



United States Department of Agriculture
Forest Service

Waucoma

Huckleberry Enhancement

Draft Visual Analysis Report

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1.0 Introduction

This report is an analysis regarding potential impacts of an action proposed by the Mt. Hood National Forest. This action applies to scenic resources within the seen area of the Waucoma Huckleberry Enhancement project boundaries.

The project adheres to the Mt. Hood National Forest Land and Resource Management Plan (Forest Plan) direction and resource specialist recommendations. It will be accomplished utilizing several treatment types, i.e. pre-commercial and commercial thinning, as well as shelterwood. Commercial thinning will include intermediate and variable density thinning from below employing ground based, helicopter, and/or skyline operation methods (the shelterwood treatment would also use one of these three operation methods).

This report focuses on the visual aspects, and potential effects, of implementing these vegetation management strategies. Visual resources would be impacted if implementation of the proposed action, and associated treatments, were to occur.

Using the project design criteria (PDC), as well as aligning actions to be consistent with management area direction as provided in the Forest Plan, impacts to visuals would be minimal. Additionally, they would be consistent with the Forest Plan management area direction.

2.0 – Analysis Framework

2.1 - Resource Indicators and Measures

Several documents are used when conducting a visual analysis, providing guidance and means for measuring the proposed action's suitability for implementation. The Forest Plan provides direction for visual resource management, as well as dividing the landscape into various land use allocations. For the Waucoma Huckleberry Enhancement project, these land use allocations and accompanying goals can be found within the project's boundaries.

Each allocation has a minimum level of visual quality standards that must be met when the landscape is altered by constructing roads/buildings, building utility corridors, harvesting timber, fire treatments, etc. The Forest Plan states that "...visual quality objectives¹prescribed in management direction represent the minimum level that shall be achieved in long term visual resource management." (USDA 1990) The significance of this statement is that the Forest Plan gives authority to the Visual Management System (VMS) and associated Visual Quality Objectives (VQO's) to influence decisions and make visuals an important piece of the planning

¹ Taken from USDA Agricultural Handbook 462, National Forest Landscape Management, Vol. 2 Chap. 1, The Visual Management System.

process. The following VQO's pertain to the landscape within the Waucoma Huckleberry Enhancement project area:

Retention, "...provides for management activities which are not visually evident...activities may only repeat form, line, color, and texture...reduction in form, line, color, and texture contrast in order to meet Retention should be accomplished either during operation or immediately after." (USDA 1974)

Partial Retention, "...management activities remain visually subordinate to the characteristic landscape...reduction in form, line, color, and texture...should be accomplished as soon after project completion as possible or at a minimum within the first year." (USDA 1974)

Modification, "...management activities may visually dominate the original characteristic landscape. However, activities of vegetative and land form alteration must borrow from naturally established form, line, color, or texture...reduction in form, line, color, and texture should be accomplished in the first year or at a minimum should meet existing regional guidelines." (USDA 1974)

The potential viewing distance a person may have of the surrounding landscape is impacted by several factors. Examples include views from an established road, trail, or designated viewpoint. This influences vegetation management methods and the scenery created.

Adopted from the structure set forth by the Forest Plan, the following are the final grouping of elements incorporated into a visual analysis study. Viewing distance zones include: foreground (0 to ½ mile from viewer), middleground (1/2 to 5 miles from viewer), and background (5 miles to horizon from viewer).

The following are land use allocations identified in the Forest Plan that are associated with this project and their accompanying viewing distance zones and the VQOs that should be met at those distances. The Forest Plan states that "...VQOs apply only to lands within the indicated [land use allocations]." (FW-554)

A5 – Unroaded recreation: Foreground = Retention, Middleground = Retention, and Background = Retention

A6 – Semi primitive roaded recreation: Foreground = Retention, Middleground = Retention, and background = Retention

B3 – Roaded recreation: Foreground = Partial Retention, Middleground = Partial Retention, and Background = Partial Retention

B10 – Deer and elk winter range: Foreground = Modification, Middleground = Modification, and Background = Modification

B12 – Backcountry lakes: Foreground = Retention, Middleground = Partial Retention, and Background = Partial Retention

C1 – Timber emphasis: Foreground = Modification, Middleground = Modification, and Background = Modification

Table 1. Resource indicators and measures for assessing effects

Resource Element	Resource Indicator	Measure (Quantify if possible)	Source Forest Plan Standards and Guides
Land Use Allocations	Looking at the desired use against prescribed management activities.	Meets requirements outlined in the Forest Plan for each land use allocation	Forest Plan (Pgs. Four 107 – Four 111 and Pgs. Four 157 – Four 294)
VQO - Retention	Looking at form, line, color, and texture.	Met by management activities that are not visually evident.	Forest Plan (Pgs. Four 157 – Four 294) Visual Management System (Pg. 30 - 31)
VQO – Partial Retention	Looking at form, line, color, and texture.	Met by management activities that remain visually subordinate to the characteristic landscape.	Forest Plan (Pgs. Four 157 – Four 294) Visual Management System (Pg. 32 – 33)
VQO - Modification	Looking at form, line, color, and texture.	Management activities may visually dominate the original characteristic landscape, but vegetative and land form alteration must borrow from naturally established form, line, color, or texture.	Forest Plan (Pgs. Four 157 – Four 294) Visual Management System (Pg. 34 – 35)
Viewing Distance Zones	Land is seen or not seen from a particular distance along an established route or from a point	If land is seen, should meet defined VQO guidelines depending on the land use allocation the land is seen in. If not seen, none of the above apply.	Forest Plan (Pgs. Four 157 – Four 294)

2.2 - Methodology

Completion of a comprehensive visual analysis involves a specific methodology utilizing the parameters set forth by the Forest Plan. This methodology also uses a nationally recognized visual management system in an ArcGIS format. It includes other information such as project boundaries, individual vegetation management units, logging systems, prescribed timber treatments, road, trail, waterbody, and recreation site locations. It also considers the earth’s topography without existing vegetation or a digital elevation model (DEM). The DEM can be used to create maps involving what a potential viewer could see, or not see, in the landscape along a route (i.e. roads and trails) or from a chosen point (i.e. site or trailhead). Factoring in the distance (i.e. foreground, middleground, and background viewing distance zones) a viewer can see from one point and/or various points along a route. Together with the information mentioned above, all contribute to showing the areas of a project that need their visual integrity protected, as well as areas where modification is expected. This influences methods of vegetation treatment and the aesthetics of the area following operations. It also influences how

this new landscape fits into the surrounding local and regional landscape patterns, forms, and systems.

Viewing distance zones are the final ‘lens’ applied in visual analysis. These create another layer by which to study a project’s impact on the landscape. Whether hiking on a trail, or driving in their vehicles to a recreation area, people see not only the landscape in front of them but, from certain vantage points, further into the distance. For the Waucoma Huckleberry Enhancement project, several established routes and sites have been identified to use as the study’s main areas the public could be viewing the landscape from.

The routes chosen for this project are Forest Service roads 2821 and 2820 as well as the Rainy – Kingsley trail, #409B. For sites, Rainy, Black, and Otter lakes were all taken into consideration of places where the public could potentially see into the project area. Mentioned earlier in this report, the landscape is broken up into three viewing distance zones.

In each zone, still within the project’s boundaries, VQO’s need to be met. Five of the six land use allocations meet one specific VQO which doesn’t change when viewing distance zones are added. The only exception is B12 land. In the foreground, the landscape needs to meet “retention” standards. While going further into the middleground, and possibly the background, “partial retention” standards are applicable.

The viewing distance zone layer of analysis also introduces “seen” and “unseen” areas. Created by running a specific operation in the program ArcGIS, these two areas are obtained from inputting the mentioned routes and sites against a digital elevation model (a digital model of the earth’s surface, without vegetation cover, shortened to DEM). The program creates many points along the chosen route or uses the one point for a site. From every point, or just the one, the program analyzes what parts of the DEM are “seen” or “unseen”. After the program operation completes two colors are displayed over the DEM; green representing the “seen” and red representing the “unseen” areas. The importance of running this function is to show the landscape areas, including the harvest units of the Waucoma project that need to be given more attention. This is due to the public having a higher chance of seeing them at any given point along the route, or from a single point at a site. Identifying the locations of these visible areas helps focus suggestions and ensures that desired conditions, visual quality objectives and land use allocation requirements are met. The impacted landscape is then consistent with the surrounding environment. This also provides the public with a more natural scene than one that has been altered.

3.0 – Analysis of Scenery

3.1 – Existing Condition

3.1.1 – Land Use Allocations

At least six land use allocations are located within the project’s boundaries. All six will be impacted by the vegetation management recommended for this project. These have been

mentioned and defined earlier, in section 2.1. The majority of the project area is classified as C1 land (approximately 82%). Expressed in percentage of total acres, the other land uses are considerably less: A5/B10/B12 (each at 4%), A6 (3%), and B3 (2%). The land in each designation currently exhibits the desired conditions, as planned, by Forest Service professionals following the Forest Plan.

3.1.2 – Visual Quality Objective – Retention

The project area can be divided by utilizing visual quality objectives set forth by the Forest Service’s approved Visual Management System. As defined in section 2.1 the VQO Retention is stricter regarding the types of treatments that may be used and how the landscape is left, in comparison to the VQO Partial Retention and VQO Modification (also as defined in section 2.1).

Of the project’s six land use allocation designations, A5, A6, and B12 are required to meet “Retention” guidelines, in addition to the standards that each designation includes. Utilizing known practices and their outcomes will determine whether these areas meet the prescribed VQO. Examples include: conducting operations in such a way that chosen treatments repeat the surrounding natural landscape’s form, line, color, and texture and using overall operations that are not visually evident. If the treatments and activities have a chance of not meeting Retention guidelines, mention of mitigations and/or design considerations will be included. Thus, visual quality objectives linked to forest plan requirements are met. Should any part of the landscape be altered below the associated requirements, the time frame for meeting this objective is either during or immediately following project completion.

3.1.3 – Visual Quality Objective – Partial Retention

Partial Retention objectives are not as strict as the Retention VQO. However, they still require that any treatments or activities not stand out in the altered landscape. These treatments and activities should borrow from the surrounding landscape. New characteristics that are found rarely, or those from a different landscape entirely, can be introduced, but need to work with the existing character and not overshadow it.

The land use allocations that need to meet Partial Retention standards within this project area are B3 and B12. To determine that these standards are being met, this analysis reviews the current landscape, the vegetation management practices that will be applied, and the probable outcome to visual quality. If any deviations occur which would result in the landscape under Partial Retention not meeting this objective, as well as forest plan requirements, mitigation measures will be mentioned to correct this outcome. For this objective, the deadline to meet the associated requirements is from immediately following project completion up to a maximum of one year.

3.1.4 – Visual Quality Objective – Modification

C1 land needs to meet this VQO. Under “modification”, the landscape can be altered in such a way where treatments and activities reduce the natural character of the landscape. However,

the remaining vegetation or land forms should still look and function as the similar, surrounding landscape does. More focus will be given to this land use designation and VQO due to most of the project's acreage being under these two classifications. Methods to integrate this land type with the others will be explored, together with meeting the primary objectives of this project. The same process of analysis described for the other two VQO's will be applied to this VQO. Once the project is completed one year, or a different deadline agreed to by interested parties, is given to achieve this visual quality objective.

3.2 –Environmental Consequences

If no action were taken, the existing condition of the landscape would continue to persist and the visual quality objectives would not be impacted. There would be no direct, or indirect effects to visual resources if no action were taken. All areas would continue to meet Forest Plan management objectives.

With the proposed action, the project proposes a variety of vegetation treatments. These include the use of several logging systems which may impact the landscape character. Using the indicators mentioned earlier, together with the “seen” and “unseen” maps developed in ArcGIS, this section of the visual analysis will discuss the direct and indirect effects of the proposed treatments and logging systems. The goal of this visual analysis is to illustrate that implementation of this project design criteria would preserve the visual integrity of the project's landscape character. Integration with the surrounding landscape character would also occur. Additionally, these project design criteria have been developed to minimize the impacts to visual qualities in the area. These design criteria have been included for consideration in this analysis.

3.2.1 - Direct and Indirect Effects of Proposed Action

Sapling Thinning

Of the three broad timber harvest categories presented in this section, sapling thinning would be applied to a lesser amount of project acreage than to the other two. The units receiving this treatment would be thinned and masticated by hand or with minimally sized equipment, depending on slope and access. Woody debris created from this treatment would be piled by hand or machine grappled for burning.

Units proposed for sapling thinning treatment are scattered throughout the project area; falling into several land use allocations. A large number of these units are on C1 designated land. Unit 44 and about half of unit 49 are on B3 land. The rest of unit 49 as well as unit 46 are on B12 land.

Regarding the units on C1 land, when viewed from a key viewing route or site, many are located within foreground and middleground zones. The VQO that needs to be met in these zones is

'Modification'. From Ottertail Lake units 87, 88, 94, 107, 109, 111, 112, 113, 114 are on C1 land. They fall into the background viewing distance zone, however are 'unseen' from that location. These units, being on C1 land, would need to meet 'Modification' standards. The remaining sapling thinning units are completely 'unseen' from the various key viewing routes and sites. These units include 44, 98, 99, 115, 116, 117, 119, and 120.

The direct impacts on visuals that the sapling treatment would have on C1 land units include the following:

- opening up the forest for viewers to see further in along routes FS road 2821 or the Rainy – Kingsley trail; going through particular units, such as 87 and 92, as well as potentially providing better views outside of the immediate area;
- creating a landscape that initially looks homogenous in age, height and diameter, species, and general character compared to the surrounding, varied landscape pattern;
- viewing more evidence of man-made disturbance; involving the marking and harvesting of timber, with more varied disposal of woody debris when thrown or placed in piles burn piles could be in a smaller mass when done by hand or machine grapple; not being visible from any of the key viewing areas (supported by "seen"/ "unseen" map);
- southern PCT C1 units could be more heavily thinned, creating a visible interruption in the forest canopy.

Indirectly, sapling thinning of these units in C1 land units may be expected to have the following impacts on visuals:

- increased fire resistance in future years, depending on tree spacing and woody debris placement/elimination;
- increased stand diversity due to the forest floor opening up, encouraging growth of shrubs, other tree types needing shade, and more importantly huckleberries;
- overall, increased visual attractiveness of these units.

In future years, following the completion of this treatment, visual diversity would be created by opening the forest floor in these units, establishing better visual linkage with the surrounding landscape.

Units found in B3 designated land are in foreground and middleground zones. As a result, this needs to meet "partial retention" standards. Direct impacts may include viewers from FS road 2820 have a better view into units 44 and 49. This would be due to having opened up the stands as well as more favorable forest conditions creating better character, thus increasing visual appeal. The sapling treatment could indirectly impact these units as they did in the C1 units, which mostly improved the forest character. Some of the shortcomings presented for C1 land related activities shouldn't occur in these units due to the higher VQO being met.

Regarding viewing distance zones, units on B12 land that might be viewed from Black Lake or FS road 2820, would be considered in the foreground zone. In this zone, these should meet 'Retention' standards. From other key viewing routes and sites, they fall into the middleground zone. These would need to meet 'Partial Retention' standards. These two units, 46 and some of 49, are mostly 'unseen' after reviewing the compiled "seen/unseen" map. Although mostly "unseen", they still play a part in being a piece of the overall landscape. With that said, the Forest Plan in the visual resource management - forest wide standards section, states "A higher VQO than the minimum prescribed may be achieved where consistent with Management Area management direction." (USDA 1990) The following direct and indirect impacts take into consideration, with support from the Forest Plan, analyzing these units using 'Retention' rather than 'Partial Retention' standards.

The sapling treatment that may be applied to the two B12 land units would have the direct impact of creating an open forest floor that encourages species diversity. This could lead to better visual aesthetics for viewers from routes such as the Rainy – Kingsley Trail or FS road 2820. This proposed treatment could indirectly create a healthier, more fire resistant, ecosystem; better matching the surrounding character and function of untreated forest found in the neighboring wilderness.

Commercial Thinning

Two types of commercial thinning treatments have been proposed for the Waucoma Huckleberry Enhancement project, if approved. These treatments are variable density thinning from below and intermediate thinning. Variable density thinning from below is an uneven aged stand treatment that "...is variable. Some areas of the treatment are more heavily thinned than others." (Harrington 2009) Intermediate thinning is an uneven aged stand treatment that entails "...any removal of trees between the time of stand initiation and the reproduction method cutting that ends the rotation." (Nyland 2002) Of the three broad timber harvest categories, commercial thinning activities would be applied to a greater number of project acres than other thinning activities. Ground-based, skyline, and helicopter logging systems may be utilized under the commercial harvest category. However, it is likely that each individual unit would only be logged using one of those three systems. Many of the units would be scheduled to make use of ground-based operations, followed by skyline operations. Some units may be harvested via helicopter. Finally, remaining woody debris from the logging operations would be mechanically stacked on landings created for the placement of logs waiting to be loaded on trucks. Presenting this information sets the stage to discuss the change in visuals, both directly and indirectly, in relation to the proposed commercial thinning activities.

Units scheduled to receive the variable density thinning from below treatment are mostly located on C1 land, with several on B3 land that will be discussed later. Units found on C1 land should meet 'Modification' VQO standards, regardless of viewing zone. Taking into consideration the last layer created in ArcGIS (compiled "seen" and "unseen" areas from all six key viewing areas) all units could be "seen" any time by a viewer on one of the key viewing routes or at one of the key viewing sites. After implementing this treatment, utilizing ground

based or skyline systems, the direct visual impacts to these units would be larger, more varied, visual corridors providing views further into a diverse and interesting landscape.

In areas where more product is proposed to be taken, shrub species like the huckleberry will thrive due to more sun reaching the forest floor. In areas where more product is left, although slightly thinned, the remaining trees will provide shade for species needing cooler temperatures for growth. Transitions between the two environments would be where the two overlap. This would provide a very diverse collection of forest species, providing a captivating view for visitors.

Indirectly, this treatment (as do the other C1 land harvest activities) starts to transition the landscape from appearing overstocked, and unhealthy, to looking like surrounding Forest Service managed areas. This is due to similar landscape characteristics having had the same vegetation management prescriptions applied to them in the past. In the helicopter units, the added benefit of there not being any ground disturbance, in addition to the timber treatment's projected results, produces the end result of looking less altered by humans. This raises the visual aesthetics from meeting base 'Modification' standards to a slightly higher end of this VQO.

The combination of treatment and logging systems impact these units by altering them to not only appear sustainable, but to also function sustainably. Fire resistance would increase due to increasing the distance between individual trees and creating areas that could burn (the less logged portions) to preserve the surrounding area; the heavily logged portions act as a buffer and lessen fire spreading. Overall, this creates a varied landscape adding to the mosaic created by other treatments and land agency direction.

All intermediate thinning units fall on C1 land and would need to meet VQO 'Modification' for all viewing distance zones. Looking at the "seen/unseen" map produced in ArcGIS, many are "seen" from all key viewing routes and sites, except units 124, 125, 126, 131, 132, 135, 136, 137, and 138. These are all "unseen". Many of the same direct and indirect impacts, implemented by ground based and skyline systems, that are planning to occur when using the variable density thinning from below treatment, would occur when using the intermediate thinning treatment. This is due to the following: logging systems and their impact to the landscape (i.e. larger, uneven corridors made for removal as well as a greater scale of tree removal occurring) would be the same; both are treatments of timber stands with varying tree ages, creating a varied, rather than homogenous, landscape once treatment operations are completed. As a result, the forest floor would open up allowing other species move in, as well as allowing the smaller tree population to create a more vibrant, healthy, and fire-resistant forest ecosystem.

The B3 land use designated units (parts of 39, 40, and all of 43) receiving variable density thinning from below would be found in three foreground zones when viewing from Black Lake, Rainy Lake, and FS road 2820. From all other routes and sites, these units are in the middleground zone. VQO 'Partial Retention' should be utilized, regardless of viewing from foreground or middleground. The variable density thinning from below treatment coupled with

a ground-based system would directly impact the landscape character and overall visuals of these units. Being in a 'Partial Retention' zone, regardless of viewing distance, these units would add more visual intrigue, along FS road 2820. This is because, according to the nature of this treatment, the stands open up and trees are harvested, or left, more randomly. Larger, uneven corridors from ground-based operations also provide more contrast to the areas of the forest left untreated and highly stocked. Indirectly, the treatment and logging system chosen can create a visual transition zone between the natural character found in a B12 landscape to the highly altered, human influenced C1 landscape.

Shelterwood

This is an even aged stand treatment which requires going in and harvesting several times to remove mature timber no longer needed to provide protection to the younger trees. This treatment method may involve helicopter, skyline, or ground-based logging systems, as well as piling the woody debris on landings to be burned (in addition to the already discussed outcome). Understanding the direct and indirect impacts to the visual aesthetics is crucial due to the visual change that occurs on the landscape after implementing this method.

Falling somewhere in the middle for total acreage treated by this method (when looking at pre-commercial and commercial acreage), shelterwood cutting would occur entirely on C1 land. It is located mostly in foreground and middleground viewing zones, with the exception of units 13, 14, and 81 being in the background zone when viewing from Ottertail Lake. Therefore, VQO 'Modification' needs to be met. Utilizing this treatment method would directly impact the visuals of the landscape. This would include an opened forest that viewers from a route, such as the Rainy – Kingsley trail, would notice as being very altered and visually unappealing, due to the overall visual aesthetics being degraded. This would be true as long as this treatment were being applied. It is acceptable under 'Modification' standards.

The following would be the direct effects of utilizing the shelterwood method. Once harvest treatments were completed, the trees left would provide shade and space, for species needing cooler temperatures to grow. A direct effect of this would be the increased growth of shrubs and the huckleberry in this area. Another direct effect is that being adjacent to accessible routes/views, with an abundance of huckleberry plants, shelterwood units would cause the area to look as it did historically. Indirectly, implementing the shelterwood method would provide a nexus for various people to gather for harvesting these berries. Not only would this create a rich physical landscape, but a fascinating societal one as well.

3.2.2 - Cumulative Effects

This table details the cumulative visual impacts surrounding projects would have on the projected visual impacts for the Waucoma Huckleberry Enhancement project. "Time" defines recent past (0 – 5 years), present, and near future (0 – 10 years) projects that could impact the Waucoma Huckleberry Enhancement project visuals. "Space" is the analysis area for cumulative effects that includes areas within the same viewshed assessed for the proposed action that may

be seen from a foreground, middleground, and/or background perspective and measured by their associated distances.

Table 2. Cumulative Effects

Project	Potential Effects	Overlap In Time	Overlap In Space	Measureable Effect	Notes
Eagle Creek Fire Burn Area Rehabilitation	Visuals	Yes	Yes	Yes	The resulting landscape brought about by this fire and the following response generally known about forest ecosystems after this type of event, burning in a mosaic pattern lent to adding and improving the visual aesthetics of the overall landscape, including the Waucoma project area. Uneven edges, burning more in one area over another, taking out less fire resistant species while leaving ones that tolerate this natural occurrence as well as diversifying stands, and reducing overstocked parts of the forest, this fire has created a better opportunity to improve the health and look of the landscape. Looking from key viewing sites and routes found in Waucoma, viewers might see that as well as make a connection to the work proposed in this project. It should be said that in some areas where the fire burned hotter, the landscape would be deemed “scarred” and visual aesthetics may have been degraded, possibly for many years. Rehabilitation work can be done, but natural regeneration is the tool that needs to be utilized.
Polallie Cooper	Visuals	Yes	Yes	Yes	Looking at the results from thinning the stands and moving species composition to include more fire tolerant ones could impact the projected visuals for Waucoma in several ways. Being found in middleground and background viewing distance zones when looking from Waucoma’s key viewing sites and routes would add to the visual intrigue in looking at the area as a whole. Having more varied species and opening up the forest canopy would increase, not degrade, visual aesthetics. The work proposed for Waucoma would be a continuation of stand improvement, moving the forest from an unhealthy, overstocked state to one that is more fire resistant and encourages the release of more traditional tree and shrub species.
Red Hill Restoration	Visuals	Yes	Yes	Yes	In keeping with the themes brought about by the Polallie Cooper Healthy Forest Restoration Act (past project), the Red Hill Restoration (current project) is creating a forest ecosystem that is less crowded and diversifies tree species found naturally in untreated areas. Coupling visuals created in this project with the ones projected for Waucoma, viewing in middleground and background zones (determined by key viewing routes and sites) should provide the viewer visual intrigue. Visual aesthetics would increase as the forest, is again, moving to include more openings in the canopy, differing species amongst the stands, and forest floor species take advantage of more light or grow better with space in the shade.

Since changes to scenery would be minimal with the proposed action, and visual quality objectives would be met for this and other projects, cumulative effects would not be substantial.

3.3 - Consistency with Management Direction

Considering the direct and indirect sections of this report, with the following visual measures and standards being met through the implementation of relevant PDC’s, as well as the inclusion

of the identified indicators mentioned above, this project is consistent with Forest Plan management direction for visual quality objectives.

Forest Wide (FW) Standards Met:

FW – 552 and FW – 553: Visuals taken into consideration depending on management area type, viewing distance zone, and visual quality objective prescribed in both areas. Visual Management System referred to and applied at any given chance as well as built into rationale.

FW – 555: Higher VQO standards were applied when cumulative conditions informed being placed at a different level.

FW – 556: The selected management activities, associated mitigations, and general growing conditions of project area landscape, VQO standards would be met either immediately (retention and partial retention requirement) or within a year's time (modification requirement).

FW – 560: Units in retention and partial retention zones would be planned to meet these VQO's by following associated PDC's and understanding of section 3.2.1 (Direct and Indirect Impact of Proposed Action) of this report.

FW – 561: Described in section 3.2.1 of this report, "modification" units would in the timeframe prescribed work with the natural character for this area once treatment ceased and mitigations were put in place.

FW – 562 and FW – 563: Depending on harvest schedules and time of year, different areas would be treated at different times and the reestablishment of vegetation would occur after operations ceased. "Seen areas" disclosed and taken into consideration in section 3.2.1.

FW – 567: Treatments prescribed for "retention" and "partial retention" areas would create more diversity as mentioned after analysis in section 3.2.1.

FW – 568 and FW – 569: Mentioned and planned for in PDC document.

FW – 571: Mentioned and planned for in PDC document.

FW – 576: Mentioned and planned for in PDC document as well as disclosed in "Transportation Specialist report".

FW – 579 and FW – 580: Mentioned and planned for in PDC document as well as disclosed in "Fuels Specialist report".

FW – 581: Mentioned and planned for in PDC document as well as disclosed in "Fuels Specialist report". Also disclosed in section 3.2.1 of this report.

FW – 584: Mentioned and planned for in PDC document as well as disclosed in “Recreation Specialist report”. Also disclosed in section 3.2.1 of this report.

3.4 – Summary of Effects

The implementation of any treatment described above, and associated care after project completion use of the related proposed design criteria (PDC) would do the following:

PDCs would mitigate any possibilities of not meeting Forest Plan measures, meet or exceed approved visual quality objectives,

Work with the surrounding landscape character, and the

PDCs would accomplish the primary goal of releasing huckleberry plants, providing an economic means to make this project possible.

Broken into specific resource indicators, the following effects would occur if this project and all associated proposed actions were approved:

Land Use Allocations – Current forest character found on each land use allocation meets Forest Plan requirements, regarding visuals. Implementation of the proposed action, with mitigations, will ensure that each allocation will meet related standards. This will apply even if certain activities divert from meeting these objectives for a minimum time, defined for each allocation. Additional requirements are taken into consideration when VQO’s and viewing distance zones become a part of achieving various visual goals set by the Forest Plan.

VQO “Retention” – Units with this VQO standard would need to have human alterations appear very minimal, if not hidden. These standards should be met during or directly after operations have ceased. Two units are proposed in this project that would need to meet this VQO. Using the sapling thinning treatment, it is determined that these units would meet ‘Retention’ standards in the allotted timeframe. Visuals will increase in aesthetic appeal as the forest opens up, with more diverse species having room to grow, as well as overall health and fire resistance increase as a result of this treatment.

VQO “Partial Retention” – Units with this VQO standard would be less strict, compared to ‘Retention’ standards. Human alterations would still need to be lessened. However new additions could be implemented as long as they borrow from surrounding natural characteristics. The timeframe to meet this VQO would also be less strict, needing to meet standards directly after project completion and up to one year. Several units in this project would be proposed, and determined to meet, ‘Partial Retention’ standards after considering this report’s analysis of these perimeters. Information determining this in regard to these units included that they served as transition areas between ‘Retention’ and ‘Modification’ zones. Additionally, receiving either PCT or variable density thinning treatments would only add to the visual aesthetics of the impacted units. This is due to

the known actions and results of either treatment. The harvest methods would also contribute to increasing visual aesthetics.

VQO “Modification” – Units with this VQO standard would be the least restrictive regarding visuals when compared to ‘Retention’ and ‘Partial Retention’. These units’ remaining vegetation will need to appear as the dominant vegetation found in the surrounding natural character. This could be achieved in a year or more, if that is something the interested parties have agreed to. Many units would need to meet this VQO, as the harvest of timber would be the driving force to accomplish the huckleberry’s return and release in this area. Any of the treatments implemented by one of the various logging system methods will initially appear visually degraded due to much of the merchantable timber (desired height, diameter, and health) harvested. However, with timber harvest planned and executed at various times, as well as with the introduction of favorable growing conditions, the landscape would meet standards in the allotted timeframe.

Viewing Distance Zones – Looking across the various viewing distance zones, in many of the units, only one VQO needs to be met. Of the few that would need to meet more than one VQO, in different zones, it was decided to choose the higher level for analysis and apply the related standards those units needed to meet. ‘Seen’ and ‘unseen’ areas would also be considered at this point. Using key viewing routes and sites, it was determined after analysis of the area, many of the units would be ‘seen’, with some being ‘unseen’. In these ‘unseen’ units, more impacts could occur, with consideration of their VQO standards and land use allocation still playing a crucial role in that decision.

4.0 - References Cited

- Harrington, Connie. 2009 “Let’s Mix It Up! The Benefits of Variable – Density Thinning.” Portland, Oregon: Pacific Northwest Research Station. (Cited in text as (Harrington 2009))
- Nyland, Ralph D. 2002 “Silviculture: Concepts and Applications.” Waveland Press, INC. Long Grove, Illinois. (Cited in text as (Nyland 2002))
- USEPA. 1998. “Ecoregions of Western Washington and Oregon.” Washington, D.C. (Cited in text as (EPA 1998))
- USDA Forest Service. 1974. “National Forest Landscape Management Volume 2, Chapter 1: The Visual Management System.” Washington, D.C. (Cited in text as (USDA 1974))
- USDA Forest Service. 1980. “National Forest Landscape Management Volume 2, Chapter 5: Timber.” Washington, D.C. (Cited in text as (USDA 1980))
- USDA Forest Service. 1990. “Land and Resource Management Plan: Mt Hood National Forest.” Gresham, Oregon. (Cited in text as (USDA 1990))
- USDA Forest Service. 2007. “Forested Plan Associations of the Oregon East Cascades.” Washington, D.C. (Cited in text as (USDA 2007))