

CHAPTER 4 - LANDSCAPE SCORECARD METHOD

The Landscape Scorecard (qualitative) Method provides a quick approach for field determination of the natural fire regime and the associated fire regime condition class (FRCC) at landscape scales. The Standard Landscape (quantitative) Method for landscape fire regime and FRCC (see Chapter 3) provides the training and validation for the Landscape Scorecard Method.

The field methods described here are the recommended procedures for conducting the scorecard method for determination of landscape fire regime and FRCC.

Field Numbers

Fields are generally numbered sequentially. However, often there are field numbers that are not used. These are numbers that are retained for use by the computer or for storage of data from a former version.

Landscape Scorecard Procedure Summary Fields (Fields 1-14)

The first four fields (Registration Code ID, Project Code, Project Number and Sampling Date) allow the unique identification of a landscape or project area, they also tie the scorecard to the Standard Landscape Method where applicable.

Registration Code ID (Field 1-REGCOD) – Required – Required – For federal agency and TNC personnel using the web version or downloading the stand alone version the Registration Code is a 4-character code assigned from the FRCC help desk based on your agency affiliation. Standard codes are assigned to all federal agency and TNC units that cannot be used by other units (check the website at <http://frcc.gov/> for an updated list, contact the help desk at helpdesk@frcc.gov if your land management unit is not listed). For users that do not have web access and for non-federal agency users contact your federal, state, TNC or private agency coordinator (a list is provided on the training CD).. We encourage non-federal agency users to use one Registration Code per “group”, and then use a Project Code for separate monitoring projects.

Project Code (Field 2-PROCOD) – Required – The Project Code is an 8-character code used to identify project work that is done within the unit. You are not required to use all eight characters. Some examples of Project Codes are:

TCRESTOR = Tenderfoot Creek Restoration

BurntFk = Burnt Fork Project

SCPF1 = Swan Creek Prescribed Fire, Unit 1

You may want to use the same code you would use in the National Fire Plan Operations Reporting System (NFPORS) or, if you are a non-federal employee, link it to whatever reporting system you may use.

It will be easier to read sorted results if you do not include digits in the left most position of the project code. For instance, if two of your projects are 22Lolo and 9Lolo, when sorted 22Lolo will come before 9Lolo. The preferred option would be to name the projects Lolo09 and Lolo22, although Lolo9 and Lolo22 will sort in the proper order, also.

Project Number (Field 3 – PLOJID) – Required – Identifier that corresponds to the fire, vegetation, and fuel management landscape or project area. Integer value.

Project Characterization Date (Field 4-SDATE) – Required – The characterization date is the date you want assigned to the landscape or project summary as a whole that makes this data unique from previous or subsequent characterization. The date of characterization should be entered in Field 4 of the FRCC sampling form as an 8-digit number in the MM/DD/YYYY format where MM is the month number, DD is the day of the month, and YYYY is the current year. So, April 10, 2001 would be entered 04/10/2001.

If the same landscape or project is being re-measured after treatment of one or more units or to update condition class following a period of succession or unplanned disturbances, be sure to keep the same project code and project number. The only item to change will be the project characterization date. Strata or treatment units within the landscape or project that have not changed can be copied in the data entry program from the previous project code/project number date of characterization to the new date and only those strata or treatment units that have changed need to be entered as new data.

Examiner Name (Field 5-NAME) – Required – The Examiner code is the email address of the crew boss or lead examiner. The examiner's email address corresponds to the Examiner's UserID in the central FRCC database at <http://frcc.gov/>.

If the project is exported to the central database, the website will verify that the examiner is a certified FRCC user or trainer. If the examiner is not certified, the FRCC website will not allow the project to be viewed by other users or exported to the NFPORS or LANDFIRE databases.

For users that do not have an email address, but have downloaded software, enter a UserID assigned to you by the help desk at the time you receive your registration ID.

For users that do not have an email address, do not have software, and have not been assigned a UserID by the help desk, but are using the field forms and worksheets to hand calculate FRCC, enter your first and last name.

Project Name (Field 6-PROJECT) – Required – The name of the project can be up to 50- characters. The project name is the name of the overall landscape or project area where you will be applying the field procedures for FRCC. This project is usually named by the major drainage or other prominent feature.

You may want to cross reference this with your NFPORS “Project” or “Treatment Unit Name” or another reporting system if you are a non-federal employee.

Project Area (Field 7-AREA) – Required - The area of the project in an integer value. The project area is the size of the overall landscape or project area where you will be applying the field procedures for FRCC.

Project Area Units (Field 8-UNITS)- Required - Choose either acres or hectares for the size of the project area from field 7.

Recording a Georeferenced Project Position

The next set of fields provides georeferencing for your Project area. These fields are not required, but can be important for re-taking photographs, for placing the Project in a Geographic Information System, and for cross-walking to the NFPORS database.

We recommend using a GPS receiver to record latitude and longitude, in decimals rather than degrees. Try to select a central position with a good panoramic view. Then record the GPS coordinates to the sixth decimal place.

Latitude (Field 9-LATC) – Not Required -- Enter the latitude of the landscape or project in decimal degrees to the sixth decimal place (e.g., 45.951234).

Longitude (Field 10-LONGC) – Not Required -- Enter the longitude of the landscape or project in decimal degrees to the sixth decimal place (e.g., 95.951234).

Datum (Field 11) – Not Required – Enter the Datum for the coordinates. Datum is a model used to represent map coordinates on the Earth's surface. If you are unsure of which to use contact your local GIS coordinator to see what datum they prefer you use.

Documenting Project Landscape with Current and Historic Photos

Digital photographs and scans are a useful means to document the project a number of ways. They provide a unique opportunity to visually assess the landscape or project area or vegetation class in a database format for both local and regional/national use. Of particular value are digital photos and scans showing current and historic oblique views or current and historic aerial views. In addition, previously established projects can be found by orienting the landmarks in photos to visual cues in the field. Photos can be compared to determine important changes after project implementation or an unplanned fire or other disturbance event. Photos provide excellent communication tools for describing project rationale to the public and fire and fuels personnel. Possibly the most important use of these photos will be to develop a photo series once your data and photos are uploaded to central data storage.

Document the landscape or project using a current landscape view photograph. If available, scan a historic picture of the landscape project area from a similar view or for a landscape with similar potential vegetation or vegetation land types. You can also document the current and historic conditions using digital photographs or scans of aerial photographs from current and historic (such as 1930s) aerial photography. Enter the file name path of the digital picture or scan.

Photo (Field 12-LSCPHOTO) – Not Required – Use the browser to enter the file name path. The digital photo file will be uploaded with the database when you upload to the central location.

Photo Date (Field 13-LSCPHOTODT) – Not Required – Enter the date the Photo was taken.

Entering Comments about the Landscape or project

The Comments field is provided so that the field examiner or crew can record any information associated with the landscape or project that cannot be recorded elsewhere on the form. For example, you can record ecological conditions, dates of wildland fire or fire use occurrence, directions, historic information, and/or other important attributes.

Comments (Field 14-COMMENTS) – Not Required – Enter up to a 256-character comment. Try to use shorthand and abbreviations to reduce space as long as the comments are still understandable. You might try to organize comments in a standard order with appropriate punctuation. For example, you might describe history of the area first and only use colons to separate the next major category of comments.

Landscape Scorecard Procedure Strata Fields (Fields 16-20)

The Strata fields describe the biological, physical, and fire regime characteristics of the management unit for each of the Project Landscape stratifications. These stratifications would be the same as the stratifications on the Standard Landscape Method.

Through review of existing data, current management plans, field reconnaissance, or assessment of treatment units delineate the landscape or project area into strata by differences in fire regime groups, current conditions (physical and/or biological), and treatment or non-treatment units.

You can delineate as many strata as you would like as long as strata percent composition sum to 100% of the landscape or project area and they are characterized for one time (date). Do not include strata that mix characterization dates. To characterize strata for a different time period or for re-measurement enter the same project code and number, but change the date of characterization. Then copy those strata that have not changed and enter new data for the strata that have changed.

If you are conducting a rapid reconnaissance we suggest you do not include types that make up less than 20 percent of the project area (thus with 5 each at 20% you can only have up to 5 strata for 100% of the project area) unless the type has very important management implications. Keep it simple by stratifying only the dominant 2-3 types.

Landscape Fire Regime Scorecard Process

All definitions and terms are same as described for the Standard Landscape Method. Identify the potential natural vegetation group (PNVG) that has the greater amount within the landscape strata. Check PNVG identification by using the key and descriptions from the guidebook. Enter the name of the PNVG at the top of the landscape fire regime table (table 4-1). Read the PNVG description of the successional stages, disturbance regime, and reference values from the guidebook. Choose (circle) the applicable categorical rating for fire interval group and fire severity class. For evidence choose (circle) a relative rating of 0, 1, 2 for the indicators and then sum the relative rating. Relative rankings of 0, 1, and 2 are assigned as: 0 – no evidence or not applicable; 1- some evidence; 2 – substantial evidence. Use the landscape fire regime chart (graph 1) by connecting the left and right variables with a single line using the class and “sum” from table 4-1. Then connect the bottom and top variables with a similar line. Where the two lines cross indicates the fire regime.

Strata Number (Field 15- STRATANUM) – Required – Strata number is provided on the worksheet and in the software. This would be the same as Field 21 in the Standard Landscape Method.

Strata Code (Field 16-CODE) – Required – Code that may be used to crosswalk the strata to a reporting system, such as NFPORS (e.g. This can be linked to the “Treatment Unit Name” in NFPORS).

Strata Name (Field 17-NAME) - Not Required -- Name associated with the strata.

Strata Characterization Date (Field 18-STDATE) – Required – Date the strata data was collected. This date can be different from the project characterization date because of a different date of sampling, but should characterize the strata for the same general time period.

Strata Bp Land Unit Code (Field 19-BpLU) – Required – Enter the 4-6 character code for the coarse scale BpLU (Potential Natural Vegetation Group (PNVG)), from table 4-3 or 4-4, from the pop down menu that best describes the BpLU-PNVG indicator species, or from you Standard Landscape Method analysis (field 25). Use the Schmidt et al. (2002) GTR and this document as descriptive references, along with Bailey (1995), Kuchler (1975), and Brown and Smith (2000).

Identifying the Coarse-scale PNVG
Review the following terms:

Natural cover – the assemblage of species, usually named by the most common or dominating species, that occupies the area for the majority of time during the normal (\pm 33% of the central tendency measure) disturbance and succession regime cycles, in the absence of modern human mechanized intervention.

Historical cover – the assemblage of species, usually named by the most common or dominating species, that occupied the area for the majority of time during the normal (\pm 33% of the central tendency measure) disturbance and succession regime cycles, prior to Euro-American settlement and modern mechanized intervention.

Importance – natural (or historical as a proxy) is important to understand because this is the assemblage of species and their amounts that would be in sync with the normal disturbance and succession regime cycles, given no management and no investment; this provides a baseline reference for quantifying disturbance and succession outcomes, and associated diversity of species without management, that can be compared to outcomes with management and varying levels of investment.

Forest – conifer or broadleaf trees with a general average height to the top of the upper layer greater than 30 feet (approximately 9 meters) with fairly continuous and complete canopy closure occupy the majority of succession from post-replacement disturbance to maturity.

Woodland - conifer or broadleaf trees with an average height to the top of the upper layer less than 30 feet (approximately 9 meters) with non continuous canopy closure occupy the majority of succession from post-replacement disturbance to maturity.

Cover – canopy cover is approximately twice (2x) foliar cover (e.g. 30% canopy cover of sagebrush is approximately 15% foliar cover using line intercept).

Key to Potential Natural Lifeforms

A. Natural average potential height (height of most mature successional stage) of upper layer greater than 30 feet (approx 9 meters) and canopy cover of forest typically greater than 15% - -- Forest – The most common error in potential natural lifeform identification is selection of “Forest” because there are currently trees present. Before moving forward check this call by looking at historical oblique or air photos to confirm this call. Another cross check is to determine if all or most of the current trees are one size class that is a younger age than the time since Euro-American settlement. This is a good indicator the area may not have natural forest potential.

AA. Natural average potential height (height of most mature successional stage) of upper layer less than 30 feet (approx 9 meters) and canopy cover of forest less than 15% -- Non-forest – go to B.

B. Natural canopy cover of woodland greater than 15% -- Woodland - The second most common error in potential natural lifeform identification is selection of “Woodland” because there are currently woodland trees present. Before moving forward check this call by looking at historical oblique or air photos to confirm this call. Another cross check is to determine if all or most of the trees are one size class that is a younger age than the time since Euro-American settlement. This is a good indicator the area may not have natural forest potential.

BB. Natural canopy cover of woodland less than 15% -- Non-woodland – Go to C.

C. Natural foliar cover of shrubs greater than 5% -- Shrubland - The third most common error in potential natural lifeform identification is selection of “Shrubland” because there are currently shrubs present. Before moving forward check this call by looking at historical oblique or air photos to confirm this call. Another cross check is to determine if all or most of the shrubs are of a size class and age that could not be achieved within the natural fire frequency. This is a good indicator the area may not have natural forest potential.

C1. Potential for forest and woodland species greater than 15% canopy cover with removal of natural disturbance – Shrubland with Trees

- C2. Potential for forest and woodland less than 15% canopy cover with removal of natural disturbance -- Shrubland
- CC. Natural foliar cover of shrubs less than 5% -- Non-shrubland – go to D.
- D. Natural canopy cover of grasses, forbs, and other herbs greater than 5% -- Grassland
 - D1. Potential for forest and woodland species greater than 15% canopy cover with removal of natural disturbance -- Grassland with Trees
 - D2. Potential for shrub species greater than 5% foliar cover with removal of natural disturbance -- Grassland with Shrubs
 - D3. Potential for shrub species less than 5% without natural disturbance – Grassland
- DD. Natural cover of grasses, forbs, and other herbs less than 5% -- Barren

Once you have identified the lifeform proceed to the appropriate table (table 4-3 for western U. S. forest and table 4-4 for western U.S. woodland, shrubland, or grassland – Appendix C) to select the PNVG. If you are from the **East** use the coarse-scale GTR-87 list, also provided on the code sheet and in the pop down menu of the software. An effort is underway to refine the PNVG classification and develop the reference values for the East. Be sure to check for updates. If you are from Alaska enter a local code. An effort is underway to develop a PNVG classification and the associated reference values for Alaska. Be sure to check for updates. For selection of the PNVG in table 4-4 (western U.S. woodland, shrubland, and grassland) you will need to determine if the **natural cover is shrubland or grassland PNVG influenced by tree or shrub**. Use the following interpretations to help you make this determination.

Forest or woodland tree in shrubland or grassland

- Shrubland or grassland is the **natural cover**
- Trees currently present on the strata land unit
- Trees not currently present, but have potential and available seed source

Shrub encroachment in grassland

- Grassland is the **natural cover**
- Shrubs currently present on the strata land unit
- Shrubs not currently present, but have potential and available seed source

The PNVG classifications and associated reference values (tables 4-3 and 4-4) for the western U.S. are from version 1.0.5. These values are in a review and refinement process. To make sure you have the most recent values, users with internet access should check the FRCC website (<http://frcc.gov/>) or contact the help desk (helpdesk@frcc.gov). Users without web access should

contact their federal, state, TNC or private agency coordinator (a list is provided on the training CD).

Strata Composition (Field 20 - COMP) – Required - enter a local estimate or map summary of the percent composition for this vegetation-fuel class within its strata and project area. The sum of entries for the five characteristic classes AESP, BMSC, CMSO, DLSSO, ELSC, and any uncharacteristic classes must equal 100 percent. Any one patch (stand) of vegetation-fuel can only have one characteristic or uncharacteristic vegetation-fuel code. You cannot double count such that the sum is greater than 100 percent. For example if uncharacteristic timber harvest (UTHV) has affected vegetation-fuel patches (stands) that make up 20% of the area and those same patches (stands) have an uncharacteristic pattern (UPAT) you must select the primary effect, which in this case would be the UTHV.

Landscape Scorecard Procedure Strata Natural Fire Regime Fields **(Fields 21-33)**

Fields 21-31 are values related to the Natural Fire Regime which may be different from the current Fire Regime.

Strata Fire Interval Group (Field 21 - FIG) – Required – enter the applicable fire interval group value.

- 0 – frequent
- 1 – infrequent
- 2 - rare

Refer to the landscape fire regime scorecard for graph input (table 4-1). Select the fire interval group that fits a similar landscape or project area where you have used the Standard Landscape Method and classified a similar fire regime.

If you are using the worksheet determine this score and enter on the worksheet.

Strata Weighted Fire Interval Group (Field 22 - WFIG) – From Fields 20 and 21 – You do not need to enter this data unless you are doing this as a worksheet. The computer will do this automatically. The formula for calculation = ((field 20/100) * field 21).

If you are using the worksheet determine this value and enter on the worksheet.

Landscape or Project Fire Interval Group (Field 23 - WFIGS) – From Field 22 - You do not need to enter this data unless you are doing this as a worksheet. The computer will do this automatically. The formula for calculation = (sum field 22, columns 1-5).

Classify as follows:

0 - Frequent - $\leq .5$

1 - Infrequent - $> .5$ and ≤ 1.5

2 - Rare - > 1.5

If you are using the worksheet determine this code and enter on the worksheet.

Strata Frequent Fire Evidence (Field 24 – FFE) – From table 4-1 - enter the sum score of frequent fire evidence.

Refer to the landscape fire regime scorecard for graph input (table 4-1). Circle the level of evidence appropriate for each evidence category. For each category of evidence choose (circle) a relative rating of 0, 1, 2 for the indicators and then sum the relative rating. Relative rankings of 0, 1, and 2 are assigned as: 0 – no evidence or not applicable; 1- some evidence; 2 – substantial evidence.

If you are using the worksheet determine this score and enter on the worksheet.

Strata Weighted Frequent Fire Evidence (Field 25 - WFFE) – From Fields 20 and 24 – You do not need to enter this data unless you are doing this as a worksheet. The computer will do this automatically. The formula for calculation = ((field 20/100) * field 24).

If you are using the worksheet determine this value and enter on the worksheet.

Landscape or Project Frequent Fire Evidence (Field 26 - WFFES) – From Field 25 - You do not need to enter this data unless you are doing this as a worksheet. The computer will do this automatically. The formula for calculation = (sum field 25, columns 1-5).

If you are using the worksheet determine this value and enter on the worksheet.

Strata Fire Severity Evidence (Field 27 – FSE) - From table 4-1 - enter the sum score of frequent fire evidence.

Refer to the landscape fire regime scorecard for graph input (table 4-1). Circle the level of evidence appropriate for each evidence category. For each category of evidence choose (circle) a relative rating of 0, 1, 2 for the indicators and then sum the relative rating. Relative rankings of 0, 1, and 2 are assigned as: 0 – no evidence or not applicable; 1- some evidence; 2 – substantial evidence.

If you are using the worksheet determine this score and enter on the worksheet.

Strata Project Weighted Fire Severity Evidence (Field 28 - WFSE) – From Fields 20 and 27 –

You do not need to enter this data unless you are doing this as a worksheet. The computer will do this automatically. The formula for calculation = ((field 20/100) * field 27).

If you are using the worksheet determine this value and enter on the worksheet.

Landscape or Project Fire Severity Evidence (Field 29 - WFSES) – From Field 28 - You do not need to enter this data unless you are doing this as a worksheet. The computer will do this automatically. The formula for calculation = (sum field 28, columns 1-5).

If you are using the worksheet determine this value and enter on the worksheet.

Strata Fire Severity Class (Field 30 - FSC) – Required – enter the applicable fire interval group value.

- 0 – surface
- 1 – mixed
- 2 - replacement

Refer to the landscape fire regime scorecard for graph input (table 4-1). Select the fire severity class that fits a similar landscape or project area where you have used the Standard Landscape Method and classified a similar fire regime

Strata Weighted Fire Severity Class (Field 31 - WFSC) – From Fields 20 and 30 – You do not need to enter this data unless you are doing this as a worksheet. The computer will do this automatically. The formula for calculation = ((field 20/100) * field 30).

If you are using the worksheet determine this value and enter on the worksheet.

Landscape or Project Fire Severity Class (Field 32 - WFSCS) – From Field 31 - You do not need to enter this data unless you are doing this as a worksheet. The computer will do this automatically. The formula for calculation = (sum field 31, columns 1-5).

Classify as follows:

- 0 - Surface - $\leq .5$
- 1 - Mixed - $> .5$ and ≤ 1.5
- 2 - Replacement - > 1.5

If you are using the worksheet determine this value and enter the code on the worksheet.

Landscape or Project Fire Regime Group (Field 33 - WFRG) – From Graph 1 - You do not need to enter this data unless you are doing this as a worksheet. The computer will do this automatically. The fire regime group is determined from the intersection of the 2 nomogram lines.

If using the worksheet enter the code for the fire regime group:

- 1 - Fire Regime Group I – Frequent (0-35 years) surface & mixed
- 2 - Fire Regime Group II – Frequent (0-35 years) replacement
- 3 - Fire Regime Group III – Infrequent (35-100+ years) mixed
- 4 - Fire Regime Group IV – Infrequent (35-100+ years) replacement
- 5 - Fire Regime Group V – Rare (200+ years) replacement

Landscape Scorecard Procedure Strata Fire Regime Condition Class Fields **(Fields 34-47)**

Fields 34-47 are based on current conditions which may differ from natural conditions.

Strata Characteristic Vegetation-Fuel Class Departure (Field 34– CVCD) – From table 4-2 - enter the sum score of characteristic vegetation-fuel class departure.

Refer to the landscape fire regime condition class scorecard for graph inputs (table 4-2). For the characteristic vegetation-fuel classes (successional stages) assign (circle) relative rankings of 0 and 1 to current amounts based on their difference in comparison to reference condition central tendency; 0 – similar (within $\pm 25\%$ difference); 1 – high or low ($< - 25\%$ difference or $> + 25\%$ difference).

More than one characteristic or uncharacteristic vegetation-fuel class cannot occur on any given patch (stand) of vegetation-fuel. You can only assign the dominant characteristic or uncharacteristic condition to a given patch (stand) of vegetation-fuel. Consequently, the sum composition of characteristic and uncharacteristic vegetation-fuel cannot exceed 100% of the strata or landscape. Do not duplicate characteristic or uncharacteristic class assignments for a given vegetation-fuel condition. Assign the dominant condition to that patch (stand) of land. For example, a closed sapling tree stand where the large trees have been harvested in a pattern uncharacteristic of the natural regime and the small trees have increased due to fire exclusion cannot be assigned to 4 possible classes that could apply: i.e. uncharacteristic timber management, uncharacteristic fuel accumulation, uncharacteristic fuel accumulation, or characteristic mid-seral closed. The vegetation-fuel class that identifies the dominant process causing the condition must be selected; in this example the uncharacteristic timber management.

If you are using the worksheet determine this value and enter the score on the worksheet.

Strata Weighted Vegetation-Fuel Class Departure (Field 35- WCVCD) – From Fields 20 and 34– You do not need to enter this data unless you are doing this as a worksheet. The computer will do this automatically. The formula for calculation = ((field 20/100) * field 34).

If you are using the worksheet determine this value and enter the code on the worksheet.

Landscape or Project Vegetation-Fuel Class Departure (Field 36 - WFFES) – From Field 35 - You do not need to enter this data unless you are doing this as a worksheet. The computer will do this automatically. The formula for calculation = (sum field 35, columns 1-5).

If you are using the worksheet determine this value and enter the code on the worksheet.

Strata Uncharacteristic Vegetation-Fuel Class Departure (Field 37 – CVCD) – From table 4-2 - enter the sum score of uncharacteristic vegetation-fuel class composition.

Refer to the landscape scorecard for graph inputs (table 4-2). For the uncharacteristic vegetation-fuel classes assign (circle) relative rankings of current amount: 0 – none (0%); 1 – some (> 0 – 25%); 2 – moderate (> 25%).

When you choose (circle) relative ratings from the scorecard choose all uncharacteristic vegetation-fuel class conditions that apply.

If you are using the worksheet determine this value and enter the sum on the worksheet.

Strata Weighted Uncharacteristic Vegetation-Fuel Departure (Field 38 - WFSE) – From Fields 20 and 37 – You do not need to enter this data unless you are doing this as a worksheet. The computer will do this automatically. The formula for calculation = ((field 20/100) * field 37).

Landscape or Project Uncharacteristic Vegetation-Fuel Departure (Field 39 - WFSES) – From Field 38 - You do not need to enter this data unless you are doing this as a worksheet. The computer will do this automatically. The formula for calculation = (sum field 38, columns 1-5).

If you are using the worksheet determine this value and enter the code on the worksheet.

Strata Fire Severity Departure (Field 40 – FSD) – From table 4-2 - enter the score for fire severity departure.

Refer to the landscape fire regime condition class scorecard for graph inputs (table 4-2). For fire severity departure choose: fire less or more severe than natural (0 – similar (0-25% difference) to the natural/historical regime; 1 – somewhat (25-50% difference) more or less severe than natural/historical regime; 2 – moderately (50-75% difference) more or less severe than natural/historical regime) 3 – substantially (> 75% difference) more or less severe than natural/historical regime).

If you are using the worksheet determine this value and enter the code on the worksheet.

Strata Weighted Fire Severity Departure (Field 41 - SWFSD) – From Fields 20 and 40 – You do not need to enter this data unless you are doing this as a worksheet. The computer will do this automatically. The formula for calculation = ((field 20/100) * field 40).

If you are using the worksheet determine this value and enter the code on the worksheet.

Landscape or Project Fire Severity Departure (Field 42 - LFSD) – From Field 41 - You do not need to enter this data unless you are doing this as a worksheet. The computer will do this automatically. The formula for calculation = (sum field 41, columns 1-5).

If you are using the worksheet determine this value and enter the code on the worksheet.

Strata Fire Frequency Departure (Field 43 – FFD) – enter the score for fire frequency departure.

Refer to the landscape fire regime condition class scorecard for graph inputs (table 4-2). For fire frequency departure choose fire less or more frequent than natural: 0 – has not missed an interval and is not more frequent; 1 - missed one interval or twice as frequent; 2 – missed two to three intervals or more than twice as frequent); 3 – missed more than three intervals.

If you are using the worksheet determine this value and enter the score on the worksheet.

Strata Weighted Fire Frequency Departure (Field 44 - SWFFD) – From Fields 20 and 43 –

You do not need to enter this data unless you are doing this as a worksheet. The computer will do this automatically. The formula for calculation = ((field 20/100) * field 43).

If you are using the worksheet determine this value and enter the code on the worksheet.

Landscape or Project Fire Frequency Departure (Field 45 - LFSD) – From Field 44 -

You do not need to enter this data unless you are doing this as a worksheet. The computer will do this automatically. The formula for calculation = (sum field 44, columns 1-5).

If you are using the worksheet determine this value and enter the code on the worksheet.

Strata and Landscape or Project Fire Regime Condition Class (Field 46 – LFRCC) –

You do not need to enter this data unless you are doing this as a worksheet. The computer will do this automatically. The fire regime group is determined from the intersection of the 2 nomogram lines on graph 2.

If you are using the worksheet determine the condition class where the 2 nomogram lines intersect and enter the code for the condition class onto the worksheet:

1 – FRCC 1 = 0 – 33% departure from central tendency – within the natural range

2 – FRCC 2 = 34 – 66% departure – moderately outside the natural range

3 – FRCC 3 = > 66% departure – substantially outside the natural range

Strata and Landscape or Project fire Regime Condition Class Departure (Field 47 -

LFRCCD) – You do not need to enter this data unless you are doing this as a worksheet. The computer will do this automatically. The fire regime departure value is determined by interpolating a departure value of 0 to 100 percent based on the distance of the intersection of the 2

nomogram lines between the condition class breaks (graph 2). The percentage departure of the condition class breaks are 0 to 33 for class 1, 34-66 for class 2, and 67-100 for class 3. Values determined by the computer will be rounded to the nearest 1 percent.

If you are using the worksheet determine if the intersection of the nomogram lines is closer to the Y axis (right side), center axis (diagonal from lower right to upper left), or X axis (bottom side). Each axis is marked on the graph with the class breaks (0, 33, 66, and 100). Based on the point where your nomograms lines intersect estimate the value between the class breaks rounded off to the nearest 5 or 10 percent.

Enter this value on the worksheet.

This field will be the FRCC value entered or exported into the NFPORS data base in the future. Since this is a continuous value and not a class, the value can be used to classify FRCC (1,2,3) or determine a trend in FRCC.

Trend to condition class 1 will be calculated using pre-treatment and post-treatment assessments or estimates using the “difference” formula. The software program will determine this value for you. If you would like to determine this yourself you will need a pre and post assessment and use the following formula (note this is not a field found on your worksheet – it is an output from the software).

Difference is calculated as: $\% \text{ Difference} = ((\text{Pretreatment} - \text{Posttreatment}) / (\text{Pretreatment})) * 100$.

The results from the “difference” calculation will be used to classify trend as follows:

D – Degradation in Condition Class = $\leq - 10\%$

N – No change in Condition Class = $> - 10\%$ and $< + 10\%$

I – Improvement in Condition Class = $\geq + 10\%$

Landscape Calibration

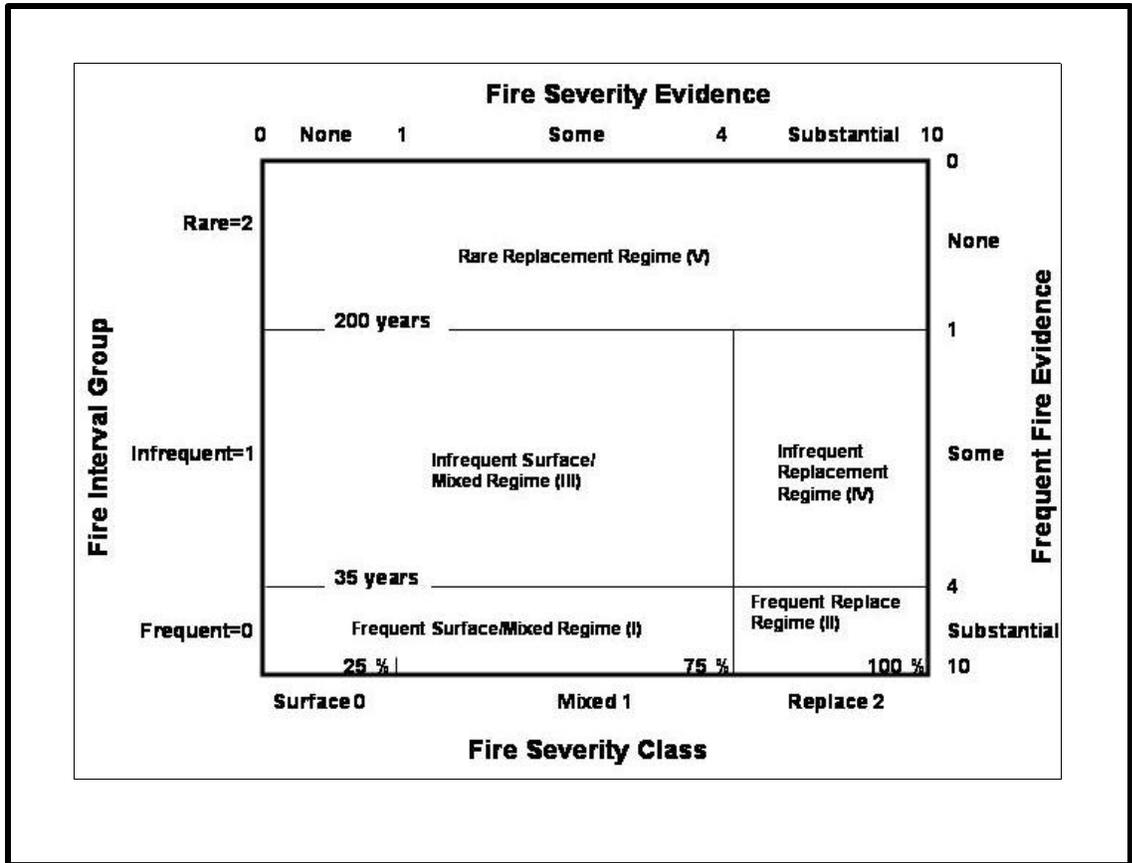
Scorecard landscape calibration – It is highly important to calibrate the landscape scorecard with results from the Standard Landscape Method for a similar landscape. Without this calibration, a user has little chance of determining the correct FRCC (1, 2, or 3) or the measure of departure (0 to 100) from reference conditions. Calibration should follow consistent steps:

- 1) Identify a landscape with similar PNVG's and current conditions to other landscapes where you will be using the scorecard.

- 2) Conduct the Standard Landscape Method.
- 3) Conduct the Landscape Scorecard Method for the same area.
- 4) Compare the graph results of the Landscape Scorecard Method to the Standard Landscape Method for fire regime, FRCC, and measure of departure. Identify if the scorecard has under- or over-estimated the departure measure, and if it has resulted in determination of the wrong FRCC.
- 5) If user scorecard results are similar to Standard Landscape Method for fire regime: proceed with use of the landscape scorecard in other landscapes.
- 6) If user scorecard results are different from Standard Landscape Method for fire regime: check to make sure you have identified the correct PNVG and associated reference conditions. Check your initial classification of frequency and severity against the standard method. Check your selection of frequency and severity evidence to improve emulation of results from the Standard Landscape Method. Recalibrate to achieve scorecard results similar to the Standard Landscape Method.
- 7) If user scorecard results are similar to the Standard Landscape Method for the FRCC and departure measure -- If your use of the scorecard has resulted in the correct FRCC and relative close estimate (within plus or minus 10%) of the departure measure proceed with use of the landscape scorecard in other landscapes.
- 8) If user scorecard results are different from the Standard Landscape Method for FRCC and departure measure -- If your use of the scorecard has resulted in the incorrect FRCC or different estimate (outside plus or minus 10%) of the departure measure recalibrate your use of the scorecard.
- 9) Recalibration of the FRCC scorecard – The most common need for recalibration is when scorecard results underestimate FRCC and the associated departure measure. This underestimation occurs when only one “uncharacteristic” class occupies the majority of the PNVG within the landscape and the departure in fire frequency and severity are low to moderate. When this occurs the maximum rating for uncharacteristic is a “2” while the scorecard graph requires a rating of “4” to push the nomogram result to an FRCC of 3. When this occurs the user should assure they have identified and rated all “uncharacteristic” conditions. If there still is only one “uncharacteristic” class then double count the effect using “uncharacteristic pattern” or “uncharacteristic other” to result in a sum that pushes the FRCC and departure measure to better reflect that from the Standard Landscape Method. To account for other differences between scorecard and Standard Landscape Methods results, use a similar process to adjust your scorecard ratings to better reflect the results from the Standard Landscape Method.

Table 4-1. Landscape fire regime scorecard for graph inputs. All definitions and terms are same as described for the Standard Landscape Method. Identify the potential natural vegetation (PNVG) that has the greater amount within the landscape strata. Check PNVG identification by using the key and descriptions from the guidebook. Enter the name of the PNVG at the top of the table. Read the PNVG description of the successional stages, disturbance regime, and reference values from the guidebook. Choose (circle) the applicable categorical rating for fire interval group and fire severity class. For evidence choose (circle) a relative rating of 0, 1, 2 for the indicators and then sum the relative rating. Relative rankings of 0, 1, and 2 are assigned as: 0 – no evidence or not applicable; 1- some evidence; 2 – substantial evidence. Optional – enter the values for different strata in the box below.

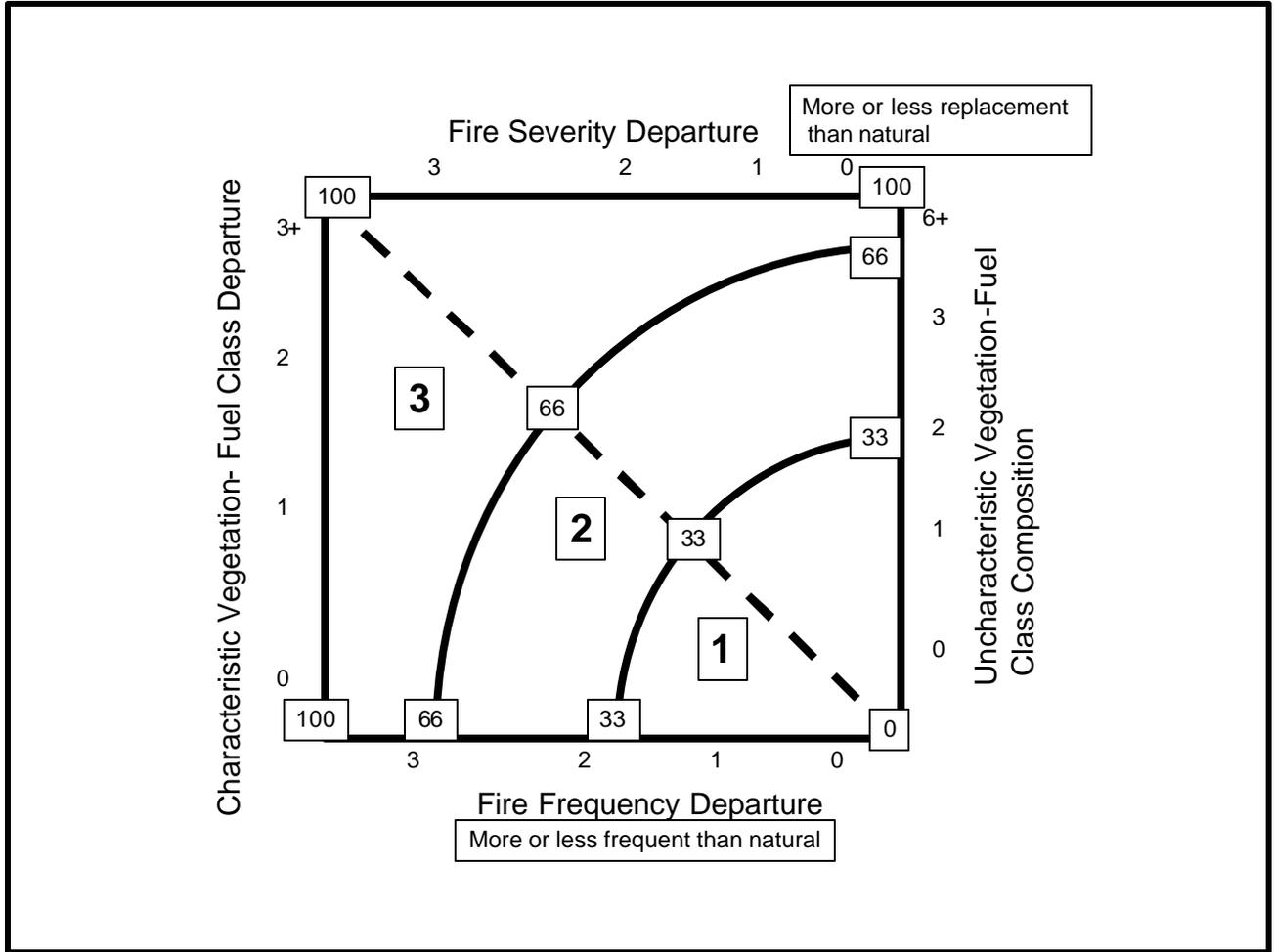
		Rating
Fire Interval Group Field 21	0 – 35 years = Frequent	0
	35+ – 200 years = Infrequent	1
	200+ years = Rare	2
		0=n/a or NoEvidence, 1=Some, 2=Substantial
Frequent Fire Evidence Field 24	Forest - fire scars	0, 1, 2
	Forest - No deep litter/duff, lack of large logs	0, 1, 2
	Forest - relatively large/old upper layer trees	0, 1, 2
	Forest - fire tolerant	0, 1, 2
	Shrub/grassland – adjacent to forest w/ frequent fire evidence	0, 1, 2
	Shrub/grassland – Fire tolerant shrubs	0, 1, 2
	Shrub/grassland - Fire tolerant graminoids	0, 1, 2
	Native American burning	0, 1, 2
	Burning days/yr 0=<30, 1=30-60, 2=>60	0, 1, 2
	Other – describe -	0, 1, 2
	Sum	
		0=n/a or NoEvidence, 1=Some, 2=Substantial
Fire Severity Evidence Field 27	Continuous fuels	0, 1, 2
	Steep and concave slopes	0, 1, 2
	Forest – uniform size, lack of large trees	0, 1, 2
	Forest – small snags & down logs	0, 1, 2
	Shrub/grassland – uniform upper layer size	0, 1, 2
	Shrub/grassland – continuous herb. fuels	0, 1, 2
	Other – describe -	0, 1, 2
Sum		
Fire Severity Class Field 30	<25% replacement of upper layer	Surface
	25% - 75% replacement of upper layer	Mixed
	>75% - fire burns most of the upper layer	Replace



Graph 4-1. Nomogram style chart for classifying the fire regime group (FR). Use the chart by connecting the left and right variables with a single line using the class and “sum” from table 4-1. Then connect the bottom and top variables with a similar line. Where the two lines cross indicates the FR.

Table 4-2. Landscape fire regime condition class scorecard for graph inputs. All definitions and terms are same as described for the Standard Landscape Method. Check your identification of the potential natural vegetation by using the key and descriptions from the guidebook. Enter the name of the potential natural vegetation at the top of the table. Read the description of the successional stages, disturbance regime, and reference values from the guidebook. For the characteristic vegetation-fuel classes (successional stages) assign (circle) relative rankings of 0 and 1 to current amounts based on their difference in comparison to reference condition central tendency; 0 – similar (within \pm 25% difference); 1 – high or low. For the uncharacteristic vegetation-fuel classes assign (circle) relative rankings of current amount: 0 – none (> 0 – 25%); 1 – some (> 25%); 2 – moderate (> 25%). For fire severity departure choose: fire less or more severe than natural (0 – similar (0-25% difference) to the natural/historical regime; 1 – somewhat (25-50% difference) more or less severe than natural/historical regime; 2 – moderately (50-75% difference) more or less severe than natural/historical regime) 3 – substantially (> 75% difference) more or less severe than natural/historical regime). For fire frequency departure choose fire less or more frequent than natural: 0 – has not missed an interval and is not more frequent; 1 - missed one interval or twice as frequent; 2 – missed two to three intervals or more than twice as frequent); 3 – missed more than three intervals.

	0=Similar(within 25%) 1=high or low	Rating
Charact. Veg-Fuel Class Departure Field 34	Early Seral (A)	0, 1
	Mid Seral Closed (B)	0, 1
	Mid Seral Open (C)	0, 1
	Late Seral Open (D)	0, 1
	Late Seral Closed (E)	0, 1
	Sum	
	0=none, 1=some (0-25%), 2=moderate (>25%)	
Uncharact. Veg-Fuel Class Comp. Field 37 Choose all that apply	Invasive exotic plants	0, 1, 2
	Timber management not resulting in natural comp/structure/fuels	0, 1, 2
	Grazing management not resulting in natural comp/structure/fuels	0, 1, 2
	Fuel accumulation, successional development, lack fire effects	0, 1, 2
	Fire effects more severe than natural/historical regime	0, 1, 2
	Soil disturbance more severe than natural/historical regime	0, 1, 2
	Insect-disease more severe or invasive	0, 1, 2
	Cultural improvements, restoration, or road densities not resulting in natural comp/structure/fuels	0, 1, 2
	Pattern of mosaic and patch size and shape	0, 1, 2
	Other – Describe -	0, 1, 2
Sum		
Fire Severity Departure Field 40	Fire less or more severe than natural: 0 – similar to the natural/historical regime;	0, 1, 2, 3
	1 – somewhat more or less severe than natural/historical regime;	
	2 – moderately more or less severe than natural/historical regime)	
	3 – substantially more or less severe than natural/historical regime)	
Fire Frequency Departure Field 43	Fire less or more frequent than natural	0, 1, 2, 3
	0 – has not missed an interval and is not more frequent;	
	1 - missed one interval or twice as frequent;	
	2 – missed two to three intervals or more than twice as frequent);	
	3 – missed more than three intervals	



Graph 4-2. Nomogram style chart for classifying the landscape fire regime condition class (FRCC) and determining FRCC departure. Use the chart by connecting the left and right variables with a single line using the “sum”s from table 4-2. Then connect the bottom and top variables with a similar line. Where the two lines cross indicates the landscape FRCC. Determine if the intersection of the nomogram lines is closer to the Y axis (right side), center axis (diagonal from lower right to upper left), or X axis (bottom side). Each axis is marked on the graph with the class breaks (0, 33, 66, and 100). Based on the point where your nomograms lines intersect estimate the value between the class breaks rounded off to the nearest 5 or 10 percent.

Table 4-3. Reference Condition Characteristics for 34 Forested PNVGs, Western U.S.

PNVG_Name	Code	A:	B:	C:	D:	E:	Fire Freq (MFI)	Fire Regime ¹	Repl. Fire %
		Early Seral Closed %	MidSer. Open %	MidSer. Open %	LateSer. Open %	LateSer. Closed %			
California Mixed Conifer	MCON	5	15	35	40	5	15	I	5
California Mixed Evergreen	CAME	10	30	15	20	25	17	I	17
Cedar-Hemlock_Douglas-fir	CHDF	10	35	5	5	45	233	V	77
Cedar-Hemlock-Pine (Washington)	CHPI	15	49	1	5	30	125	IV	75
Decid. Woodland Oak-Asp. with Conifer	DWOA	15	15	40	25	5	10	I	15
Douglas-fir Interior Pacific Northwest	DFIR1	10	10	20	45	15	15	I	5
Douglas-fir Interior Rocky Mountains	DFIR2	15	25	20	25	15	30	III	10
Fir-Hemlock (Wash., Oreg), Forest	FHWO1	15	25	5	10	45	769	V	85
Fir-Hemlock (Wash., Oreg), Parkland	FHWO2	44	25	1	1	29	769	V	92
Grand Fir-Douglas fir	GFDF	15	45	10	5	25	59	III	30
Great Basin Pine (Nevada, Utah)	GBPI	25	0	12	54	9	400	III, V	12
Lodgepole Pine-Subalpine Calif.	LPSC	20	10	30	30	10	77	III	25
Mosaic Cedar-Hemlock – DFir/Oak (Oreg)	CHDO	10	30	5	15	40	200	V, III	60
Pine- Douglas fir-Central Rockies	PPDF3	15	10	20	45	10	33	I	15
Pine- Douglas fir-Colorado Plateau	PPDF5	15	10	20	50	5	12	I	10
Pine- Douglas fir-Southwest	PPDF7	15	5	15	60	5	10	I	5
Ponderosa Pine Black Hills	PPIN9	10	15	25	40	10	23	I	12
Ponderosa Pine Colorado Plateau	PPIN5	5	5	15	65	10	6	I	5
Ponderosa Pine Northern & C.Rockies	PPIN2	10	10	20	55	5	17	I	7
Ponderosa Pine PNW/Great Basin	PPIN1	10	5	20	55	10	15	I	10
Ponderosa Pine Southern Rockies	PPIN6	15	5	25	50	5	17	I	10
Ponderosa Pine Southwest	PPIN7	15	4	20	60	1	4	I	5
Ponderosa Pine-Douglas-fir (Inland NW)	PPDF1	15	10	25	40	10	22	I	24
Ponderosa Pine-Douglas-fir S.Rockies	PPDF6	15	10	30	35	10	38	III	10
Red Fir-California	RFCA	10	10	5	40	35	44	III	10
Redwood-California	RWCA	10	20	5	5	60	32	I	16
Silver Fir_Douglas-fir	SFDF	5	20	5	5	65	625	V	88
Southwestern Mixed Conifer	MCAN	10	5	20	60	5	10	I	5
Spruce-Cedar-Hemlock (Wash., Oreg.)	SCWO	5	30	10	10	45	833	V	100
Spruce-fir Douglas-fir	SPDF	5	25	28	22	20	19	III	6
Interior West Lower Subalpine Forest #1 ²	SPFI1	20	35	15	10	20	111	IV	67
Interior West Lower Subalpine Forest #2	SPFI5	20	40	10	5	25	167	V	83
Interior West Lower Subalpine Forest #3	SPFI7	25	35	20	10	10	91	III, IV	46
Interior West Upper Subalpine Forest	SPFI2	20	25	25	15	15	143	III-V	57

¹ I (0-35 yr/Low Severity); II (0-35 yr/Std. Replacmt); III (35-100+/Mixed Severity); IV (35-100+/Std. Replacemt); V (200+ yr/Std. Replacemt).

² Interior West Lower Subalpine Forest #1 = Moderately frequent fire (e.g., Northern Rockies & west side of Central/Southern Rockies).

Interior West Lower Subalpine Forest #2 = Relatively infrequent fire (e.g., Pacific Northwest & east side of Central/Southern Rockies).

Interior West Lower Subalpine Forest #3 = Relatively frequent fire (e.g., Southwestern U.S.)

Table 4-4. Reference Condition Characteristics for 52 Non-forested PNVGs, Western U.S.

PNVG_Name	Code	A:	B:	C:	D:	E:	Fire Freq (MFI)	Repl. Fire %	Dominant Fire Regime ³
		Early Seral %	MidSer. Closed %	MidSer. Open %	LateSer. Open %	LateSer. Closed %			
Alder-Ash (Oregon, Washington)	AAOW	22	52	3	2	21	63	80	IV
Alpine Meadows-Barren	AMDW	2	20	78	0	0	120	80	IV
Blue Oak Woodlands	OKCA1	5	10	20	55	10	10	5	I
Calif. Annual Grassland	AGRA1	40	60	0	0	0	5	100	II
Calif. Annual Grassland With Shrubs	AGRA2	35	50	0	10	5	5	95	II
Calif Steppe Grassland	CAST1	30	40	30	0	0	5	100	II
Calif. Steppe Grassland with Shrubs	CAST2	30	25	30	10	5	5	95	II
Chaparral, Interior	CHAP5	20	45	5	5	25	45	90	IV
Chaparral, Mesic (Coastal California)	CHAP2	20	50	15	5	10	8	20	III
Chaparral, Montane	CHAP4	25	35	9	1	30	31	85	II
Chaparral, Xeric (Coastal California)	CHAP1	20	45	25	5	5	8	77	II
Desert Grassland	DGRA1	15	20	65	0	0	10	93	II
Desert Grassland With Shrubs	DGRA3	3	20	65	8	4	10	93	II
Desert Grassland With Trees	DGRA2	5	25	67	2	1	8	99	II
Desert Shrubland, No Grasses	DSHB4	5	15	80	0	0	77	55	III, IV
Desert Shrubland With Grasses	DSHB2	10	15	75	0	0	43	60	III, IV
Desert Shrubland With Trees	DSHB3	7	25	65	2	1	40	60	III, IV
Desert Shrub-Salt Desert Shrub	DSHB1	5	40	55	0	0	40	60	III, IV
Juniper Steppe-Ancient	JUST2	4	4	10	80	2	286	43	III, V
Juniper Steppe-Infrequent Fire	JUST1	5	5	20	55	15	118	35	III, IV
Juniper-Pinyon Frequent Fire	JUPI1	20	10	20	40	10	31	41	III, IV
Juniper-Pinyon Infrequent Fire	JUPI2	10	15	5	10	60	400	92	V
Mesquite Bosques (New Mexico)	MBNM	10	35	20	15	20	46	32	III
Mtn. Grassland	MGRA1	15	15	45	20	5	16	80	II
Mtn. Grassland With Shrubs	MGRA3	5	90	5	0	0	20	99	II
Mtn. Grassland With Trees	MGRA2	15	10	60	10	5	15	60	II, I
Mtn. Shrubland	MSHB2	25	25	10	10	30	42	100	IV
Mtn. Shrubland With Trees	MSHB1	40	20	10	5	25	19	90	II
Northern California Garry Oak	OKCA2	5	10	20	55	10	10	5	I
Northern Plains Grassland	PGRA1	15	25	15	30	15	11	80	II
N. Plains Grassland With Shrubs	PGRA3	13	35	50	2	0	9	80	II
N. Plains Grassland With Trees	PGRA2	8	35	15	40	2	10	55	III, II
Plains Oaks/Shinnery	POAK	55	30	5	5	5	13	75	II
Prairie Grassland	PRAR1	1	44	55	0	0	8	90	II
Prairie Grassland With Shrubs	PRAR3	2	50	45	3	0	8	85	II
Prairie Grassland With Trees	PRAR2	2	53	40	4	1	8	80	II
Riparian (willow -sedge) ⁴	RIPA	Var.	Var.	Var.	Var.	Var.	Var.	Var.	Var.

³ I (0-35 yr/Low Severity); II (0-35 yr/Std. Replacmt); III (35-100+/Mixed Severity); IV (35-100+/Std. Replacmt); V (200+ yr/Std. Replacmt).

⁴ NOTE: Riparian PNVG currently too variable for development of a default model.

PNVG_Name	Code	A:	B:	C:	D:	E:	Fire Freq (MFI)	Repl. Fire %	Dominant Fire Regime ³
		Early Seral %	MidSer. Closed %	MidSer. Open %	LateSer. Open %	LateSer. Closed %			
Sagebrush-Basin Big	BSAG1	25	20	25	15	15	24	61	II
Sagebrush-Basin Big, With Trees	BSAG2	25	20	35	15	5	24	51	II, III
Sagebrush-Warm (Wyoming big sagebrush)	WSAG1	15	5	15	50	15	54	54	III, II
Sagebrush-Warm, With Trees	WSAG2	15	5	10	50	20	60	46	III, IV
Sagebrush-Cool (Mountain Big Sagebrush)	CSAG1	20	25	40	10	5	17	40	III, II
Sagebrush-Cool, With Trees	CSAG2	20	20	35	15	10	20	40	III, IV
Sagebrush-Other (Silver, Wyoming)	SAGE1	25	20	30	10	15	25	75	II
Sagebrush-Other, With Trees	SAGE2	15	5	35	40	5	25	45	III, II
Southern Plains Grassland	PGRA4	5	20	75	0	0	10	90	II
S. Plains Grassland With Shrubs	PGRA6	5	20	70	5	0	10	86	II
S. Plains Grassland With Trees	PGRA5	5	20	70	4	1	10	83	II
Southwest Shrub Steppe	SWSS1	5	10	85	0	0	10	90	II
Southwest Shrub Steppe With Trees	SWSS2	4	15	75	5	1	8	85	II
Texas Savanna	TSAV	45	20	20	5	10	10	50	II, III
Wet Grassland	WGRA	15	80	5	0	0	5	75	II

APPENDIX 4-A

LANDSCAPE SCORECARD METHOD
FORMS AND CODE SHEETS

Fire Regime Condition Class Landscape Scorecard Worksheet



Landscape Project:

Reg Code(1): _____ Proj Code(2): _____ Proj Num(3): _____ Charact Dt(4): ____ / ____ / ____
 ExaminerName(5): _____ ProjectName(6): _____ Area(7): _____ acres/hectares(8)
 Latitude(9): _____ Longitude(10): _____ Datum(11): WGS84/NAD83/NAD27
 Photo(12): _____ Photo Date(13): ____ / ____ / ____
 Comments(14): _____

Strata		Strata Num (Field 15)	1	2	3	4	5	Project
Field 16	Strata Code							
Field 17	Strata Name							
Field 18	Strata Characterization Date							
Field 19	Strata Bp Land Unit (PNVG)							
Field 20	Strata Composition (%)							
Strata Natural Fire Regime (From Table 1)								
Field 21	Fire Interval Group (from table 1)							
Field 22	Multiply above by Comp %/100 [field 21 * field 20/100]							
Field 23	Landscape Fire Interval Group (sum field 22 column 1 - 5)							
Field 24	Frequent Fire Evidence (from table 1 - sum)							
Field 25	Multiply above by Comp %/100 [field 24 * field 20/100]							
Field 26	Landscape Frequent Fire Evidence (sum field 25 column 1 - 5)							
Field 27	Fire Severity Evidence (from table 1 - sum)							
Field 28	Multiply above by Comp %/100 [field 27 * field 20/100]							
Field 29	Landscape Fire Severity Evidence (sum field 28 column 1 - 5)							
Field 30	Fire Severity Class (from table 1)							
Field 31	Multiply above by Comp %/100 [field 30 * field 20/100]							
Field 32	Landscape Fire Severity Class (sum field 31 column 1 - 5)							
Field 33	Landscape Natural Fire Regime (from Graph 1)							
Strata Fire Regime Condition Class (From Table 2)								
Field 34	Char. Veg-Fuel Departure (from table 2 - sum)							
Field 35	Multiply above by Comp %/100 [field 34 * field 20/100]							
Field 36	Landscape Char. Veg-Fuel Departure (sumfield 35 column 1 - 5)							
Field 37	Uncharacteristic Veg-Fuel (from table 2 - sum)							
Field 38	Multiply above by Comp %/100 [field 37 * field 20/100]							
Field 39	Landscape Uncharacteristic Veg-Fuel (sumfield 38 column 1 - 5)							
Field 40	Fire Severity Departure (from table 2 - sum)							
Field 41	Multiply above by Comp %/100 [field 40 * field 20/100]							
Field 42	Landscape Fire Severity Departure (sum field 41 column 1 - 5)							
Field 43	Fire Frequency Departure (from table 2 - sum)							
Field 44	Multiply above by Comp %/100 [field 43 * field 20/100]							
Field 45	Landscape Fire Frequency Departure (sumfield 44 column 1 - 5)							
Field 46	Landscape FRCC (from graph 2)							
Field 47	Landscape FRCC Departure (from graph 2)							

Fire Regime Condition Class



Landscape Scorecard Graph Input Table Summaries

All definitions and terms are the same as described for the Standard Landscape Method.

Use these tables for input into the Landscape Scorecard Worksheet (fields 21-43).

The small tables below Tables 1 and 2 can be used to fill in the sums for each strata. Once each strata is complete, these numbers can be transferred to the worksheet.

Natural Fire Regime - Table 1 (table 4-1 in guidebook)

		Rating
Fire Interval Group Field 21	0 – 35 years = Frequent 35+ – 200 years = Infrequent 200+ years = Rare	0 1 2
	0=n/a or NoEvidence, 1=Some, 2=Substantial	
Frequent Fire Evidence Field 24	Forest - fire scars	0, 1, 2
	Forest - No deep litter/duff, lack of large logs	0, 1, 2
	Forest - relatively large/old upper layer trees	0, 1, 2
	Forest - fire tolerant	0, 1, 2
	Shrub/grassland – adjacent to forest w/ frequent fire evidence	0, 1, 2
	Shrub/grassland – Fire tolerant shrubs	0, 1, 2
	Shrub/grassland - Fire tolerant graminoids	0, 1, 2
	Native American burning	0, 1, 2
	Burning days/yr 0=<30, 1=30-60, 2=>60	0, 1, 2
	Other – describe -	0, 1, 2
	Sum	
	0=n/a or NoEvidence, 1=Some, 2=Substantial	
Fire Severity Evidence Field 27	Continuous fuels	0, 1, 2
	Steep and concave slopes	0, 1, 2
	Forest – uniform size, lack of large trees	0, 1, 2
	Forest – small snags & down logs	0, 1, 2
	Shrub/grassland – uniform upper layer size	0, 1, 2
	Shrub/grassland – continuous herb. fuels	0, 1, 2
	Other – describe -	0, 1, 2
	Sum	
Fire Severity Class Field 30	<25% replacement of upper layer - Surface	0
	25% - 75% replacement of upper layer - Mixed	1
	>75% - fire burns most of the upper layer - Replacement	2

Rating Totals From Table 1 For Worksheet Strata

Field name	Strata 1	Strata 2	Strata 3	Strata 4	Strata 5
Fire Interval Group					
Freq Fire Evidence (sum)					
Fire Severity Evidence (sum)					
Fire Severity Class					

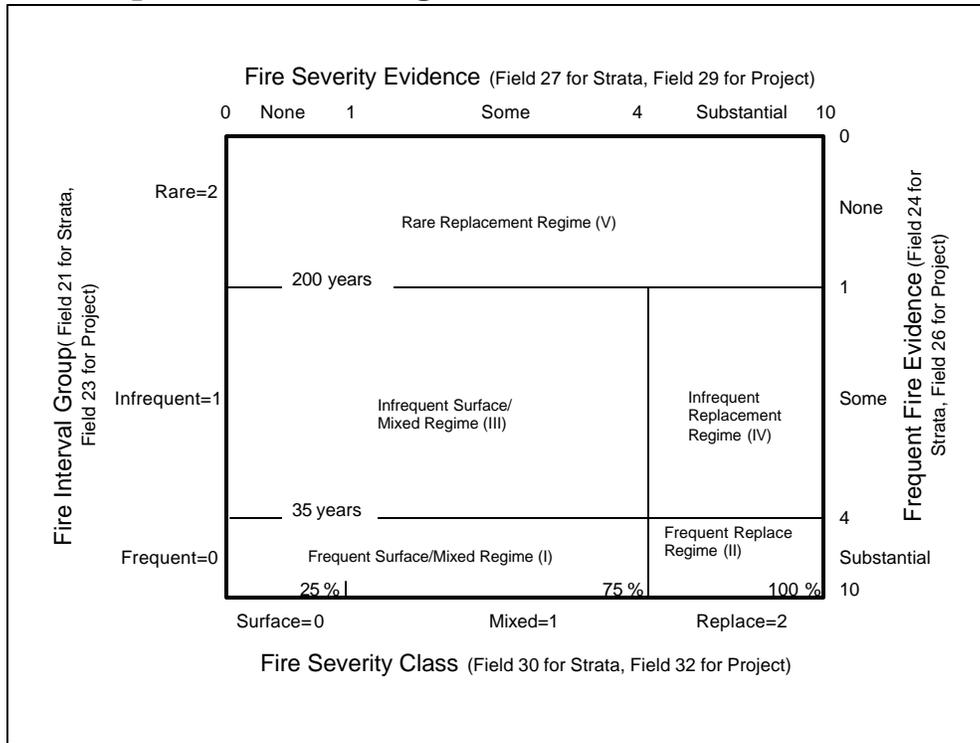
Fire Regime Condition Class - Table 2 (table 4-2 in guide book)

	0=Similar(within 25%) 1=high or low	Rating
Charact. Veg-Fuel Class Departure Field 34	Early Seral (A)	0, 1
	Mid Seral Closed (B)	0, 1
	Mid Seral Open (C)	0, 1
	Late Seral Open (D)	0, 1
	Late Seral Closed (E)	0, 1
	Sum	
	0=none, 1=some (0-25%), 2=moderate (>25%)	
Uncharact. Veg-Fuel Class Comp. Field 37	Invasive exotic plants	0, 1, 2
	Timber management not resulting in natural comp/structure/fuels	0, 1, 2
	Grazing management not resulting in natural comp/structure/fuels	0, 1, 2
	Choose all that apply	
	Fuel accumulation, successional development, lack fire effects	0, 1, 2
	Fire effects more severe than natural/historical regime	0, 1, 2
	Soil disturbance more severe than natural/historical regime	0, 1, 2
	Insect-disease more severe or invasive	0, 1, 2
	Cultural improvements, restoration, or road densities not resulting in natural comp/structure/fuels	0, 1, 2
	Pattern of mosaic and patch size and shape	0, 1, 2
Other – Describe -	0, 1, 2	
	Sum	
Fire Severity Departure Field 40	Fire less or more severe than natural:	0, 1, 2, 3
	0 – similar to the natural/historical regime;	
	1 – somewhat more or less severe than natural/historical regime;	
	2 – moderately more or less severe than natural/historical regime)	
	3 – substantially more or less severe than natural/historical regime)	
Fire Frequency Departure Field 43	Fire less or more frequent than natural	0, 1, 2, 3
	0 – has not missed an interval and is not more frequent;	
	1 - missed one interval or twice as frequent;	
	2 – missed two to three intervals or more than twice as frequent);	
	3 – missed more than three intervals	

Rating Totals From Table 2 For Worksheet Strata

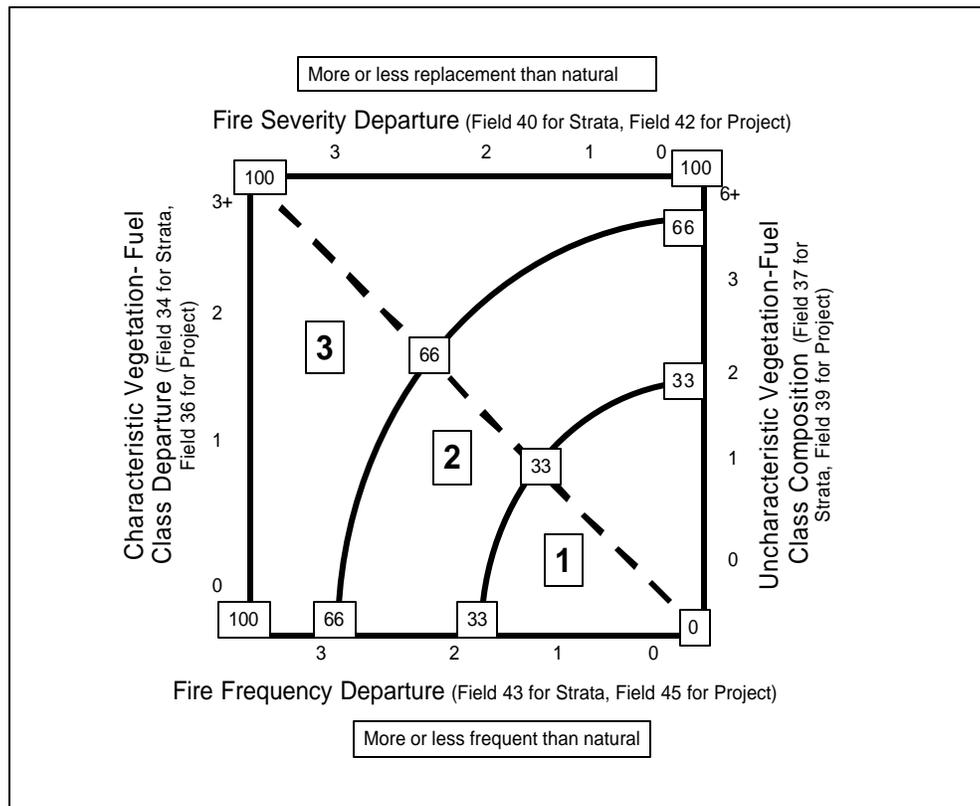
Field name	Strata 1	Strata 2	Strata 3	Strata 4	Strata 5
Charact. Veg-Fuel Class Departure (sum)					
Uncharact. Veg-Fuel Class Comp (sum)					
Fire Severity Departure					
Fire Freq Departure					

Landscape Natural Fire Regime - Graph 1 (Graph 4-1 in guidebook)



Nomogram style chart for classifying the fire regime group. Use the chart by connecting the left and right variables with a single line using the class and “sum” from table 1 (for project Fire Regime) or the individual strata values (for strata Fire Regimes - determining strata Fire Regimes is optional). Then connect the bottom and top variables with a similar line. Where the two lines cross indicates the fire regime group. Enter value in field 33.

Landscape Fire Regime Condition Class - Graph 2 (Graph 4-2 in guidebook)



Nomogram style chart for classifying the landscape fire regime condition class (FRCC) and determining FRCC departure. Use the chart by connecting the left and right variables with a single line using the “sum”s from table 2 (for project FRCC) or the individual strata values (for strata FRCC - determining strata FRCC is optional). Enter value in field 46. Then connect the bottom and top variables with a similar line. Where the two lines cross indicates the landscape FRCC. Determine if the intersection of the nomogram lines is closer to the Y axis (right side), center axis (diagonal from lower right to upper left), or X axis (bottom side). Each axis is marked on the graph with the class breaks (0, 33, 66, and 100). Based on the point where your nomograms lines intersect estimate the value between the class breaks rounded off to the nearest 5 or 10 percent. Enter the value in field 47.

Please email your comments and suggestions to helpdesk@frcc.gov