NOTE: This documentation contains processing information for projected as well as current information. The projected data can be found in the released dataset SDEIS Landscape Variables Database (DBSLNDSV, #968).

PROCESS REQUIREMENTS FOR DISTURBANCE / ACTIVITIES

Abbreviations Used in the Document

Abbreviation	Description
X1	SDEIS Alternative S1
Xx	SDEIS Alternatives S2/S3.
FMA	Forest/Woodland Management Activity
HRVVol	Timber Volume Activity
AUM	Authorized Animal Unit Month Activity
RST	Livestock Range Allotment Maintenance/Restoration Activity
FAD	Fire Activity Disturbance
EXO	Exotic Invasion/Increase
SCG	Successional Change Grazing
SNG	Successional No-change Grazing
HRV	Harvest for Woodland/Forest Management-Restoration Activity
THN	Non-Commercial Thinning Activity
WLF	Wildfire Activity
PNF	Prescribed Natural Fire Activity
PRS	Prescribed Fire and Fuel Management
CDC	Corrected Disturbance Coefficient
AAC	Adjusted Activity Coefficient
UAC	Uniform Activity Coefficient
H6AMPH	smallest unit used for SDEIS analysis
MGTREG	Management Region
MCLSS	Management Class
Rx	Prescription Assignments
FRG	Forest / Range Groups
ADM	Administrative Unit
EPIV	Exotic Plant Invasion Vulnerability
GRO	Grazing AMP Revision Opportunity

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Processing

The following is an overview of processes used to create the Disturbance and Acticities variable by Alternative and Year. Note: "Xx" is used in reference to SDEIS Simulations X2 and X3 in this document.

Process 3.1 -- Create Uniform Activity Coefficients (UAC) for all lands using FS and BLM reported Administrative Unit Activity Levels (1988 - 1997) data.

Process 3.1.1 -- Calculate "Other Land" Activity coefficients by assigning the average activty coefficients and slopes for Administrative units to non FS/BLM lands.

Process 3.1.2 -- Combine the FS/BLM Activity Coefficients with Other Land Activity coefficients.

Process 3.2.1 -- Make X1 Disturbance Group Prescription Area Assignments in the GIS using the CRBSUM disturbance data.

Process 3.2.2 -- Correct known errors in CRBSUM data for Alternative X1 CRBSUM Disturbance Coefficients.

Process 3.2.2.1 -- Convert X1 Year 100 Cumulative Disturbance Coefficients to 100 year average. The disturbance coefficients from CRBSUM in the year 100 field are a cumulative sum of disturbance for a 100 year period. This value is coverted to a 100 year average by dividing the sum by 100.

Process 3.2.2.2 -- Set the timber activity in wilderness areas to zero. Set the CRBSUM disturbance coefficients for HRV and THN to zero where management class is wilderness like or roadless (MCLSS = 1, 2, 4, 6, 11, 22, 44, 91, or 92)

Process 3.2.2.3 -- Create prescribed natural fire for wilderness like lands and reduce prescribed fire (PRS) coefficients on Other Lands.

Where prescribed fire occurs in wilderness management classes 1 and 6, change the assignment to prescribed natural fire (PNF).

Correct the Northwest Forest Plan unmodified and congressional withdrawals management classes (11 or 91) by setting the PRS to zero. Set the disturbance coefficient for PNF in management classes 1 or 6 that fall within Management Regions 1, 5, or 6 to zero.

For all private lands (Management class 7 or 8), reduce the amount of prescribed fire by 20 percent.

Process 3.2.2.4 -- Adjust Livestock Range Allotment and Restoration (RST) Coefficient using the Seasonal Use Patterns, Forest/Range groups, and assigned prescriptions (Rx). Use lookup table TlkpRstRxAdjust for adjusting for prescription assignments (RxAdjust). Rst_Coef is the CRBSUM disturbance coefficient value for Restoration. Correct_Rst is the term used for Corrected Disturbance coefficient for Livestock Range Allotment and Restoration.

For Seasonal Use Pattern = "NoUse" , Correct_Rst = Rst_Coef

NOTE: This documentation contains processing information for projected as well as current information. The projected data can be found in the released dataset SDEIS Landscape Variables Database (DBSLNDSV, #968).
For Seasonal Use Pattern = "LowUse" and Forest/Range group = "DR" or "OR" or "DF" (Dry range, Other range, Dry forest, respectively), Correct_Rst = (Rst_Coef + 0.01)
For Seasonal Use Pattern = "LowUse" and Forest/Range group = "OF" (Other forest), Correct_Rst = Rst_Coef.
For Seasonal Use Pattern = "Mod" and Forest/Range group = "DR" or "OR" or "DF," Correct_Rst = (Rst_Coef + 0.02) * RxAdjust
For Seasonal Use Pattern = "Mod" and Forest/Range group = "OF," Correct_Rst = (Rst_Coef + 0.01) * RxAdjust
For Seasonal Use Pattern = "High" and Forest/Range group = "DR" or "OR" or "DF," Correct_Rst = (Rst_Coef + 0.03) * RxAdjust
For Seasonal Use Pattern = "High" and Forest/Range group = "OF," Correct_Rst = (Rst_Coef + 0.02) * RxAdjust

Process 3.2.2.5 -- Fill missing X1 disturbance coefficients based on the Prescription assignments and Forest/Range groups.

Process 3.2.2.5.1 --Create a summary of Rx - FRG areas

Process 3.2.2.5.2 --Calculate a weighted average of disturbance coefficients by the Rx _FRG areas. DstrbncCoeffWtAvg = Sum(([DstrbncCoeff]*[Hectares])/[X1RxFrgHectares])

The gaps in data should be identified at this point and assignments should be made based on similar Rx-FRG strata that already have data. Update the disturbance coefficients in the main table using these data.

Process 3.2.2.5.3 --Re-run process 3.2.2.2 to set the timber activity in wilderness areas to zero.

Process 3.2.3 -- Create X1 Adjusted Activity Coefficients

Process 3.2.3.1 -- Create X1 Yr0 Adjusted Activity Coefficients

Process 3.2.3.1.1 --Calculate Harvest Amount, Prescribed Fire, Animal Unit Months, Wildfire Adjusted Activity Coefficient and Uniform Adjusted Coeffiecient. For X1 Yr 0.

Build Lookup tables of the disturbances and their corresponding strata hectares. (tlkpCdcAdmSum and tlkpCdcEisSum respectively)

For FS/BLM (Admin Unit is 10 or greater) and Non- FS/BLM administrative units (Administrative Unit Code is < 11) Calculate the Adjusted Activity coefficient by using the following calculation:

For FS/BLM Administrative Units: Corrected Disturbance Coefficient (CDC)/the Sum of the CDC coefficients for the Administrative Unit) * the Uniform Adjusted Coefficient (UAC) * (Total Hectares in Administrative Unit) for Year 0.

For Non FS/BLM Administrative Units: Corrected Disturbance Coefficient (CDC)/the Sum of the CDC coefficients for the EIS) * the Uniform Adjusted Coefficient (UAC) * Total Hectares in EIS affected by the Coefficient for Year 0 (from tlkpCDCEisSum).

Repeat calculation for HrvAmt, Prs, Aum and Wlf Adjusted Activity Coefficients.

Process 3.2.3.1.2 -- Calculate X1 Yr 0 Harvest Volume using Corrected Disturbance

NOTE: This documentation contains processing information for projected as well as current information. The projected data can be found in the released dataset SDEIS Landscape Variables Database (DBSLNDSV, #968).

Coefficient/Uniform Adjustment Coefficient and prescription lookup table.

This is done by performing the same calculations as were performed in the previous step using the Harvest Volume except multiplying the end product by RxVol from the TlkpRxAdjust table.

Process 3.2.3.1.3 -- Calculate X1 Yr 0 Thn using CDC and Rx lut.

Calculate the AAC by multiplying CDC (from the tblDstrbncCffcnt) by the Prescription Area Coefficient (from the tlkpRxAdjust lookup table) , then determine the disturbance coefficient hectares by multiplying the strata hectares by the AAC.

Process 3.2.3.1.4 -- Calculate X1 Yr 0 Exo using CDC, Rx lut and EPIV lut

Calculate the AAC by multiplying the CDC by the prescription area coefficient and the adjustment coefficient (ExoAdj) from the tlkpEpivAdjust lookup table then determine the Hectares affected by multiplying the AAC and the strata hectares.

Process 3.2.3.1.5 -- Calculate X1 Yr 0 Sng, Scg using CDC, Rx lut and GRO lut

Caculate AAC for Successional No Change Grazing (SNG) and Successional Change Grazing (SCG) by dividing the sum of the adjustment coeffcient (SCG or SNG) and the related prescription coefficient by two and then multiplying by the corrected disturbance coefficient(CDC).

Process 3.2.3.1.6 -- Calculate X1 Yr 0 Pnf and Rst using direct assignment of CDC

AAC = CDC

Process 3.2.3.2 -- Create X1 Yr 10 AAC

Process 3.2.3.2.1 -- Calculate X1 Yr 10 HrvAmt, HrvVol, Aum AAC using UAC slope

Use the AAC calculated in the previous steps to determine the Year 10 AAC using Yr10AAC: [AAC]+([AAC]*[UAC Coeff Slope]*10) for each disturbance coefficient.

Process 3.2.3.2.2 -- Calculate X1 Yr 10 Wlf AAC using UAC slope + 15%

Use the AAC calculated in the previous step to determine the Year 10 AAC using Yr10AAC: [AAC]+([AAC]*[UAC Coeff Slope + 15%]*10) for the Wildfire disturbance coefficient.

Process 3.2.3.2.3 -- Calculate X1 Yr 10 Thn, Pnf, Rst, Scg & Sng AAC using a proxy UAC slope

Use the same calculation as in step 3.2.3.2.1 and the UAC slope found in the tlkpUniformActivityCoefficient which was built using a UAC averages from a table (tblAdminUnitActivityCoefficientAvg) linked from prescription assignment database RxX1Assignment.mdb.

Process 3.2.3.2.4 -- Calculate X1 Yr 10 Exo using UAC slope and LUT adjustment

Calculate the AAC by using the following equation: ((([DstrbncCoeff from Year 100]-[DstrbncCoeff from Year 0])/10)+[DstrbncCoeff from year 0])*[the prescription Area(RxRArea) from tlkpRxAdjust]*[The Exo adjustement coefficient from the tlkpEpivAdjst lookup table]

NOTE: This documentation contains processing information for projected as well as current information. The projected data can be found in the released dataset SDEIS Landscape Variables Database (DBSLNDSV, #968).

Process 3.2.3.3 -- Create X1 Yr 100 AAC

Process 3.2.3.3.1 -- Calculate X1 Yr 100 HrvAmt, Prs, Aum & Wlf AAC using CDC and UAC

Calculate the AAC hectares by using the following calculation:

If FS/BLM Admin Unit then AacHectares=

[CdcWtAvgRatio]*([CDC]/[Sum of Hectares for the administrative unit CDC])*(UAC*Sum of Hectares for the administrative unit CDC])),

For Non FS/BLM Admin Units AacHectares=

[CdcWtAvgRatio]*[CDC]/[Sum of Hectares in the EIS for the disturbance CDC])*([UAC]*[the total Hectares in the EIS]

CdcWtAvgRatio:

If([Year 0 Cdc weighted Avg]=0,

Year 100 Cdc weighted average]/CdcAvg from lookup table [tlkpCdcAvg]

Otherwise ,

CdcWtAvgRatio: [Year 100 Cdc weighted average]/Year 0.[CdcAdmWtAvg]

* This Calculation is repeated for Prs, Aum & Wlf

Process 3.2.3.3.2 -- Calculate X1 Yr 100 HrvVol using CDC/UAC and Rx lut

Perform the same calculation from the previous step except for Non FS/BLM Administrative Units use the following calculation:

[CdcWtAvgRatio]*[CDC]/[Sum of Hectares in the EIS for the disturbance CDC])*([UAC]*[the total Hectares in the EIS] * [Harvest Volume Adjustment Coefficient from tlkRxAdjust]

Process 3.2.3.3.3 -- Calculate X1 Yr 100 Thn using CDC and Rx lut

Calculate the AAC for X! Yr 100 Thn by multiplying the CDC by the Prescription area coefficient (from tlkpRxAdjust).

Process 3.2.3.3.4 -- Calculate X1 Yr 100 Exo using CDC, Rx lut & EPIV lut

Calculate AAC by finding the product of the CDC, the Prescription Area Coefficient (from tlkpRxAdjust)and the Exo Adjustment Coefficient (from tlkpEpivAdjst).

Process 3.2.3.3.5 -- Calculate X1 Yr 100 Sng & Scg using CDC, Rx lut & GRO lut

AAC: [CDC]* (the adjustment coefficient (from tlkpGroAdjst)+[the prescription adjustment (from tlkpRxAdjust))/2)

Process 3.2.3.3.6 -- Calculate X1 Yr 100 Pnf and Rst using direct assignment of CDC

NOTE: This documentation contains processing information for projected as well as current information. The projected data can be found in the released dataset SDEIS Landscape Variables Database (DBSLNDSV, #968).

AAC = CDC

Process 3.2.3.4 -- Make X1 Pnf AAC corrections

If management class = 6 or 1 then set the AAC to the CDC otherwise set it to 0.

Process 3.3 -- Create Action Alternatives (Xx) Disturbance Coefficients.

Process 3.3.1.2 -- Make Xx Disturbance CRBSUM Count and Coefficient assignments to H6AMPH strata.

Process 3.3.2.1 -- Set all the areas outside the SDEIS decision space to the X1 Corrected Disturbance Coefficients (CDC).

If MGTREG > 2 or (MGTREG < 3 and MCLSS > 5),
Set Disturbance coefficients for Xx Yr 10 to X1 Yr 10 values and Xx Yr100 to X1 Yr 100 values.

Note: MGTREG 1 and 2 denote the Management region ICBEMP. MCLSS greater than 5 represents Management Classes designated as "Other Lands"

Process 3.3.2.2 -- Set Xx HRV and THN in Wilderness and Roadless areas to zero.

If MGTREG = 1 or 2 and MCLSS = 1 or 2 or 4, then set HRV and THN values to zero.

Process 3.3.2.3 -- Assign Prescribed Natural Fire to FS/BLM lands with Management Class 1 (Unmodified Lands).
Set the PNF disturbance coefficient to the Prescribed Fire (PRS) coefficient for Management Regions 1 or 2 and Management Class = 1. Then set the PRS to zero in the same areas.

Process 3.3.2.4 -- Adjust Livestock Range Allotment and Restoration Coefficient for Xx using the Seasonal Use Patterms, Forest/Range groups, and assigned prescriptions (Rx). Use lookup table TlkpRstRxAdjust for adjusting for prescription assignments (RxAdjust). Rst_Coef is the CRBSUM disturbance coefficient value for Restoration. Correct_Rst is the term used for Corrected Disturbance coefficient for Livestock Range Allotment and Restoration.

For Management Regions 1 and 2, if the year is 10 then in the following equations, substitute Rst_Coef with (Sum of count * 10/ hectares). For year 100 and Management Regions 1 and 2, substitute Rst_Coef with (Sum of Count / hectares) in the following equations to calculate Correct_Rst.

For Seasonal Use Pattern = "NoUse" , Correct_Rst = Rst_Coef
For Seasonal Use Pattern = "LowUse" and Forest/Range group = "DR" or "OR" or "DF" (Dry range, Other range, Dry forest, respectively), Correct_Rst = (Rst_Coef + 0.01)
For Seasonal Use Pattern = "LowUse" and Forest/Range group = "OF" (Other forest), Correct_Rst = Rst_Coef.
For Seasonal Use Pattern = "Mod" and Forest/Range group = "DR" or "OR" or "DF," Correct_Rst = (Rst_Coef + 0.02) * RxAdjust
For Seasonal Use Pattern = "Mod" and Forest/Range group = "OF," Correct_Rst = (Rst_Coef + 0.01) * RxAdjust

NOTE: This documentation contains processing information for projected as well as current information. The projected data can be found in the released dataset SDEIS Landscape Variables Database (DBSLNDSV, #968).
For Seasonal Use Pattern = "High" and Forest/Range group = "DR" or "OR" or "DF," Correct_Rst = (Rst_Coef + 0.03) * RxAdjust
For Seasonal Use Pattern = "High" and Forest/Range group = "OF," Correct_Rst = (Rst_Coef + 0.02) * RxAdjust

Process 3.3.2.5 -- Fill missing Rx / MCLSS / FRG disturbance coefficients from lookup table containing current weighted average values for MCLSS / Rx / FRG aggregates for HRV, PRS, and THN.

Wherever activity should occur but is zero in the table, new values are filled in by scientists. These values are then used to populate the disturbance coefficients by H6AMPH table.

Process 3.3.3 -- Create Xx Adjusted Activity Coefficients.

Process 3.3.3.1 -- Create Xx process support tables

Create a corrected disturbance coefficient weighted average table, TlkpCdcAdmWtAvg, by activity type, alternative and year, and administrative unit (ADM). Weighted average is calculated using the following formula:
CdcAdmWtAvg = Sum ((Disturb_coef * H6AMPH_hectares) / ADM_hectares)

Create a corrected disturbance coefficient sum table, TlkpCdcAdmSum, by adding up coefficients and their area by activity type, alternative, and year for each administrative unit.

Create a table, TlkpCdcEisSum, that has a sum of disturbance coefficients and hectares by DEIS EIS groups, EEIS and UCRB for Non-FS/BLM administrative units (ADM < 11).

Create another table, TlkpCdcAvg, that has averages of disturbance coefficients by activity, alternative, and year.

Process 3.3.3.2 -- Replace zero Corrected Disturbance Coefficient (CDC) values with basin-wide average.

Process 3.3.3.3 -- Calculate Xx AAC (Adjusted Activity Coefficient) using the CDC (Corrected Disturbance Coefficient) and UAC (Uniform Activity Coefficient).

Process 3.3.3.3.1 --Create Xx HRVAmt, HRVVol, WLF, and PRS using CDC/UAC and X1Yr0 reference.

For FS/BLM administrative units, use the following formula to calculate Adjusted Activity coefficient hectares and AAC, respectively:

AacHectares = (XxCdcAdmAvg / X1Yr0AdmCdcWtAvg) * (CDC_Dist_coef / XxCdcAdmSum) * UAC_Dist_Coef * ADM_hectares

AAC: AacHectares / H6AMPH_hectares

For Non FS/BLM administrative units, use the following formula to calculate Adjusted Activity coefficient hectares and AAC, respectively:

NOTE: This documentation contains processing information for projected as well as current information. The projected data can be found in the released dataset SDEIS Landscape Variables Database (DBSLNDSV, #968).
AacHectares = (XxCdcAdmAvg / X1Yr0AdmCdcWtAvg) * (CDC_Dist_coef / XxCdcEisSum) * UAC_Dist_Coef * EIS_hectares

Process 3.3.3.3.2 -- Create Xx AUM using CDC/UAC with X1Yr0 reference and limit.

First create a table that calculates the maximum value of AUM by H6AMPH strata out of Alternative X1, years 10 and 100. Using the following equation, calculate the AAC AUM coefficient:

For FS/BLM Administrative units (ADM > 10):
If X1MaxAum <= ((XxAdmCdcWtAvg / X1Yr0CdcWtAvg) * (CDC_Dist_coef / XxCdcAdmSum) * UAC_Dist_coef * AdmHectares) / Cdc_Hectares, then
XxAac_Aum_Dist_coef = X1MaxAum
Else,
XxAac_Aum_Dist_coef = ((XxAdmCdcWtAvg / X1Yr0CdcWtAvg) * (CDC_Dist_coef / XxCdcAdmSum) * UAC_Dist_coef * AdmHectares) / Cdc_Hectares

For Non FS/BLM Administrative units (ADM < 11):
If X1MaxAum <= ((XxAdmCdcWtAvg / X1Yr0CdcWtAvg) * (CDC_Dist_coef / XxCdcEisSum) * UAC_Dist_coef * EISHectares) / Cdc_Hectares, then
XxAac_Aum_Dist_coef = X1MaxAum
Else,
XxAac_Aum_Dist_coef = ((XxAdmCdcWtAvg / X1Yr0CdcWtAvg) * (CDC_Dist_coef / XxCdcEisSum) * UAC_Dist_coef * EISHectares) / Cdc_Hectares

Process 3.3.3.3.3 -- Create Xx THN, PNF, and RST Adjusted Activity Coefficients using direct assignment of Corrected Disturbance Coefficients.

Process 3.3.3.3.4 -- Set PNF to zero, X1Aac_PNF_Dist_Coef, or leave it unchanged according to the following conditions:
If MGTREG = 3 or ((MGTREG = 1 or 2) and MCLSS = 6) then,
XxPnfAac = X1Aac_Pnf_Dist_Coef

If (MGTREG <> 1 and MGTREG <> 2) or (MGTREG = 1 or 2) and (MCLSS <> 1 and <> 2 and <> 4) then,
XxPnfAac = 0
Else
XxPnfAac = XxPnfAac

Process 3.3.3.4 -- Set Non SDEIS regions that remain constant for AUM, HRVAmt, HRVVol, PNF, PRS, RST, THN, and WLF.

If MGTREG > 2 or (MGTREG < 3 and MCLSS > 5) then set XxAac_Dist_Coef and XxAac_Hectares to X1Aax_Dist_Coef and X1Aac_Hectares, respectively, for each of the activities.

Process 3.3.3.5 -- Set the PNF Adjusted Activty Coefficient to zero in Northwest Forest Plan area (MGTREG = 7) using the same equation as in Process 3.3.3.3.4.

Process 3.3.3.6 -- Calculate Xx FAD and FMA AAC.
FMA = THN + HRV
FAD = PRS + PNF + WLF

NOTE: This documentation contains processing information for projected as well as current information. The projected data can be found in the released dataset SDEIS Landscape Variables Database (DBSLNDSV, #968).

Process 3.4 -- Create Huc6 AAC weighted average and Classify

Process 3.4.1 -- Create subwatershed AAC weighted average.

X1H6AacWtAvg_dist = (X1AAC_dist * H6AMPH_hectares) / Huc6_Hectares
XxH6AacWtAvg_dist = (XxAAC_dist * H6AMPH_hectares) / Huc6_Hectares

Process 3.4.2 -- Create subwatershed FAD and FMA Adjusted Activity coefficient (AAC) weighted average.

X1H6AacWtAvg_FAD = (X1AAC_FAD * H6AMPH_hectares) / Huc6_hectares
XxH6AacWtAvg_FAD = (XxAAC_FAD * H6AMPH_hectares) / Huc6_hectares

X1H6AacWtAvg_FMA = (X1AAC_FMA * H6AMPH_hectares) / Huc6_hectares
XxH6AacWtAvg_FMA = (XxAAC_FMA * H6AMPH_hectares) / Huc6_hectares

Process 3.4.3 -- Classify Huc6 Adjusted Activity Coefficient (AAC).

The AAC values are split into thirds. The top third are assigned a “H” or high rating, the middle “M” or moderate, the bottom third is given a “L” or Low rating. The null values are given a “N” or null rating.

NOTE: This documentation contains processing information for projected as well as current information. The projected data can be found in the released dataset SDEIS Landscape Variables Database (DBSLNDSV, #968).

LOOKUP TABLES

TlkpRstRxAdjust

Rx	RxAdjs
A1	2
A2	4
A3	5
C1	1
C2	2
C3	2
N1	1.5
N2	1
N3	2
N4	3
N5	1
N6	1
N7	1
N8	3
P1	1
P2	3
P3	2

TlkpPvtEisMgtRgn

MgtReg	PvtEis
1	EEIS
2	UCRB
3	UCRB
4	UCRB
5	UCRB
6	UCRB
7	EEIS

TlkpAacCdcUac

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AacName	CdcName	UacName	AacDesc
X1Aum	X1Rst	AumAmt	Authorized AUM
X1Exo	X1Exo		Exotic Weed Increase and Invasion
X1HrvAmt	X1Hrv	HrvAmt	Harvest Area
X1HrvVol	X1Hrv	HrvVol	Harvest Volume (mbf)
X1Pnf	X1Pnf		Prescribed Natural Fire
X1Prs	X1Prs	PrsAmt	Prescribed Fire
X1Rst	X1Rst		Range allotment Maintenance and Restoration (fencing, operating plans, range improvements)
X1Scg	X1Scg		Sucessional Change Grazing (excessive utilization)
X1Sng	X1Sng		Sucessional No-Change Grazing (no effect)
X1Thn	X1Thn		Thinning (precommercial)
X1Wlf	X1Wlf	WlfAmt	Wildfire

TlkpRxAdjust

R	RxRAre	RxRVo	RxEx	RxS	RxSn	RxSi	RxAu	RxDisL
A	1.00	1.00	0.80	0.80	1.00	0.95	0.6	1
A	2.00	1.00	0.50	0.60	1.00	0.75	0.7	0.98
A	3.00	1.50	0.40	0.60	1.00	0.8	0.7	1
C	1.00	1.00	1.00	1.00	1.00	0.7	0.4	0.92
C	1.00	1.00	1.00	1.20	0.80	0.4	0.5	0.9
C	1.00	1.00	1.00	1.40	0.60	0.3	0.9	0.9
N	1.00	1.00	0.90	0.90	1.00	0.9	0.5	0.93
N	1.00	1.00	1.00	1.00	1.00	0.6	0.7	0.85
N	1.00	1.00	1.00	1.20	0.80	0.5	0.5	0.9
N	1.20	0.80	0.70	0.70	1.00	0.7	0.6	0.95
N	1.00	1.00	1.00	1.20	0.80	0.6	0.5	0.91
N	1.00	1.00	1.00	1.00	1.00	0.75	0.4	0.92
N	1.00	1.00	1.00	1.00	1.00	0.6	0.7	0.85
N	1.00	1.00	1.00	1.20	0.80	0.5	0.5	0.9
P	1.00	1.00	1.00	1.30	0.70	0.65	0.4	0.75
P	1.00	1.00	1.00	1.40	0.60	0.3	0.3	0.75
P	1.00	1.00	1.00	1.50	0.50	0.2	1	0.9

TlkpEpivAdjst

NOTE: This documentation contains processing information for projected as well as current information. The projected data can be found in the released dataset SDEIS Landscape Variables Database (DBSLNDSV, #968).

EpivClass	ExoAdj
EH	2.00
H	1.50
L	0.50
M	1.00
N	0.01
VH	1.75
VL	0.10

TlkpGroAdjst

GroClass	ScgAdjst	SngAdjst
VL	1.00	1.00
L	1.00	1.00
M	1.10	0.90
H	1.20	0.80
VH	1.30	0.70

CLASS INTERPRETATIONS --DISTURBANCE AND MANAGEMENT ACTIVITIES

For modeling purposes it may be necessary to classify the weighted average coefficients in the deliverable dbf files. The following suggestions are provided for determining class breaks for each coefficient for this particular variable.

Time Period Definitions

Current (CUR) - Current time period generally reflects the current year (1999) plus or minus 5 years (i.e. 1994 - 2004). Developed from data and models using administrative unit data for the past 10 year or 3 year average. Reflects the average activities or disturbance from 1988 to 1997 (10 year average) or 1995 to 1997 (3 year average) and probabilities of activity and disturbance occurrence that are associated with current management prescriptions.

Future Decade (10) - Short-term future, projected 10 years into the future (2009) from the current year (1999) plus or minus 5 years (i.e. 2004-2014). Developed from data and models using the slope from the 10 year or 3 year administrative unit data and probabilities of activity and disturbance occurrence that are associated with the mapping of different management prescriptions to reflect the alternatives.

Long-term (100) - Long-term future, projected as an average of the 10 future decade projections from the current year. Developed from data and models using the current year as the starting point and probabilities of activity and disturbance occurrence that are associated with the mapping of different management prescriptions to reflect the alternatives.

Disturbance and Management Activity Classification and Class Interpretations

Annual Average Forest/Woodland Management-Restoration (FMA), Variable 9 Activity
Subwatershed current year statistics:

Average current year non-zero values:
Standard deviation current year non-zero values:
Minimum current year non-zero values:
Maximum current year non-zero values:
Number current year zeros:
Current year distribution shape: j-shape
Notes on 10 year and 100 year distribution: same class breaks and similar distribution shape as current year and same classes for S1/S2/S3.

Definition: area coefficient for amount of timber harvest, forest restoration, or rangeland encroachment restoration that produce commercial products plus amount of thinning of non-commercial products within the total subwatershed area. Current levels based on administrative unit 10 year average (1988-1997).

Classification method: j-shape distribution split into classes with 1/3 in low, moderate, high excluding the zeros (none class).

Class	***Low***	***High***	***Interpretation***
None	= 0	= 0	No timber harvest, forest restoration, or rangeland encroachment restoration resulting in commercial products and/or thinning per unit area within subwatershed. Spatial distribution highly correlated with agricultural lands and dry rangelands in current.
Low	> 0	< .00276181	Low timber harvest, forest restoration, or rangeland encroachment restoration resulting in commercial products and/or thinning per unit area - activities uncommon and only affect a small area of the subwatershed that may be in one place or scattered small patches. Spatial distribution highly correlated with the cool shrub, woodlands, and dry forest PVGs in current.
Moderate	>= .00276181	< .00899841	Moderate timber harvest, forest restoration, or rangeland encroachment restoration resulting in commercial products and/or thinning per unit area - Activities common within the subwatershed, but can be concentrated or scattered in many small patches. Spatial distribution highly correlated with the dry forest PVG in current.
High	>= .00899841	1.0	High timber harvest, forest restoration, or rangeland encroachment restoration resulting in commercial products and/or thinning per unit area - activities abundant within the subwatershed, generally distributed throughout, but can be concentrated or checkerboard. Spatial distribution highly correlated with the moist forest PVG in current.

Harvest (HRV) for Woodland/Forest Management-Restoration, Variable 9 Activity
Subwatershed current year statistics:

Average current year non-zero values:
Standard deviation current year non-zero values:
Minimum current year non-zero values:
Maximum current year non-zero values:
Number current year zeros:
Current year distribution shape: j-shape
Notes on 10 year and 100 year distribution: same class breaks and similar distribution shape as current year and same classes for S1/S3/S3.

Definition: area coefficient for amount of timber harvest, forest restoration, or rangeland encroachment restoration that produce commercial products within the total subwatershed area. Current levels based on administrative unit 10 year average (1988-1997).

Classification method: j-shape distribution split into classes with 1/3 in low, moderate, high excluding the zeros (none class).

Class	***Low***	***High***	***Interpretation***
None	= 0	= 0	No timber harvest, forest restoration, or rangeland encroachment restoration resulting in commercial products per unit area within subwatershed. Spatial distribution highly correlated with agricultural lands and dry rangelands in current.
Low	> 0	< .00175261	Low timber harvest, forest restoration, or rangeland encroachment restoration resulting in commercial products per unit area - activities uncommon and only affect a small area of the subwatershed that may be in one place or scattered small patches. Spatial distribution highly correlated with the cool shrub, woodlands, and dry forest PVGs in current.
Moderate	>= .00175261	< .00794632	Moderate timber harvest, forest restoration, or rangeland encroachment restoration resulting in commercial products per unit area - Activities common within the subwatershed, but can be concentrated or scattered in many small patches. Spatial distribution highly correlated with the dry forest PVG in current.
High	>= .00794632	1.0	High timber harvest, forest restoration, or rangeland encroachment restoration resulting in commercial products per unit area - activities abundant within the subwatershed, generally distributed throughout, but can be concentrated or checkerboard. Spatial distribution highly correlated with the moist forest PVG in current.

Non-commercial Thinning (THN), Variable 9 Planned Activity
Subwatershed current year statistics:

Average current year non-zero values:
Standard deviation current year non-zero values:
Minimum current year non-zero values:
Maximum current year non-zero values:
Number current year zeros:
Current year distribution shape: n-shape
Notes on 10 year and 100 year distribution: same class breaks and similar distribution shape as current year and same classes for S1/S2/S3.

Definition: area coefficient for amount of non-commercial thinning for forest restoration or rangeland encroachment restoration within the total subwatershed area. Current levels based on administrative unit 10 year average (1988-1997).

Classification method: n-shape distribution split into classes with 1/3 in low, moderate, high excluding the zeros (none class).

Class	***Low***	***High***	***Interpretation***
None	= 0	= 0	No thinning for forest restoration or rangeland encroachment restoration per unit area within subwatershed. Spatial distribution highly correlated with agricultural and rangelands in current.
Low	> 0	< .00153846	Low thinning for forest restoration or rangeland encroachment restoration per unit area - activities uncommon and only affect a small area of the subwatershed that may be in one place or scattered small patches. Spatial distribution highly correlated with the cool shrub, woodlands, and dry forest PVGs in current.
Moderate	>= .00153846	< .00270270	Moderate thinning for forest restoration or rangeland encroachment restoration per unit area - Activities common within the subwatershed, but can be concentrated or scattered in many small patches. Spatial distribution highly correlated with the dry forest PVG in current.
High	>= .00270270	1.0	High thinning for forest restoration or rangeland encroachment restoration per unit area - activities abundant within the subwatershed, generally distributed throughout, but can be concentrated or checkerboard. Spatial distribution highly correlated with the moist forest PVG in current.

Range Livestock Allotment Maintenance and Restoration (RST), Variable 9 Planned Activity
Subwatershed current year statistics:

Average current year non-zero values:
Standard deviation current year non-zero values:
Minimum current year non-zero values:
Maximum current year non-zero values:
Number current year zeros:
Current year distribution shape: n-shape
Notes on 10 year and 100 year distribution: same class breaks and similar distribution shape as current year and same classes for S1/S2/S3.

Definition: area coefficient for amount of range livestock allotment maintenance and restoration within the total subwatershed area. Maintenance includes annual allotment administration, weed management to avoid invasion and spread, water developments, salting, riding and fencing to achieve operating plan objectives. Restoration includes weed control, seeding, mechanical treatments, new fence construction, and new water developments. Current levels based on administrative unit 10 year average (1988-1997).

Classification method: n-shape distribution split into classes with 1/3 in low, moderate, high excluding the zeros (none class).

Class	***Low***	***High***	***Interpretation***
None	= 0	= 0	None or very little range livestock allotment maintenance and restoration within subwatershed. Spatial distribution highly correlated with agricultural, urban lands, moist forest, and cold forest PVGs in current.
Low	> 0	< .04000000	Low range livestock allotment maintenance and restoration per unit area - activities uncommon and only affect a small allotment within the subwatershed or very little activity across the whole subwatershed. Spatial distribution highly correlated with moist forest and cold forest PVGs in current.
Moderate	>= .04000000	< .06972973	Moderate range livestock allotment maintenance and restoration rate per unit area - activities common within the subwatershed, and usually distributed across most of the subwatershed. Spatial distribution highly correlated with the dry forest and the dry end of the moist forest in current.
High	>= .06972973	1.0	High range livestock allotment maintenance and restoration rate per unit area - activities abundant within the subwatershed and generally distributed throughout. Spatial distribution highly correlated with the non-forest rangelands and dry forest PVG in current.

Fire Activity and Disturbance (FAD) - Total Wildfire + Prescribed Fire + Prescribed Natural Fire, Variable 9 Unplanned Disturbance & Planned Activities
Subwatershed current year statistics:

Average current year non-zero values:
Standard deviation current year non-zero values:
Minimum current year non-zero values:
Maximum current year non-zero values:
Number current year zeros:
Current year distribution shape: j-shape
Notes on 10 year and 100 year distribution: same class breaks and similar distribution shape as current year and same classes for S1/S2/S3.

Definition: area coefficient for amount of wildfire, wildland fire use for resource benefit (prescribed natural fire), and prescribed fire within the total subwatershed area. Current levels based on administrative unit 10 year average (1988-1997).

Classification method: j-shape distribution split into classes with 1/3 in low, moderate, high excluding the zeros (none class).

Class	***Low***	***High***	***Interpretation***
None	= 0	= 0	No fire activity or disturbance per unit area within subwatershed. Spatial distribution highly correlated with agricultural and urban lands in current.
Low	> 0	< .00226908 (6/7/99 version < .00227280)	Low fire activity or disturbance per unit area - occurrence < 1 times in 100 years and only affects a small area of the subwatershed and typically in one area. Spatial distribution highly correlated with the dry (desert) end of the dry shrub and the cold forest PVGs in current.
Moderate	< .00226908 (6/7/99 version < .00227280)	< .00855623 (6/7/99 version < .00855142)	Moderate fire activity or disturbance per unit area - occurrence 1-2 times in 100 years and can effect a large area of the subwatershed, but often concentrated in one area. Spatial distribution highly correlated with the dry shrub, cool shrub, and moist forest in current.
High	>= .00855623 (6/7/99 version >= .00855142)	some values can be > 1.0 (6/7/99 version = 1.0)	High fire activity or disturbance per unit area - occurrence > 2 times in 100 years in the subwatershed, commonly distributed throughout, but can be concentrated in one large area. Spatial distribution highly correlated with the dry end of the moist forest, dry forest, and moist end of the dry shrub PVGs in current. A small number of values can occur that are greater than 1.0. This occurs where the gross area sum of wildfire, prescribed fire, and prescribed natural fire exceed the area of the 6HUC. In these cases the net area sum would be < = 1.0.

Wildfire (WLF), Variable 9 Unplanned Disturbance
Subwatershed current year statistics:

Average current year non-zero values:
Standard deviation current year non-zero values:
Minimum current year non-zero values:
Maximum current year non-zero values:
Number current year zeros:
Current year distribution shape: j-shape
Notes on 10 year and 100 year distribution: same class breaks and similar distribution shape as current year and same classes for S1/S2/S3.

Definition: area coefficient for amount of wildfire within the total subwatershed area. Current levels based on administrative unit 10 year average (1988-1997). Typically wildfires burn in the summer and early fall. Wildfires typically have high resistance to control once they become larger than 40 hectares (100 acres). The amount of wildfire has low correlation with severe or uncharacteristic fire effects.

Classification method: j-shape distribution split into classes with 1/3 in low, moderate, high excluding the zeros (none class).

Class	***Low***	***High***	***Interpretation***
None	= 0	= 0	No wildfire per unit area within subwatershed. Spatial distribution highly correlated with agricultural and urban lands in current.
Low	> 0	< .00165965	Low wildfire per unit area - wildfire occurrence < 1 time in 100 years and only affects a small area of the subwatershed and typically in one area. Spatial distribution highly correlated with the dry (desert) end of the dry shrub and the cold forest PVGs in current.
Moderate	>= .00165965	< .00708283	Moderate wildfire per unit area - wildfire occurrence 1-2 times in 100 years and can effect a large area of the subwatershed, but often concentrated in one area. Spatial distribution highly correlated with the dry shrub, cool shrub, and moist forest in current.
High	>= .00708283	note - some values can be > 1.0 (6/7/99 version = 1.0)	High wildfire per unit area - wildfire occurrence > 2 times in 100 years in the subwatershed, commonly distributed throughout, but can be concentrated in one large area. Spatial distribution highly correlated with the dry end of the moist forest, dry forest, and moist end of the dry shrub PVGs in current. In a small number of cases the gross area of wildfire can be modeled to exceed the area of the 6HUC. This is just a ratio function related to the underlying administrative unit data on wildfire and should be assumed to = 1.0.

Prescribed Natural Fire (PNF), Wildland Fire Use - Variable 9 Activity
Subwatershed current year statistics:

Average current year non-zero values:
Standard deviation current year non-zero values:
Minimum current year non-zero values:
Maximum current year non-zero values:
Number current year zeros:
Current year distribution shape: j-shape
Notes on 10 year and 100 year distribution: same class breaks and similar distribution shape as current year and same classes for S1/S2/S3.

Definition: area coefficient for amount of wildland fire use for resource benefit (prescribed natural fire) within the total subwatershed area. These are summer/fall lightning ignitions that are not suppressed because they meet a prescription for fire behavior that is specified in a fire management plan. Even though they burn under a prescription for fire behavior they may be burning in unnaturally high fuel levels or altered conditions (such as cheatgrass or other exotics) and dry conditions that can cause uncharacteristic fire effects. Burn periods can last up to 60 days for a prescribed natural fire. Current levels based on administrative unit 3 year average (1995-1997).

Classification method: j-shape distribution split into classes with 1/3 in low, moderate, high excluding the zeros (none class).

Class	***Low***	***High***	***Interpretation***
None	= 0	= 0	No wildland fire for resource benefit (prescribed natural fire) per unit area within subwatershed. Spatial distribution highly correlated other land ownerships, roaded management classes, and EEIS management area in current.
Low	> 0	< .00104167 (6/7/99 version < .00000077)	Low wildland fire for resource benefit (prescribed natural fire) per unit area - activities uncommon and only affect a small area of the subwatershed and typically in one area. Spatial distribution highly correlated with small wilderness, wilderness study areas, or roadless areas in UCRB and GYE management regions in current.
Moderate	>= .00104167 (6/7/99 version >= .00000077)	>=.00192308 (6/7/99 version >= .00133333)	Moderate wildland fire for resource benefit (prescribed natural fire) per unit area - Activities common within the subwatershed, but typically concentrated in one area. Spatial distribution highly correlated with the periphery of moderate to large size wilderness, wilderness study areas, or roadless areas in UCRB and GYE management regions in current.
High	>= .00192308 (6/7/99 version >= .00133333)	1.0	High wildland fire for resource benefit (prescribed natural fire) per unit area - activities abundant within the subwatershed, generally distributed throughout, but could be concentrated in one large area. Spatial distribution highly correlated with the interior of large wilderness, wilderness study areas, or roadless areas in UCRB and GYE management regions in current.

Prescribed Fire and Fuel Management (PRS), Variable 9 Planned Activity
Subwatershed current year statistics:

Average current year non-zero values:
Standard deviation current year non-zero values:
Minimum current year non-zero values:
Maximum current year non-zero values:
Number current year zeros:
Current year distribution shape: j-shape
Notes on 10 year and 100 year distribution: same class breaks and similar distribution shape as current year and same classes for S1/S2/S3.

Definition: area coefficient for amount of prescribed fire and fuel management within the total subwatershed area. Current levels based on administrative unit 3 year average (1995-1997). These are spring, summer or fall management ignitions designed to meet a prescription for both fire behavior and effects that is specified in a prescribed fire burn plan. In roaded areas with forest there may be considerable mechanical fuel reduction to reduce small diameter understory woody fuels. This may provide considerable opportunity for fuel wood, post, and pole type materials. Even though they may burn in unnaturally high fuel levels or altered conditions (such as cheatgrass or other exotics) the burn plan attempts to minimize uncharacteristic fire effects. Burn periods typically only last 1-2 days as compared to up to 60 days for a prescribed natural fire. Current levels based on administrative unit 3 year average (1995-1997).

Classification method: j-shape distribution split into classes with 1/3 in low, moderate, high excluding the zeros (none class).

Class	***Low***	***High***	***Interpretation***
None	= 0	= 0	No prescribed fire and fuel management per unit area within subwatershed. Spatial distribution highly correlated with agricultural and urban lands in current
Low	> 0	< .00006483	Low prescribed fire and fuel management per unit area - activities uncommon and only affect a small area of the subwatershed and typically in one area. Spatial distribution highly correlated with dry rangelands, cold forest, and moist and wet ends of the moist forest PVGs in current.
Moderate	>= .00006483	< .00093908	Moderate prescribed fire and fuel management per unit area - Activities common within the subwatershed, and usually distributed in a mosaic. Spatial distribution highly correlated with the cool shrub and grassland PVGs in current.
High	>= .00093908	1.0	High prescribed fire and fuel management per unit area - activities abundant within the subwatershed, generally distributed throughout. Spatial distribution highly correlated with the dry forest and dry end of the moist forest PVGs in current.

Authorized Animal Unit Months (AUM), Variable 9 Activity
Subwatershed current year statistics:

Average current year non-zero values:
Standard deviation current year non-zero values:
Minimum current year non-zero values:
Maximum current year non-zero values:
Number current year zeros:
Current year distribution shape: j-shape
Notes on 10 year and 100 year distribution: same class breaks and similar distribution shape as current year and same classes for S1/S2/S3.

Definition: relative coefficient of forest or rangeland livestock grazing animal unit months for the total subwatershed area. An animal unit month is generally equivalent to one cow/calf pair or 5 sheep for one month. Rangeland health, riparian condition, or achievement of properly functioning conditions are highly correlated with the combination of numbers of AUMs, allotment management for distribution and season of use, terrain, fencing and water developments, class of livestock, and vegetation condition. This combination is reflected in the variable Uncharacteristic Livestock Grazing (variable 15).
Classification method: j-shape distribution split into classes with 1/3 in low, moderate, high excluding the zeros (none class).

Class	***Low***	***High***	***Interpretation***
None	= 0	= 0	None or almost no forest or rangeland livestock grazing per unit area within subwatershed. Spatial distribution highly correlated with agriculture and urban lands and the cold and moist forest in current.
Low	> 0	< .21150780	Low livestock grazing per unit area - livestock scattered within subwatershed. Negative effects of concentrated livestock in riparian areas and near stock water can occur in steep, complex topography. Stocking levels may be appropriate depending on the terrain, disturbance regime, and productivity. Spatial distribution highly correlated with the dry shrub PVG in current.
Moderate	>= .21150780	< .71019864	Moderate livestock grazing per unit area - livestock common within the subwatershed. Negative effects of concentrated livestock in riparian areas and near stock water can occur in steep, complex topography. Stocking levels may be appropriate depending on the terrain, disturbance regime, and productivity. Spatial distribution highly correlated with the dry and moist forest PVGs in S1.

Class	*Low*	*High*	*Interpretation*
High	>= .71019864	note - some values can be > 1.0	High livestock grazing per unit area - livestock abundant through the growing season; even distribution across suitable forage areas of the subwatershed. Negative effects of concentrated livestock in riparian areas and near stock water can occur in steep, complex topography. Stocking levels may be appropriate depending on the terrain, disturbance regime, and productivity. Spatial distribution highly correlated with the dry forest and cool shrub PVGs in current. A fair number of values can exceed 1.0 because AUMs are number of months of animal units and not an area.