56	17	84	15	Combine with part of S10 for one opening.
56	28	19	3	Combine with parts of C 56/S4 and C 62/S21 for one opening.
57	1	80	16	
57	5	88	18	
58	8	43	19	
60	5	37	17	
61	13	27	14	
61	14	28	12	Combine with S104 for one opening
61	24	82	3	Combine with S106 and part of S43 for one opening; within IRA.
61	43	22	3	Combine with Stand 106 and part of S24 for one opening.
62	1	47	17	
62	2	41	11	Combine with S101, S103, and part of S27 for one opening.
62	12	30	19	
62	21	32	10	Combine with parts of C 56/S28 and 4 for one opening.
62	27	18	3	Combine with S101, S103, and part of S2 for one opening.
63	48	25	12	
Total Acres		**857**	**224**	
Create down woody debris habitat: Cut and leave trees on site; scatter and/or pile debris for wildlife habitat.				
--	--	--	--	Stands found during project layout which include heritage sites that require vegetation cutting for restoration.
Total Acres		**--**	**--**	

Table A-2: Summary of Timber Harvest Treatments by Compartment And Stand				
Compartment 56				
Stand	**Acres**	**Forest Type**	**Harvest Method**	**Harvest acres**
2	12	Hardwood	Land Clearing for Permanent Wildlife Opening	8
3	25	Mixedwood	Single Tree Selection in two blocks	23
4	43	Hardwood	Land Clearing for Permanent Wildlife Opening	6
5	5	Mixedwood	Improvement Cut, aspen release	5
6	7	Mixedwood	Thinning, aspen release	7
7	15	Hardwood	Improvement Cut, aspen release	10
8	30	Softwood	Land Clearing for Permanent Wildlife Opening	5
8	30	Softwood	Clearcut for aspen, spruce/fir	25
9	22	Hardwood	Improvement Cut, aspen release	22
10	33	Hardwood	Land Clearing for Permanent Wildlife Opening	3
11	16	Hardwood	Single Tree Selection	16
12	36	Hardwood	Thinning	25
12	36	Hardwood	Land Clearing for Permanent Wildlife Opening	10
13	28	Hardwood	Thinning	28
14	23	Hardwood	Seed Tree	20
14	23	Hardwood	Improvement Cut	3
15	12	Hardwood	Improvement Cut	10
16	30	Hardwood	Improvement Cut	19
17	84	Hardwood	Land Clearing for Permanent Wildlife Opening	15
17	84	Hardwood	Thinning	48
28	19	Mixedwood	Land Clearing for Permanent Wildlife Opening	3
28	19	Mixedwood	Single Tree Selection	9
Compartment 57				
Stand	**Acres**	**Forest Type**	**Harvest Method**	**Harvest acres**
1	80	Mixedwood	Land Clearing for Permanent Wildlife Opening	16
1	80	Mixedwood	Single Tree Selection	64
2	23	Mixedwood	Single Tree Selection	5
5	88	Hardwood	Land Clearing for Permanent Wildlife Opening	18
10	8	Mixedwood	Single Tree Selection, softwood release	8
Compartment 58				
Stand	**Acres**	**Forest Type**	**Harvest Method**	**Harvest acres**
8	43	Hardwood	Land Clearing for Permanent Wildlife Opening	19
8	43	Hardwood	Overstory Removal Cut	20
14	38	Hardwood	Single Tree Selection	38
15	47	Hardwood	Thinning	45
16	67	Hardwood	Three-cut Shelterwood, softwood release	28
16	67	Hardwood	Single Tree Selection, softwood release	35
18	63	Hardwood	Three-cut Shelterwood, softwood release in two blocks	33
18	63	Hardwood	Single Tree Selection, softwood release	16
19	71	Hardwood	Single Tree Selection	26
22	9	Hardwood	Single Tree Selection	9

Table A-2: Summary of Timber Harvest Treatments by Compartment And Stand				
Compartment 59				
Stand	**Acres**	**Forest Type**	**Harvest Method**	**Harvest acres**
4	55	Hardwood	Two-cut Shelterwood	25
4	55	Hardwood	Single Tree Selection	26
11	28	Hardwood	Shelterwood with Reserves, enhance oak	28
15	61	Hardwood	Two-cut Shelterwood	25
15	61	Hardwood	Single Tree Selection	31
16	36	Mixedwood	Thinning	8
16	36	Mixedwood	Group Selection	17
18	40	Hardwood	Thinning	18
Compartment 60				
Stand	**Acres**	**Forest Type**	**Harvest Method**	**Harvest acres**
4	9	Hardwood	Two-cut Shelterwood	9
5	37	Hardwood	Clearcut for aspen/paper birch	15
5	37	Hardwood	Land Clearing for Permanent Wildlife Opening	17
21	63	Hardwood	Improvement Cut	35
21	63	Hardwood	Two-cut Shelterwood	28
29	52	Hardwood	Group Selection	10
29	52	Hardwood	Two-cut Shelterwood in two blocks	17
32	36	Hardwood	Two-cut Shelterwood	14
35	21	Hardwood	Shelterwood with Reserves	19
36	8	Hardwood	Thinning	4
37	12	Hardwood	Thinning	7
45	17	Hardwood	Two-cut Shelterwood	17
Compartment 61				
Stand	**Acres**	**Forest Type**	**Harvest Method**	**Harvest acres**
2	22	Hardwood	Two-cut Shelterwood	22
5	33	Hardwood	Improvement Cut	9
5	33	Hardwood	Two-cut Shelterwood	24
7	90	Hardwood	Improvement Cut	1
7	90	Hardwood	Two-cut Shelterwood Removal in 3 blocks	61
7	90	Hardwood	Single Tree Selection, softwood release	26
10	20	Hardwood	Three-cut Shelterwood	20
13	27	Hardwood	Land Clearing for Permanent Wildlife Opening	14
14	28	Hardwood	Land Clearing for Permanent Wildlife Opening	12
15	8	Hardwood	Single Tree Selection	8
18	31	Hardwood	Single Tree Selection	22
19	31	Hardwood	Two-cut Shelterwood	23
23	36	Hardwood	Improvement Cut	36
24	82	Hardwood	Land Clearing for Permanent Wildlife Opening	3
25	9	Mixedwood	Clearcut for softwood and aspen/paper birch	9
37	28	Hardwood	Improvement Cut	28
40	11	Hardwood	Improvement Cut in two blocks	9
42	16	Hardwood	Single Tree Selection	12
43	22	Hardwood	Land Clearing for Permanent Wildlife Opening	3
44	27	Hardwood	Seed Tree	27
46	27	Hardwood	Group Selection	27

Table A-2: Summary of Timber Harvest Treatments by Compartment And Stand				
Compartment 62				
Stand	**Acres**	**Forest Type**	**Harvest Method**	**Harvest acres**
1	47	Hardwood	Improvement Cut	19
1	47	Hardwood	Land Clearing for Permanent Wildlife Opening	17
2	41	Hardwood	Land Clearing for Permanent Wildlife Opening	11
4	15	Hardwood	Single Tree Selection, release softwoods	15
6	32	Hardwood	Thinning	32
9	34	Hardwood	Improvement Cut	14
10	54	Hardwood	Improvement Cut	41
11	8	Hardwood	Single Tree Selection	8
12	30	Hardwood	Land Clearing for Permanent Wildlife Opening	19
12	30	Hardwood	Single Tree Selection, release softwoods	11
13	15	Hardwood	Single Tree Selection	12
18	44	Hardwood	Improvement Cut	26
19	29	Hardwood	Improvement Cut	7
21	32	Hardwood	Thinning	4
21	32	Hardwood	Improvement Cut	11
21	32	Hardwood	Land Clearing for Permanent Wildlife Opening	10
23	60	Hardwood	Thinning	60
24	13	Hardwood	Improvement Cut	12
25	17	Hardwood	Thinning	17
27	18	Softwood	Land Clearing for Permanent Wildlife Opening	3
33	9	Mixedwood	Improvement Cut	9
Compartment 63				
Stand	**Acres**	**Forest Type**	**Harvest Method**	**Harvest acres**
8	73	Hardwood	Single Tree Selection	21
23	9	Hardwood	Improvement Cut	9
24	12	Mixedwood	Improvement Cut	12
25	28	Hardwood	Two-cut Shelterwood	27
27	39	Hardwood	Improvement Cut	39
29	13	Hardwood	Thinning	13
30	69	Hardwood	Single Tree Selection	63
48	25	Hardwood	Improvement Cut	13
48	25	Hardwood	Land Clearing for Permanent Wildlife Opening	12
49	14	Hardwood	Single Tree Selection	14
Total Stand Acres:				***2,780 acres***
Total Harvest Acres:				***2,047 acres***

Table A-3: Summary of Proposed Timber Harvest Treatments

Summary of Proposed Harvest Treatments	Harvest Acres
Uneven-Aged Harvest Treatments	
Hardwood Single Tree Selection with gaps to regenerate uneven-aged hardwoods	306
Hardwood Single Tree Selection with gaps to create an uneven-aged mixedwood stand	103
Mixedwood Single Tree Selection with gaps to regenerate uneven-aged softwoods/hardwoods	109
Total Single Tree Selection	**518**
Hardwood Group Selection to regenerate uneven-aged hardwoods	37
Mixedwood Group Selection to regenerate uneven-aged softwoods	17
Total Group Selection	**54**
Even-Aged Harvest Treatments	
Hardwood Thinning to improve composition, growth and spacing	301
Mixedwood Thinning to improve composition, growth and spacing	15
Total Thinning	**316**
Hardwood Improvement Cut to improve stand health	341
Hardwood Improvement Cut to improve stand health and release aspen	32
Mixedwood Improvement Cut to improve stand health	21
Mixedwood Improvement Cut to improve stand health and release aspen	5
Total Improvement Cuts	**399**
Hardwood Three-cut Shelterwood to regenerate even-aged hardwoods	20
Hardwood Three-cut Shelterwood to regenerate even-aged softwoods	61
Total Three-cut Shelterwood	**81**
Hardwood Two-cut Shelterwood	292
Total Two-cut Shelterwood	**292**
Hardwood Shelterwood with Reserves to regenerate even-aged hardwoods and oak	28
Hardwood Shelterwood with Reserves to regenerate even-aged hardwoods	19
Total Shelterwood with Reserves	**47**
Hardwood Overstory Removal Cut to release young hardwood saplings and small trees	20
Total Overstory Removal Cut	**20**
Hardwood Seed Tree cut to regenerate even-aged hardwoods	47
Total Seed Tree	**47**
Hardwood Clearcut to regenerate aspen and/or birch	15
Mixedwood Clearcut to regenerate softwoods and aspen/birch	9
Softwood Clearcut to regenerate aspen and spruce/fir	25
Total Clearcut	**49**
Land Clearing to Convert Forest to Openings	
Hardwood Land Clearing to convert stand into a permanent upland wildlife opening	197
Mixedwood Land Clearing to convert stand into a permanent upland wildlife opening	19
Softwood Land Clearing to convert stand into a permanent upland wildlife opening	8
Total Land Clearing to Convert Forest to Openings	**224**
Total Uneven-aged Harvest Treatment	***572***
Total Even-aged Harvest Treatment	***1,251***
Total Land Clearing	***224***
TOTAL HARVEST TREATMENT	***2,047***

Table A-4: Summary of Proposed Stand Improvement.				
Stand	**Stand Acres**	**Forest Type**	**Treatment Method**	**Treatment Acres**
Compartment 56				
4	43	Hardwood	Crop tree release	37
10	33	Hardwood	Crop tree release	29
14	28	Hardwood	Crop tree release	15
45	8	Hardwood	Crop tree release	8
Total Stand Acres				***112***
Total Stand Improvement Treatment				***89***

Table A-5: Summary of Reforestation Activities (Site Preparation for Natural Regeneration or Artificial Regeneration following all Clearcut, Seed Tree, Shelterwood, Single Tree Selection and Group Selection Harvests).

Forest Type	Treatment Acres
Hardwood	929
Mixedwood	135
Softwood	25
Total Acres	***1,089***

Appendix B: Mitigation Measures

The Green Mountain National Forest Land and Resource Management Plan (Forest Plan) established Forest-wide and Management Area Standards and Guidelines (S&Gs) to mitigate potential adverse effects of management activities (Forest Plan, Chapter 2, Section 2.3; and Chapter 3). The Dorset Peru Integrated Resource Project (Dorset Peru) Project Area has been designed to be consistent with all Forest Plan S&Gs. Although S&Gs are usually implemented without any need for repetition in site-specific NEPA documents, there are occasions when clarifications specific to a project is needed to ensure compliance with the Forest Plan. Mitigation measures have also been developed specifically for the Dorset Peru Project to address resource concerns beyond those addressed by Forest Plan S&Gs.

Listed below are relevant S&G clarifications and mitigation measures associated with the Dorset Peru Project by resource area. They apply to all action alternatives (Alternatives B and C) unless specifically stated otherwise.

SOCIAL FACTORS

Apply to Harvest Zone 3 – Compartments 59 and 60 (town highways - Chandolin and Bromley Forest Roads)

SF-1 Temporary traffic controls defined in a traffic control plan will be used that provide road users with adequate warning of hazardous or potentially hazardous conditions associated with timber harvesting operations.

SF-2 All timber harvest operations will be conducted during the winter operating season.

SF-3 Ways to minimize the number of winter seasons will be considered during project implementation.

SF-3 Forest Service staff will work with the Town of Winhall to develop any appropriate restrictions to hauling activities on Chandolin and Bromley Forest Roads. Restrictions to be considered may include:

- No hauling activities on weekends and federal holidays.
- No hauling or restricted hauling activities during school bus pick-up and drop-off times.
- Keeping town road plowed to the widest extent possible.

RECREATION

TM-1 Temporary traffic controls will be used that provide road users with adequate warning of hazardous or potentially hazardous conditions associated with timber harvesting operations.

TM-2 Trail tread will be restored back to pre-harvest conditions following completion of harvest activities.

TM-3 Skid Road crossings on trails will be perpendicular to the trail tread and have a site distance safe enough to allow visibility for recreation users.

TM-4 Skid roads that cross system trails will be “slashed in” (place 6 inches or less diameter tree branches in a random natural appearing pattern along the width of the road where it intersects the trail to a height of 2 to 3 feet and a depth of 6 to 8 feet) prior to completion of harvest activities.

TM-5 Where feasible fell trees away from the trail prism to reduce slash immediately adjacent to the trail.

TM-6 Forest Service staff will work with adjacent property owners when determining an alignment for the Emerald Lake Connector Trail.

Apply to Corridor 7 (FT385) and FR 21.

TM-7 Ways to minimize the number of winter seasons impacted by operation and to maximize the possibility for summer harvest operations will be considered during project implementation (see S-2).

TM-8 Hauling activities will not take place on weekends and federal holidays unless snowmobile use will not be occurring due to snow conditions.

TM-9 Limit the depth to which snow may be plowed and/or retain an unplowed lane to facilitate snowmobile use.

TM-10 Purchaser and Forest Service will agree to a specific traffic control plan for each individual project prior to commencing operations to address safety concerns associated with snowmobile traffic including:

- placing speed limits on haul trucks in areas where the road is shared with snowmobiles
- providing haul truck drivers with schedule of snowmobile tours using the area.

WILDLIFE

W-1 The Dorset Peru IRP project area includes a known Indiana bat hibernaculum, Aeolus (Dorset) Cave. Timber harvest within 5 miles of Aeolus Cave from April 15 through October 30 shall be in accordance with provisions of a management plan for that hibernaculum which was developed in consultation with the US Fish and Wildlife Service and the Vermont Fish and Wildlife Department. Timber harvest shall not take place within 5 miles of the Aeolus hibernaculum from April 15 through October 30 until such a management plan is in effect.

W-2 For thinning, single tree and group selection, and overstory removal treatments in stands with wetlands, a shade buffer should be left around the wetland to maintain water levels and temperatures for amphibian habitat.

W-3 Apple tree release and pruning will occur throughout the project area wherever live apple trees are found, including within the 100 ft. zone of wetlands, to improve mast production for wildlife.

W-4 Maintenance of wildlife openings will not be done between May 15 and August 1st unless surveys indicate nesting birds are not an issue.

W-5 In units where summer harvest is planned, consider retention of trees near wildlife cover areas (e.g. Rock piles and large woody debris/logs) within 50' of wetland areas to minimize the potential disturbance or individual mortality to reptiles and/or amphibians during operations.

TIMBER MANAGEMENT

TM-1 Where harvest occurs to regenerate aspen, the timing of harvest shall be in the winter. This includes C56, S5, 6, 7, 8, 9; C60, S5; and C61, S25. In stands not proposed for regeneration treatment but where aspen is present, silvicultural prescriptions will be designed to promote aspen propagation. Winter harvest is preferred. This includes C56, Stands 5, 6, 9; C57, Stands 1, 2.

THREATENED, ENDANGERED AND SENSITIVE SPECIES PLANTS

T-1 Anywhere that trees will be harvested, do not cut healthy butternut trees are on the RFSS list for the GMNF.

T-2 Prior to maintenance of wildlife openings, botanical surveys will occur followed by development of plans to minimize impacts to any plants on the RFSS list found there.

T-3 Prior to project implementation, botanical surveys will occur in the following locations, and if any plants on the RFSS list occur there project activities will be designed to avoid them:

- The proposed Emerald Lake Connector, Dorset Mountain Trails, and on any proposed changes to the East Dorset Trail
- NFSR 58 parking lot expansion site and locations of culvert work
- Two temporary haul road locations – off Chandolin Road (Winhall TH 72) and the curb-cut permit area off 259.

NON-NATIVE INVASIVE PLANTS

N-1 Prior to project implementation, the following will have surveys for NNIP:

a. Legal Town Trail 8 from Rte. 7 across Beech Ridge into proposed new landing
b. The proposed new haul road off Chandolin Road in to proposed new landing H3L1
c. The power line ROW that cuts through HZ4, is on the north edge of HZ 5, and cuts through HZ6
d. The skid Road (FR 285) that comes into HZ 7 from US 7
e. The proposed Emerald Lake Connector and Dorset Mountain Trails
f. The Mettawee LWD project site, starting from its southern access point, and continuing upstream to the point where NNIP are no longer found
g. The Little Mad Tom LWD project site, starting at the end of FR 21, where there are known infestations, and continuing downstream and upstream to the point where NNIP are no longer found
h. Openings proposed for maintenance that have not already been surveyed
i. On Dorset Legal Trail 10 and Forest Road (FR) 259 Mad Tom Road, the location of any new trail head or parking lot proposed by the town
j. The proposed parking lot expansion site on FR 58

k. In the general vicinity of sites where we propose to construct temporary haul roads for timber access and new log landings.
l. All sites where we propose to improve access to NFS lands over new permanent or temporary access permits or easements
m. All sites where previously used temporary roads would need to be reopened to access existing landing locations
n. All existing log landings proposed for use during vegetation management

N-2 Incorporate measures to prevent the introduction and spread of NNIP whenever developing plans to increase cooperation with local governments on management of the Forest and town road infrastructure.

SOIL AND WATER

S-1 Implement soil and wetland protection measures described in the following spreadsheets (both reside in the Project Record) unless other options are identified during project implementation which provide equal or greater resource benefits:

a) Timber Harvest Access Routes – Soil and Wetland Protection Measures (USDA-FS 01/30/2012)
b) Dorset Peru Soil and Wetland Information by Compartment and Stand (USDA-FS 02/01/2012).

S-2 Commercial harvest would be done in winter, in most stands. However, a small number of stands have soils, road, and landing access suited to harvest operations in the driest part of summer. These stands are listed in Table B-1, below. A small number of additional stands may be identified by the soil specialist as suited to summer harvest, if for example more suitable haul/skid routes are identified, special harvest equipment is used, or there is a particularity dry summer.

Table B-1 Stands with Soils Suited to Summer Harvest.

Compartment	Stands
56	6, 7, 8, 9; also 2, 10, 11, 12, 14, 15, 16, and 17, if wet spots on the haul road are hardened.
57	1, 2, 5, 10
61	2, 5, 7, 13, 14, 23, 40
Sources: USDA-FS 01/30/2012 and USDA-FS 02/01/2012, both available in the Project Record, Soil and Wetland Specialist's Report.	

S-3 Bole-only harvesting would be done in all stands except those planned for conversion to wildlife openings. This measure limits nutrient removal associated with harvesting by leaving tops and slash on site to decompose naturally.

S-4 Commercial harvesting would be avoided in areas of shallow and/or steep soils, greater than approximately one-quarter acre in size. Shallow soils are less than 20 to 25 inches deep over bedrock. Steep slopes have a slope gradient of over 50 percent. This measure maintains soil productivity in these areas.

S-5 Prescribed burning would be done only when overall mineral soil heating would be low. This would minimize soil nutrient losses. In addition, burning would not be done in areas dominated by outcrops and soils less than 12" deep over bedrock.

S-6 The exact location of the first mile of the East Dorset Trail, beginning at the National Forest boundary to the west, would be reviewed by a soil specialist prior to final decisions on the trail location and design. This is important to minimize the effects on steep, shallow, or unstable soils along the trail.

FISHERIES

F-1. Dorset Mountain trail in the vicinity of the private spring and pond will be located and designed in cooperation with the adjacent landowner to avoid altering water quantity and quality.

F-2. Placement of whole trees for LWD would be done in sections of stream that are less than 35 feet wide to address concerns for downstream infrastructure.

AIR

A-1 *Smoke Ahead* signs will be placed on all paved roads that will be impacted by nighttime smoke.

A-2 The Burn Boss will implement the ignition phase of the project to allow fuels to combust prior to a valley inversion setting in.

A-3 Burning will be conducted under atmospheric conditions with a smoke dispersion index of "Good" or better.

SCENERY

<u>Views to Ridgelines and side slopes from SR7, SR7A, SR11 and SR30</u>

V- 1. In single tree selection units C57 S1A, C59 S4B, C59 S15A(alt B only), and C63 S30 work with the Landscape Architect to layout stand so harvest is not evident on the ridgeline as viewed from US 7,SR7A, SR11 and SR30. This may involve harvesting individual trees and fewer small groups in some portions of the stands.

V-2. In group selection units C59 S16B limit size of group to less than 1 acre and locate in a linear shape with the contour so the harvest is not evident from US 7 or SR7A.

V-3. In thinning units in C59 S18 (Alternative B only) and C60 S37 (Alternative B only) work with the GMNF Landscape Architect to leave a higher BA and only cut individual trees in portions of the stand visible from the vicinity of the Manchester Country Club on SR7A so that the ridgeline does not appear sparse of trees.

V- 4. In the proposed shelterwood unit in C59 S15B (Alt B only) work with the GMNF Landscape Architect to layout stand to meet the Retention VQO on the upper part of the ridge as viewed from the vicinity of the Manchester Country Club on SR7A and US 7 north of the Exit 4 ramp. Trees would be harvested in the traditional shelterwood on the natural benches within the stand, and be retained (some thinning within the bands could occur) perpendicular to the

slope in bands located on portions of the side slopes. In addition, a feathering technique should occur to ease in and out of the bands of trees that are retained. The intention is that the shelterwood treatment would not be visible from US Highway 7 (to the casual Forest visitor) since the bands would screen the remaining parts of the stand from view. Monitoring of this stand would occur after the initial harvest to confirm that the subsequent treatments (i.e. site prep and overstory removal) would also meet VQOs and what mitigations would be needed.

V- 5. In the shelterwood unit in C63 S25 work with the GMNF Landscape Architect to leave a patch of higher BA toward the upper reaches of the stand in the north east corner to best meet the VQO. Have the GMNF Landscape Architect monitor the harvest before proceeding with the next phase of the shelterwood treatment schedule to help determine when overstory should be removed (possibly more than 3-5 years as proposed and closer to 10 years as described in the 2006 Forest Plan).

V-6. In C59 S4A work with GMNF Landscape Architect to leave more trees on the highest elevation of the stand so individual trees left in the shelterwood on the ridgeline are not visible from US 7 and seen as a silhouette against the skyline.

V-7. In the shelterwood units in C59 S15B (Alt B only), C59 S4A, and C63 S 25 have the GMNF Landscape Architect monitor the harvest unit after the first harvest and before prescribing the site preparation for these stands in case portions of the stand would best meet VQOs with more stems left in place.

Wildlife Opening Maintenance, Conversion and Vista Maintenance

V-8. Retaining some existing mature trees or recruiting some young trees is desirable along the edge of the road or trail where it meets the vista or wildlife opening to enhance the view. This need not be done in each stand but should be implemented where visual quality would be enhanced.

V-9. Along North Road retain trees along the private property line on the east side of C56 S8B and the south side of C56 S102 for the aesthetic of the view for the private property owner and the Town of Peru playground. Some of these trees are the larger boundary trees.

V-10. Retain windfirm vegetative screening (including red pine where possible) in C56 S102 and C56 S8A for the protection and security of the Hapgood Pond Recreation Area Pump Station.

Clearcut and Shelterwood Treatments (including wildlife openings) along Roads and Trails

V-11. Units that have recreation trails and roads adjacent to them and are prescribed for clearcut and shelterwood harvests will be designed and marked to meet the visual condition for moderate viewer sensitivity guidelines (Table 2.3-3 in Forest Plan). Where the length of harvest along trails exceeds 200 feet (for clearcut and shelterwood units), along roads exceeds 200 feet (for clearcut units) and exceeds 400 feet along roads (for shelterwood units), mark the remaining stand to leave enough trees to create a visual buffer for a minimum depth of 100 feet with at least 1,000 feet between openings.

Slash Treatments

V-12. Where timber harvest takes place adjacent to recreation trails and maintained residential areas, lop and scatter remaining slash within 25 feet of the residential boundary and each side of recreation trails to within 2 feet of the ground.

V-13. Where timber harvest takes place adjacent to roads pull back remaining slash from the road edge a minimum of 25 feet, then lop and scatter to within 2 feet of the ground so as not to create an unnatural edge.

V-14. Beyond the 25 foot slash free area, reduce slash to within 2 feet of the ground for 25 to150 feet distance back from SR7A, SR11/30, and North Road (Peru). For remaining roads that have harvesting adjacent to roads (not skid roads), lop slash to within 2 feet of the ground for 25 to 100 feet distance back from road edges where visible from the roads except for the section of FR 21 where it is located south of the intersection with FR58 where slash can be reduced to 3 feet of the ground for 25 to100 feet distance.

HERITAGE

H-1. Historic period archaeological sites will have a buffer zone to protect the site from disturbance. Ideally this buffer zone is customized to reflect the kind of site, its associated features, level and location of prior use or disturbance, as well as the nature of the proposed project activity. In the absence of a unique/specified buffer (or the incidental discovery of a site during project layout or implementation) the Vermont Division for Historic Preservation has determined that the default buffer is 200 feet in every direction. Alternately, customization may lead to harvest activities within the site area under circumstances that minimize disturbance and maximize benefit to the site's condition. Such measures are agreed to by the Forest Archaeologist and the Sale Administrator.

H-2. Harvest Zones ("HZ") have been identified within the Dorset-Peru project area. An HZ is an area within which landings, skid routes and other actions related to harvest activities in nearby units may be established. Heritage Resource Mitigation Measures are necessary in 4 HZs, as follows:

- *Harvest Zone 7*: Two sites (Drt-027.00 & -027.01), consisting of a cellar hole and a possible small barn foundation, were reported more than 20 years ago during a previous timber sale survey in the northeast portion of this HZ near the stream. We were not able to re-locate them during recent (2006, 2011) field surveys, possibly because they were swept away during tropical storm Irene or perhaps they were mis-mapped. This Measure is to ask timber markers to monitor the area and report if they encounter these remains during their work.

- *Harvest Zone 11*: The remains of five 19th c. charcoal kilns (Pru-050.03) lie on the downslope sides of the existing landing in the northern end of HZ-11. No expansion of the landing in the direction of the sites should be allowed. The opportunity to do some stewardship "clean up" exists.

- *Harvest Zone 14*: Pierce Road extension leads to the existing landing in HZ-14. Re-opening and expansion of the landing should be planned in coordination with the Forest archaeologist (see Mitigation Measure H-6).

- *Harvest Zone 15*: establishment of the new proposed landing along Savage Road should be planned in coordination with the Forest Archaeologist to protect historic archaeological remains in that area.

H-3. The several Heritage Resource sites along the proposed East Dorset Trail (cellar hole, charcoal kilns, mill remains, bridge abutments) will be identified/flagged on the ground by the Forest Archaeologist prior to implementing the trail improvement project(s) so they can be avoided/protected.

H-4. The Forest will consult with the VT Division for Historic Preservation to determine "best methods" for the preservation of the stone retaining walls along the existing East Dorset Trail and Mad Tom Brook prior to implementation of the trail rehabilitation/reconstruction project.

H-5. Proposed re-routes of the East Dorset Trail (e.g., to avoid areas that have been washed out and/or to find a route that does not require dangerous stream crossings) will be surveyed by the Forest Archaeologist before implementation.

H-6. Pierce Road (NFSR 258, TH 18) extension: the proposed extension of this road for access into US Tract 27/HZ-14 involves Road, Timber, and Soil-&-Water resources. The proposed route passes through a maze of stone walls and the remains of an upland farm (partially buried by the present landing). Re-opening and expansion of the landing as well as the layout/location of the road should be planned in coordination with the Forest Archaeologist in order to protect these Heritage Resources.

H-7: The Forest Archaeologist should survey the proposed location of the Emerald Lake Connector Trail before implementation (including the Heritage Drt-38 District) given the proximity of at least one known historic period archaeological site.

NOTE: General mitigation measures for areas sensitive for the location of prehistoric Native American sites seek to ensure that disturbance to the subsurface soil horizon in which these sites do, or may, exist is avoided or minimized. This can be accomplished through avoidance of the area altogether, operating over-snow (8 to 12 inches) or frozen ground conditions, or through the use of alternative harvest technologies such as tracked feller buncher machines or helicopters. In the Dorset-Peru project area, however, none of the stands where proposed activities will take place appear to warrant this treatment: by applying predictive criteria established by the Vermont Division for Historic Preservation and through extensive walk-over reconnaissance, it has been concluded that all proposed activity areas are either too far from water, too steep, too wet, or a combination of all three to warrant concern.