

**Forest Service Handbook  
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**Forest Service Handbook 1909.14 – Resource Inventory Handbook**

**Chapter 20 - National Inventory Information Specifications**

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**Responsible Staff:**

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This chapter lists the land, soil, timber, forage, water, air, fish and wildlife, aesthetics, recreation, wilderness, energy and mineral resource inventory-derived information that may be needed for the development of the 1999 Resources Planning Act Assessment, State survey reports, land and resource management planning in the 1990s, and other information requiring national or international standardization.

## **20.2 - Objective**

To work toward establishing standards and definitions for inventory-derived information that may be needed to produce Resources Planning Act Assessments; develop State survey reports and Forest Land and Resource Management Plans; meet other national or international needs; and to ensure data from the field are comparable and can be aggregated.

## **20.3 - Policy**

Field offices are required to provide specified information to develop the Resources Planning Act Assessment, State Survey Reports, Forest Plans, and to meet other national needs as appropriate. These requirements are found in direction in FSM/FSH for specific activities.

Use existing data sources where appropriate. Existing data sources include, but are not limited to, reports, maps, geographical information systems, and data bases.

Where new data are required, use remote sensing, modeling techniques, or field surveys.

Where new field surveys are warranted, use established national definitions, measurement rules and standards to ensure maximum benefits for all resource functions as defined in the Interim Resource Inventory Glossary and other sources.

## **21 - Format Explanation**

The inventory-derived information specifications are listed by primary uses.

Each primary use is further divided into functional responsibilities. Specific inventory-derived information specifications are listed for each function.

Inventory variables or data elements normally needed to produce the information are also listed. A "Y" in any column of the exhibits means that that data element may be needed to generate the indicated information.

For example, sec. 23.1 identifies the inventory-derived information that may be needed to produce the range and livestock portion of the 1999 Resources Planning Act Assessment. One grouping of information is that for "livestock suitability". In order to run the models to derive the information, data elements such as ecological type and forage production, may need to be

measured in the field. These variables, ecological type and forage production, are defined in the Interim Resource Inventory Glossary or the Forest Service Atlas.

### **21.1 - Function Identification**

The following codes are used in the remainder of this chapter to identify specific resource functions:

RGE is Range and Livestock (Sections 23.1, 25.1 and 26.1).  
REC is Recreation and Wilderness (Sections 23.2 and 25.2).  
TIM is Timber (Sections 23.3, 24.3 and 25.3).  
WSH/AIR is Watershed and Air (Sections 23.4, 25.4 and 26.4).  
WLF/FIS is Wildlife and Fisheries (Sections 23.5 and 25.5).  
GEO is Minerals and Geology (Sections 23.6, 25.6 and 26.6).  
LND is Lands (Sections 23.7, 25.7 and 26.7).  
FIR is Fire (Sections 23.8, 25.8 and 26.8).

### **21.2 - Data Element (Variable) Type**

For ease of reference, data elements or variables are grouped by classes as follows:

A = Air and Climate Related Variables  
E = Ecology Related Variables  
F = Fish/Wildlife Related Variables  
G = Geology Related Variables  
L = Lands and Land Status Related Variables  
R = Resource and Land Use Related Variables  
S = Soil Related Variables  
V = Vegetation Related Variables  
W = Water Related Variables

Variables are listed alphabetically within these groupings in the exhibits in the remainder of this chapter.

## **23 - Resources Planning Act Assessment**

Exhibit 01 lists the inventory derived information that has been used in the past as well as that which may be used in the future to develop the National Information Requirements Project Legal Report 1900-A, Resources Planning Act Assessment. Use exhibit 01 to coordinate data collection, maintenance, and sharing across functions.

**23 - EXHIBIT 01 IS A SEPARATE DOCUMENT.**

## 23.1 - Range and Livestock

Exhibit 01 lists the data elements that have been used in the past as well as those that may be used in the future to develop the inventory-derived range information to meet the needs of the Resources Planning Act Assessment.

RGE-1 is Land Use. Land areas by land cover category, land use class, ecosystem, ownership, Regions, and States.

RGE-2 is Forest/Rangeland. Land areas by ecosystem, ecological type and cover type.

RGE-3 is Livestock Suitability. Includes forage production and accessibility.

RGE-4 is Soil Protection. Includes soil erosion types, erosion severity, soil compaction, and soil cover. Soil stability is displayed in number of acres that are as satisfactory or unsatisfactory.

RGE-5 is Ecological Status and Resource Value Rating for livestock forage condition. Used to display floristic similarity of the current vegetation to the potential natural community and for rating livestock forage condition in acres. It is displayed in four categories and two condition classes: low, moderate and high similarity and potential natural community. Acres are rated as either satisfactory or unsatisfactory for livestock forage condition.

RGE-6 is Livestock Uses. Displayed in numbers of livestock and AUM's of grazing by Forest and State.

RGE-7 is Treatment Class. Display of acres by category.

Forage production estimates should have a precision of  $\pm 20$  percent at the 80 percent probability level.

## 23.1 - Exhibit 01

### RANGE RESOURCE RELATED DATA ELEMENTS WHICH MAY BE NEEDED FOR RESOURCES PLANNING ACT ASSESSMENTS

Type <sup>1</sup>	Data Element Name	RGE	-1	-2	-3	-4	-5	-6	-7 <sup>2</sup>
E	Ecological Status		~	~	~	~	Y <sup>3</sup>	~	~
E	Ecological Type (Habitat Type)		~	Y	Y	~	Y	~	~
E	Ecological Unit		~	Y	Y	Y	Y	~	~
E	Ecoregion Code		Y	Y	Y	Y	Y	Y	Y
E	Ecosystem/Cover Type		Y	Y	Y	Y	Y	Y	Y
E	Potential Natural Community		~	~	~	~	Y	~	~
E	Trend		~	~	~	~	Y	~	~
L	Administrative Unit		Y	Y	Y	Y	Y	Y	Y
L	Ownership		Y	~	~	~	~	~	~
L	Private Forest Land Owner		Y	~	~	~	~	~	~
L	Region/Station/Area		Y	Y	Y	Y	Y	Y	Y
L	State/Territory		Y	Y	Y	Y	Y	Y	Y
L	Withdrawals		Y	~	~	~	~	~	~
R	Land Use Class		Y	~	~	~	~	~	~
R	Range Treatment Class		~	~	~	~	~	~	Y
R	Time Since Disturbance		~	~	~	~	~	~	Y
S	Depth to Bedrock or Restriction		~	~	~	Y	Y	~	~
S	Soil Cover		~	~	~	Y	Y	~	~
S	Soil Drainage Class		~	~	~	Y	~	~	~
S	Soil Structure		~	~	~	Y	~	~	~
S	Soil Taxonomic Unit		~	~	Y	~	Y	~	~
S	Soil Texture		~	~	~	Y	Y	~	~
V	Basal Area		~	~	~	~	Y	~	~
V	Canopy Cover		~	~	~	Y	Y	~	~
V	Crown Class		~	~	~	~	Y	~	~
V	Crown Closure (Cover)		~	~	~	~	Y	~	~
V	Crown Foliage Density		~	~	~	~	Y	~	~
V	Crown Form (Shape)		~	~	~	~	Y	~	~
V	Crown Length (Depth)		~	~	~	~	Y	~	~
V	Crown Ratio		~	~	~	~	Y	~	~
V	Crown Volume Percent		~	~	~	~	Y	~	~
V	Crown Width (Diameter)		~	~	~	~	Y	~	~
V	Diameter at Breast Height (d.b.h.)		~	~	~	~	Y	~	~
V	Forage Utilization		~	~	Y	~	Y	~	Y
V	Forest Land Class		~	~	~	~	Y	~	~
V	Height Growth		~	~	~	~	Y	~	~
V	Height to Crown, Compacted		~	~	~	~	Y	~	~
V	Height to Crown, Uncompacted		~	~	~	~	Y	~	~
V	Land Cover Category		Y	~	~	~	~	~	~

### 23.1 - Exhibit 01--Continued

Type <sup>1</sup>	Data Element Name	RGE	-1	-2	-3	-4	-5	-6	7 <sup>2</sup>
V	Production, Forage		~	~	Y	~	Y	~	~
V	Radial Growth (Increment)		~	~	~	~	Y	~	~
V	Seedling/Shrub Count		~	~	~	~	Y	~	~
V	Site Index		~	~	~	~	Y	~	~
V	Site Productivity Class		~	~	~	~	Y	~	~
V	Site Tree Quality		~	~	~	~	Y	~	~
V	Stand Age		~	~	~	~	Y	~	~
V	Stand History		~	~	~	~	Y	~	~
V	Stand Origin		~	Y	~	~	~	~	Y
V	Stocking Percent		~	~	~	~	Y	~	~
V	Tree Age		~	~	~	~	Y	~	~
V	Tree Length (Height)		~	~	~	~	Y	~	~
V	Vegetation Height		~	~	~	~	Y	~	~

E = Ecology Related Variables

L = Lands and Land Status Related Variables

R = Resource and Land Use Related Variables

S = Soil Related Variables

V = Vegetation Related Variables

Variables are listed alphabetically within these groupings and are defined in the Interim Resource Inventory Glossary.

<sup>1</sup> Data Element (Variable) Type. For ease of reference, data elements or variables are grouped by classes as follows:

<sup>2</sup> Use Identification. See section 23.1 for codes.

<sup>3</sup> "Y" indicates the data element may be needed to generate the specified information.

## **23.2 - Recreation and Wilderness**

Exhibit 01 lists the data elements that have been used in the past as well as those that may be used in the future to develop the inventory-derived recreation information to meet the needs of the Resources Planning Act Assessment.

REC-1 is Recreation Use (including use numbers and patterns). This data element is used for 1989 RPA Assessment Tables in the Outdoor Recreation and Wilderness Situation Document (Tables II-12 to IV-2 and Figures II-3 to II-7).

REC-2 is Recreation Characteristics (including the physical and biological characteristics that make land suitable for recreation opportunities and their availability). These data are used in the 1989 Assessment to describe the various physical characteristics present at NFS recreation areas. Tables I-1 to I-6 and Figures I-1 to II-2 and II-8 to IV-6 in the 1989 Assessment for Recreation includes these data.

REC-3 is Alternative Recreation Sites. This is the listing of the various types and characteristics of NFS Recreation sites. Used by 1989 RPA Assessment in Fig. I-9 and Tables I-1 to II-1.



## 23.2 - Exhibit 01

### RECREATION AND WILDERNESS RESOURCE RELATED DATA ELEMENTS WHICH MAY BE NEEDED FOR RESOURCES PLANNING ACT ASSESSMENTS

Type <sup>1</sup>	Data Element Name REC	-1	-2	-3 <sup>2</sup>
A	Precipitation, Average Annual	~	Y <sup>3</sup>	Y
E	Ecosystem/Cover Type	~	Y	Y
G	Landforms	~	Y	Y
L	Administrative Unit	Y	Y	Y
L	Region/Station/Area	Y	Y	Y
L	State/Territory	Y	Y	Y
R	Land Use Class	~	Y	Y
R	Public Access	~	Y	~
R	Recreation Opportunity Class	~	Y	Y
R	Recreation Use	Y	~	Y
R	Road Functional Class	~	Y	Y
R	Road Surface	~	Y	Y
R	Road System	~	Y	Y
R	Time Since Disturbance	~	Y	Y
R	Traffic Lanes	~	Y	Y
V	Land Cover Category	~	Y	Y
V	Plant Species	~	Y	Y
V	Stand Age	~	Y	Y
V	Stand History	~	Y	Y
V	Stand Origin	~	Y	Y
V	Stand Structure	~	Y	Y
V	Tree Age	~	Y	Y

A = Air and Climate Related Variables

E = Ecology Related Variables

G = Geology Related Variables

L = Lands and Land Status Related Variables

R = Resource and Land Use Related Variables

V = Vegetation Related Variables

Variables are listed alphabetically within these groupings and are defined in the Interim Resource Inventory Glossary.

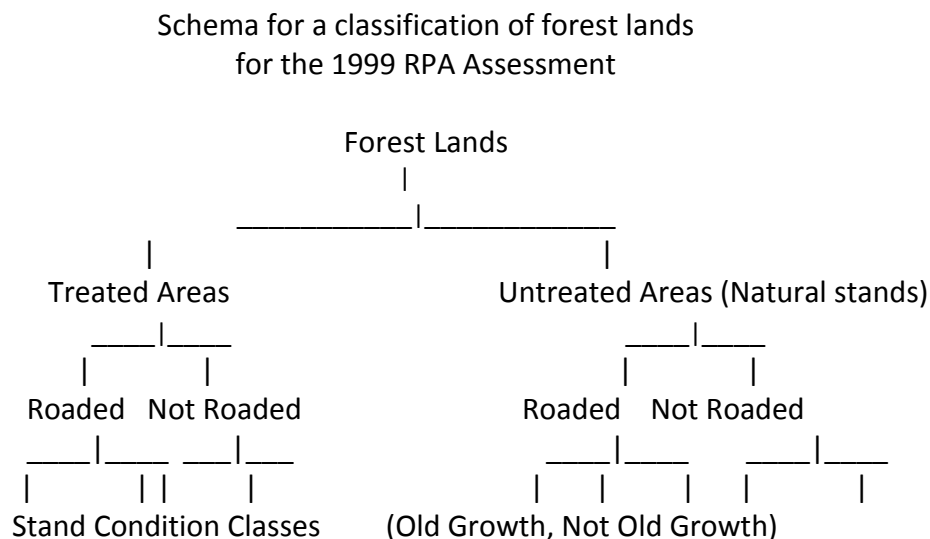
<sup>1</sup> Data Element (Variable) Type. For ease of reference, data elements or variables are groups by classes as follows:

<sup>2</sup> Use Identification. See section 23.12 for codes.

<sup>3</sup> "Y" indicates the data element may be needed to generate the specified information.

### 23.3 - Timber

The following schema outlines the classes for which area and volume information is usually required.



Use the same schema for timberland and woodlands. Report both acres and total volumes.

Exhibit 01 lists the data elements that have been used in the past as well as those that may be used in the future to develop the inventory-derived timber information to meet the needs of the Resources Planning Act Assessment.

TIM-1 is Land Areas by Major Forest Land Classes and Conditions, Forest Types, Productivity Classes, Ownerships, Regions, and States. This covers data used in the 1989 RPA Assessment Tables 3-1 and 3-2 and adds provisions for tracking roaded areas, treated and natural stands, stand condition (old growth) and treatment opportunities for the 1999 Assessment.

TIM-2 is Volume by Forest Type and Condition, Timber Class, Species, Diameter Class, Ownership, Region, and State. This covers data used in the 1989 RPA Assessment Tables 3.3 thru 3.7 and adds provisions for tracking volume and phytomass (biomass) under the same area classes given in TIM-1 for the 1999 Assessment.

TIM-3 is Growth and Mortality estimates by Forest Conditions, Ownership, Region, and State. This covers data used in the 1989 RPA Assessment Tables 3.8 thru 3.10 and adds provisions for tracking Growth and Mortality under the same area classes given in TIM-1 for the 1999 Assessment.

TIM-4 is Removals and Other Wood Products by Ownership, Region, and State. This covers data used in the 1989 RPA Assessment Tables 3.11 thru 3.15.

Estimates of growing stock volume, where economically practical, are to be within  $\pm 10$  percent ( $\pm 5$  percent in Regions 8 and 9) on non-withdrawn forest land per billion gross cubic feet of volume at the 67 percent confidence level. Area estimates, where economically practical, are to be within  $\pm 10$  percent for withdrawn forest land and  $\pm 3$  percent for non-withdrawn forest land per million acres at the 67 percent confidence level.

### 23.3 - Exhibit 01

TIMBER RESOURCE RELATED DATA ELEMENTS WHICH  
MAY BE NEEDED FOR RESOURCES  
PLANNING ACT ASSESSMENTS

Type <sup>1</sup>	Data Element Name	TIM	-1	-2	-3	-4 <sup>2</sup>
E	Ecosystem/Cover Type		Y <sup>3</sup>	Y	Y	Y
L	Administrative Unit		Y	Y	Y	Y
L	Ownership		Y	Y	Y	Y
L	Private Forest Land Owner		Y	Y	Y	Y
L	Region/Station/Area		Y	Y	Y	Y
L	State/Territory		Y	Y	Y	Y
L	Subregion		Y	Y	Y	Y
L	Withdrawals		Y	Y	Y	Y
R	Land Use Class		Y	Y	Y	Y
R	Timber Treatment Opportunity Class		Y	~	~	~
V	Bark Thickness		Y	Y	Y	Y
V	Basal Area		Y	~	~	~
V	Bole Length		Y	Y	Y	Y
V	Bole Top Diameter		Y	Y	Y	Y
V	Butt Log Grade		Y	Y	Y	Y
V	Cause of Death/Injury		Y	Y	Y	Y
V	Crown Class		Y	Y	Y	Y
V	Crown Closure (Cover)		Y	Y	Y	Y
V	Crown Length (Depth)		~	~	Y	Y
V	Crown Ratio		Y	Y	Y	Y
V	Crown Width (Diameter)		~	~	Y	Y
V	Diameter at Breast Height (d.b.h.)		Y	Y	Y	Y
V	Diameter, Basal		Y	Y	Y	Y
V	Forest Land Class		Y	Y	Y	Y
V	Height Growth		Y	Y	Y	Y
V	Height to Crown, Compacted		Y	Y	Y	Y
V	Land Cover Category		Y	~	~	~
V	Mistletoe Infection Rating		Y	Y	Y	Y
V	Most Hazardous Pest		Y	Y	Y	Y
V	Plant Species		Y	Y	Y	Y
V	Principle Defect		Y	Y	Y	Y
V	Radial Growth (Increment)		Y	Y	Y	Y
V	Sawlog Length		Y	Y	Y	Y
V	Sawlog Top Diameter		Y	Y	Y	Y
V	Seedling/Shrub Count		Y	~	~	~
V	Site Index		Y	~	~	~
V	Site Productivity Class		Y	~	~	~
V	Site Tree Quality		Y	Y	Y	Y
V	Stand Age		~	Y	Y	Y

### 23.3 - Exhibit 01--Continued

Type <sup>1</sup>	Data Element Name	TIM	-1	-2	-3	-4 <sup>2</sup>
V	Stand Condition		~	~	Y	Y
V	Stand Origin		Y	~	~	~
V	Stand Size Class		~	Y	~	~
V	Stand Structure		~	~	Y	Y
V	Stand Year of Origin		~	Y	Y	Y
V	Stocking Percent		Y	~	~	~
V	Tree Age		Y	Y	Y	Y
V	Tree Class		Y	Y	Y	Y
V	Tree History		Y	Y	Y	Y
V	Tree Length (Height)		Y	Y	Y	Y
V	Tree Top Condition		Y	Y	Y	Y
V	Tree Volume		Y	Y	Y	Y
V	Vegetation Density		Y	~	Y	Y

E = Ecology Related Variables

L = Lands and Land Status Related Variables

R = Resource and Land Use Related Variables

V = Vegetation Related Variables

Variables are listed alphabetically within these groupings and are defined in the Interim Resource Inventory Glossary.

<sup>1</sup> Data Element (Variable) Type. For ease of reference, data elements or variables are groups by classes as follows:

<sup>2</sup> Use Identification. See section 23.3 for codes.

<sup>3</sup> "Y" indicates the data element may be needed to generate the specified information.

## **23.4 - Watershed and Air**

Exhibit 01 lists the data elements that have been used in the past as well as those that may be used in the future to develop the inventory-derived watershed information to meet the needs of the Resources Planning Act Assessment.

WSH-1 is Soil Capability Rating (area). This is rating of the potential suitability of soils for different users and for predicting the behavior, productivity, and performance of soil under management. This is derived from soil resource inventories as described in FSM 2551 and FSH 2509.18, chapter 1.

WSH-2 is Municipal Water Supplies. These are municipal supply watersheds that serve a public water system as defined in Public Law 93-523 (Safe Drinking Water Act); or as defined in State safe drinking water regulations. The definition does not include communities served by well or confined ground water unaffected by Forest Service activities. See FSM 2542.05 and 2542.1.

WSH-3 is Water Uses (consumptive and non-consumptive). These are the uses and amounts of use used at the present or needed in the future to meet Forest Service goals and objectives identified in Forest Land Management Plans. See FSM 2541.1.

WSH-4 is Flood Hazards. These are flood risks both natural and man-induced that pose a threat to facilities, lands, and investments, both on and off National Forest Lands. See FSM 2527.05 and 2527.1.

WSH-5 is Watershed Condition (area). These are watersheds categorized into one of three classes of watershed conditions. The classes are relative descriptions of the health of a watershed in terms of the factors which affect favorable conditions of flow and soil productivity. Management objectives are the standards for determining condition classes. See 36 CFR 219.23 e.

WSH-6 is Water Yield. This is the volume of water measured, modeled, or estimated from specified watersheds, management areas, or administrative units that result in stream flow or ground water recharge from National Forest Lands. See 36 CFR 219.23 c.

WSH-7 is Improvement Opportunities. These are soil or water improvement projects implemented within a defined watershed to improve watershed conditions. These projects are implemented for rehabilitation of degraded lands or protection to maintain or improve natural watershed conditions. See FSM 2522.

WSH-8 is Water Quality. This is an expression of the suitability of the water resource in streams, lakes, ground water, and other water bodies to support beneficial uses of that water. See 36 CFR 219.23 d and e.

WSH-9 is Riparian Area. This includes riparian ecosystems, aquatic ecosystems, and wetlands. Refer to FSM 2526 and 36 CFR 219.23 f.

WSH-10 is Ground water (quantity). This is for the inventories of ground water resources, including recharge and discharge areas. See FSM 1922.15, 25.

WSH-11 is Instream Flow Needs. Determinations of instream water flow needs for maintaining favorable conditions of flow and meet forest land management objectives. See 36 CFR 219.23 a.

Exhibit 02 lists the data elements that have been used in the past as well as those that may be used in the future to develop the inventory-derived air information to meet the needs of the Resources Planning Act Assessment.

AIR-1 is the current condition of the perceived visibility over National Forest System Lands. It is both quantifiable and qualitative data from an array of manual and automated visibility monitoring sites.

AIR-2 is the current condition of the floral health as a direct and indirect result of air pollution.

AIR-3 is the current condition of the fauna health as a direct and indirect result of air pollution.

AIR-4 is the current condition of important geological formations as they have been affected by air pollution.

AIR-5 is the current condition of cultural resources as they have been affected by air pollution.

AIR-6 is the current condition of unnatural odors introduced as a direct or indirect result of air pollution.

## 23.4 - Exhibit 01

### WATERSHED RESOURCE RELATED DATA ELEMENTS WHICH MAY BE NEEDED FOR RESOURCES PLANNING ACT ASSESSMENTS

Type <sup>1</sup>	Data Element Name WSH	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11 <sup>2</sup>
A	Precipitation, Hourly	~	~	~	~	~	~	~	~	~	Y <sup>3</sup>	~
E	Ecological Unit	~	~	~	~	Y	Y	Y	Y	Y	Y	~
G	Landforms	Y	~	~	~	Y	~	~	~	Y	Y	~
L	Administrative Unit	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
L	Region/Station/Area	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
L	State/Territory	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
R	Land Use Class	~	~	~	~	~	~	~	~	Y	~	~
S	Erosion Severity	Y	~	~	~	Y	~	Y	Y	~	~	~
S	Mass Stability	Y	~	~	~	Y	~	~	~	~	Y	~
S	Soil Cover	Y	~	~	Y	Y	~	Y	~	Y	~	~
S	Soil Erosion Type	Y	~	~	~	Y	~	Y	~	~	~	~
S	Soil Map Unit	Y	~	~	~	Y	~	~	~	Y	~	~
S	Soil Taxonomic Unit	Y	~	~	~	Y	~	~	~	Y	~	~
V	Land Cover Category	~	~	~	~	~	~	~	~	Y	~	~
W	Channel Entrenchment	~	Y	Y	Y	Y	Y	Y	Y	Y	~	Y
W	Channel Gradient	~	~	Y	Y	Y	Y	~	~	Y	~	Y
W	Embeddedness	~	~	Y	~	Y	~	Y	Y	Y	~	Y
W	Hydrologic Unit Code	~	Y	Y	Y	Y	Y	~	Y	~	Y	~
W	Stream Type	~	Y	Y	Y	Y	Y	Y	Y	Y	~	Y
W	Stream Width	Y	~	~	Y	Y	~	~	~	~	~	~
W	Suspended Sediment	~	Y	Y	~	Y	~	~	Y	~	~	~

<sup>1</sup> Data Element (Variable) Type. For ease of reference, data elements or variables are grouped by classes as follows:

- A = Air and Climate Related Variables
- E = Ecology Related Variables
- G = Geology Related Variables
- L = Lands and Land Status Related Variables
- R = Resource and Land Use Related Variables
- S = Soil Related Variables
- V = Vegetation Related Variables
- W = Water Related Variables

Variables are listed alphabetically within these groupings and are defined in the Interim Resource Inventory Glossary.

<sup>2</sup> Use Identification. See section 23.4 for codes.

<sup>3</sup> "Y" indicates the data element may be needed to generate the specified information.



## 23.4 - Exhibit 02

### AIR RESOURCE RELATED DATA ELEMENTS WHICH MAY BE NEEDED FOR RESOURCES PLANNING ACT ASSESSMENTS

Type <sup>1</sup>	Data Element Name	AIR	-1	-2	-3	-4	-5	-6 <sup>2</sup>
A	Chemistry, Atmospheric	Y <sup>3</sup>	Y	Y	Y	Y	Y	Y
A	Chemistry, Snowpack	Y	Y	Y	Y	Y	Y	~
A	Odor Type and Concentration	~	~	~	~	Y	Y	~
A	Pollutant Loading	Y	Y	~	~	Y	Y	~
A	Precipitation, Average Annual	Y	Y	Y	Y	Y	Y	~
A	Relative Humidity	Y	Y	Y	Y	Y	Y	~
A	Visual Quality	Y	~	~	~	~	~	~
A	Visual Range	Y	~	~	~	~	~	~
E	Ecological Status	Y	Y	~	~	~	~	~
E	Ecological Type (Habitat Type)	Y	Y	~	~	~	~	~
E	Ecosystem/Cover Type	~	~	Y	Y	~	~	~
E	Potential Natural Community	Y	Y	~	~	~	~	~
F	T & E Species Habitat	Y	Y	~	~	~	~	~
F	Wildlife/Fish/T&E Abundance	Y	Y	~	~	~	~	~
G	Mineral Resource	~	~	Y	~	~	~	~
G	Paleontological Resources	~	~	~	Y	~	~	~
L	Administrative Unit	Y	Y	Y	Y	Y	Y	Y
L	Region/Station/Area	Y	Y	Y	Y	Y	Y	Y
L	State/Territory	Y	Y	Y	Y	Y	Y	Y
R	Land Use Class	Y	Y	Y	Y	Y	Y	Y
R	Wildlife & Fish User Days (WFUD)	Y	Y	~	~	~	~	~
S	Soil Taxonomic Unit	Y	Y	Y	~	~	~	~
V	Cause of Death/Injury	Y	Y	~	~	~	~	~
V	Land Cover Category	Y	Y	Y	Y	Y	Y	Y
V	Plant Species	Y	~	~	~	~	~	~
W	Chemistry, Water	Y	Y	~	~	~	~	~

A = Air and Climate Related Variables

E = Ecology Related Variables

F = Fish/Wildlife Related Variables

G = Geology Related Variables

L = Lands and Land Status Related Variables

R = Resource and Land Use Related Variables

S = Soil Related Variables

V = Vegetation Related Variables

W = Water Related Variables

Variables are listed alphabetically within these groupings and are defined in the Interim Resource Inventory Glossary.

<sup>1</sup> Data Element (Variable) Type. For ease of reference, data elements or variables are grouped by classes as follows:

<sup>2</sup> Use Identification. See section 23.4 for codes.

<sup>3</sup> "Y" indicates the data element may be needed to generate the specified information.

## 23.5 - Wildlife and Fisheries

Exhibit 01 lists the data elements that have been used in the past as well as those that may be used in the future to develop the inventory-derived wildlife information to meet the needs of the Resources Planning Act Assessment.

WLF-1 is Land Cover. Describes land areas by ecosystem, land cover type, land cover category, stand age, and other elements that describe the existing vegetation community and successional stage and the potential natural community that the area is capable of supporting.

WLF-2 is Threatened and Endangered Wildlife Species (including populations and quantities of habitat). Documents the actual and potential occurrence of threatened and endangered species in the area, based on existing and potential habitat conditions and the known range and habitat relationships of the species.

WLF-3 is Wildlife Species Occurrence. Documents the actual and potential existence of wildlife species within the area, based on existing and potential habitat conditions and the known range and habitat relationships of the species.

WLF-4 is Wildlife Species Abundance. Describes the existing and potential abundance of wildlife species based on habitat capability within the area. Abundance usually is expressed as population density values or by descriptors of relative abundance.

WLF-5 is Wildlife Vegetation Habitat. Interpreted designations of wildlife habitat derived from features of terrain, existing and potential vegetation, and known habitat relationships of the species. Examples: deer winter range, goshawk nesting habitat, bear denning areas.

WLF-6 is Wildlife Water Habitat. Interpreted designations of habitat for wildlife of aquatic and riparian environments, derived from features of terrain, hydrologic features, water type, physical and chemical conditions of the water environment, existing and potential vegetation, and known habitat relationships of the species. Examples: waterfowl nesting habitat, beaverponds, otter habitat.

WLF-7 is Wildlife Soils Habitat. Interpreted designations of habitat for sensitive plants and fossorial wildlife based on soil type and characteristics, features of terrain, existing and potential vegetation, and known habitat relationships of the species.

WLF-8 is Wildlife Use and Harvest. Non-consumptive and consumptive uses of wildlife that have traditionally occurred or have potential to be supported within the area. Examples: wildlife photography, wildlife viewing, nature study, hunting, trapping. Data are displayed as wildlife user days (WFUD's).

Exhibit 02 lists the data elements that have been used in the past as well as those that may be used in the future to develop the inventory-derived fisheries information to meet the needs of the Resources Planning Act Assessment.

FIS-1 is Types of Streams and Rivers. Includes the stream class as it relates to fishery quality, angling opportunities, and habitat capability and is defined in Forest Plans.

FIS-2 is Types of Ponds, Lakes and Reservoirs. Classification relates to fishery quality, recreational opportunities, and habitat capability.

FIS-3 is Threatened and Endangered Fish and Aquatic Invertebrates. Includes organisms identified by State and Federal agencies as threatened and endangered. Also identifies measures of habitat quantity and quality, both current and potential.

FIS-4 is Fish Species Occurrence in River and Lake Habitats. Occurrence relates to presence or absence of fish species in aquatic habitats on Forest. Usually displayed as a range Forest-wide.

FIS-5 is Resident Fish Species Abundance. Measured as standing crop. Outputs are displayed as pounds/acre or other accepted measures.

FIS-6 is Anadromous Fish Species Abundance. Measured in number of smolts produced. Outputs are normally displayed as smolts/mile or a function of numbers per linear distance.

FIS-7 is Land Cover. Describes land areas by ecosystem, land cover type, ecoregion class and other elements that describe vegetative communities and the potential community that the area is capable of supporting.

FIS-8 is Resident and Anadromous Fish Species Use and Harvest. Recreational and commercial uses of fish. Data are displayed as fish user days (WFUD's) for recreational use and pounds of fish for commercial use.

## 23.5 - Exhibit 01

### WILDLIFE RESOURCE RELATED DATA ELEMENTS WHICH MAY BE NEEDED FOR RESOURCES PLANNING ACT ASSESSMENTS

Type <sup>1</sup>	Data Element Name WLF	-1	-2	-3	-4	-5	-6	-7	-8 <sup>2</sup>
A	Climate Type	Y <sup>3</sup>	~	~	~	Y	Y	Y	~
E	Ecological Status	Y	~	~	~	Y	Y	Y	~
E	Ecological Type (Habitat Type)	Y	~	~	~	Y	Y	Y	~
E	Ecoregion Code	Y	Y	Y	Y	Y	Y	Y	~
E	Ecosystem/Cover Type	Y	~	~	~	Y	Y	Y	~
E	Land Surface Form Code	Y	~	~	~	Y	Y	Y	~
E	Potential Natural Community	Y	~	~	~	~	~	~	~
F	T & E Species Habitat	Y	~	~	~	Y	Y	Y	~
F	Wildlife & Fish Habitat Capability	Y	~	~	~	Y	Y	Y	~
F	Wildlife/Fish/T&E Abundance	~	Y	~	Y	~	~	~	~
G	Landforms	Y	~	~	~	Y	Y	Y	~
L	Administrative Unit	Y	Y	Y	Y	Y	Y	Y	Y
L	Region/Station/Area	Y	Y	Y	Y	Y	Y	Y	Y
L	State/Territory	Y	Y	Y	Y	Y	Y	Y	Y
R	Land Use Class	Y	~	~	~	Y	Y	Y	~
R	Wildlife & Fish User Days (WFUD)	~	~	~	~	~	~	~	Y
S	Soil Erosion Type	Y	~	~	~	Y	Y	Y	~
V	Basal Area	Y	~	~	~	Y	Y	Y	~
V	Forest Land Class	Y	~	~	~	Y	Y	Y	~
V	Land Cover Category	Y	~	~	~	Y	Y	Y	~
V	Plant Species	Y	~	~	~	Y	Y	Y	~
V	Production, Forage	Y	~	~	~	Y	Y	Y	~
V	Stand Age	Y	~	~	~	Y	Y	Y	~
V	Stand Condition	Y	~	~	~	Y	Y	Y	~
V	Stand Size Class	Y	~	~	~	Y	Y	Y	~
V	Stand Structure	Y	~	~	~	Y	Y	Y	~
V	Stand Year of Origin	Y	~	~	~	Y	Y	Y	~
V	Stocking Percent	Y	~	~	~	Y	Y	Y	~
V	Vegetation Density	~	Y	~	Y	~	~	~	~
V	Vegetation Height	Y	~	~	~	Y	Y	Y	~

A = Air and Climate Related Variables

E = Ecology Related Variables

F = Fish/Wildlife Related Variables

G = Geology Related Variables

L = Lands and Land Status Related Variables

R = Resource and Land Use Related Variables

S = Soil Related Variables

V = Vegetation Related Variables

## **23.5 - Exhibit 01--Continued**

Variables are listed alphabetically within these groupings and are defined in the Interim Resource Inventory Glossary.

<sup>1</sup> Data Element (Variable) Type. For ease of reference, data elements or variables are groups by classes as follows:

<sup>2</sup> Use Identification. See section 23.5 for codes.

<sup>3</sup> "Y" indicates the data element may be needed to generate the specified information.

## 23.5 - Exhibit 02

### FISHERIES RESOURCE RELATED DATA ELEMENTS WHICH MAY BE NEEDED FOR RESOURCES PLANNING ACT ASSESSMENTS

Type <sup>1</sup>	Data Element Name FIS	-1	-2	-3	-4	-5	-6	-7	-8 <sup>2</sup>
E	Ecological Status	Y <sup>3</sup>	Y	Y	~	~	~	Y	~
E	Ecological Type (Habitat Type)	Y	Y	Y	~	~	~	Y	~
E	Ecoregion Code	Y	Y	Y	Y	Y	Y	Y	~
E	Ecosystem/Cover Type	Y	Y	Y	~	~	~	Y	~
E	Land - Aquatic Type Association	Y	Y	Y	~	~	~	Y	~
E	Land Surface Form Code	Y	Y	Y	~	~	~	Y	~
E	Potential Natural Community	Y	Y	Y	~	~	~	Y	~
F	Fish Harvest	~	~	~	~	~	~	~	Y
F	Fisheries Classification	Y	Y	Y	~	~	~	~	~
F	Species Management Status	~	~	Y	Y	Y	Y	~	~
F	T & E Species Habitat	Y	Y	Y	~	~	~	~	~
F	Wildlife & Fish Habitat Capability	Y	Y	Y	~	~	~	Y	~
F	Wildlife/Fish/T&E Abundance	~	~	Y	~	Y	Y	~	~
G	Landforms	Y	Y	Y	~	~	~	Y	~
L	Administrative Unit	Y	Y	Y	Y	Y	Y	Y	Y
L	Region/Station/Area	Y	Y	Y	Y	Y	Y	Y	Y
L	State/Territory	Y	Y	Y	Y	Y	Y	Y	Y
R	Land Use Class	Y	Y	Y	~	~	~	Y	~
R	Wildlife & Fish User Days (WFUD)	~	~	~	~	~	~	~	Y
S	Parent Material	Y	Y	Y	~	~	~	Y	~
S	Soil Erosion Type	Y	Y	Y	~	~	~	Y	~
V	Land Cover Category	Y	Y	Y	~	~	~	Y	~
V	Stand Age	Y	Y	Y	~	~	~	Y	~
V	Stocking Percent	Y	Y	Y	~	~	~	Y	~
V	Vegetation Density	~	~	Y	~	Y	Y	~	~
W	Streamflow	Y	Y	Y	~	~	~	~	~
W	Suspended Sediment	Y	Y	Y	~	~	~	~	~

E = Ecology Related Variables

F = Fish/Wildlife Related Variables

G = Geology Related Variables

L = Lands and Land Status Related Variables

R = Resource and Land Use Related Variables

S = Soil Related Variables

V = Vegetation Related Variables

W = Water Related Variables

Variables are listed alphabetically within these groupings and are defined in the Interim Resource Inventory Glossary.

<sup>1</sup> Data Element (Variable) Type. For ease of reference, data elements or variables are grouped by classes as follows:

<sup>2</sup> Use Identification. See section 23.5 for codes.

<sup>3</sup> "Y" indicates the data element may be needed to generate the specified information.

## 23.6 - Minerals and Geology

Exhibit 01 lists the data elements that have been used in the past as well as those that may be used in the future to develop the inventory-derived minerals and geology information to meet the needs of the Resources Planning Act Assessment for estimating mineral production demands and capability of NFS Lands to furnish supplies of specific mineral commodities.

### 23.6 - Exhibit 01

#### GEOLOGY RELATED DATA ELEMENTS THAT MAY BE NEEDED FOR THE RESOURCES PLANNING ACT ASSESSMENT

Type <sup>1</sup>	Data Element Name
G	Mineral Commodities
L	Administrative Unit
L	Region/Station/Area
L	State/Territory
L	Withdrawals

<sup>1</sup> Data Element (Variable) Type. For ease of reference, data elements or variables are groups by classes as follows:

G = Geology Related Variables

L = Lands and Land Status Related Variables

Variables are listed alphabetically within these groupings and are defined in the Interim Resource Inventory Glossary.

## 23.7 - Lands

The following lists the data elements that have been used in the past as well as those that may be used in the future to develop the inventory-derived lands information to meet the needs of the Resources Planning Act Assessment.

LND-1 is Land Classification. Land classification includes the analysis of public and private land within, adjacent to, and outside of existing NFS units to determine their suitability for meeting the resource output demands for which the NFS was created. Many NFS areas contain a random pattern of mixed ownerships. Analysis is necessary to evaluate the land uses of and to determine the need for adjustment in the extent and pattern of land base to meet NFS goals.

LND-2 is Landownership Adjustment. Landownership Adjustment occurs through (1) Reservation, (2) Purchase, (3) Exchange, (4) Donations, (5) Transfers, and (6) Interchange. It includes fee ownership as well as partial interests such as rights-of-ways and scenic easements.

LND-3 is Special Uses and Rights-of-Way Grants

LND-4 is Property Line Location and Status. Property lines between NFS and other land need to be established, re-established, or maintained by surveying, marking, and posting. Well-marked lines permit management and use to the property line by both public and private landowners. To prepare and maintain status records on NFS land, records of ownership must be searched and reviewed to arrive at written and plat representations of the ownership, encumbrances, and use restrictions.

LND-5 is Occupancy Trespass and Claims. Occupancy trespass and claims consists of any unpermitted or unlawful entrance upon NFS land that involves the construction, placement, or fixing of structures, signs, or other private personal property on such land or the enclosing or usurpation of NFS land, other than for mining purposes by the claimant on a valid mining claim.

Exhibit 01 lists data elements usually needed for all Land information requirements.



### 23.7 - Exhibit 01

#### LANDS RESOURCE RELATED DATA ELEMENTS WHICH MAY BE NEEDED FOR RESOURCES PLANNING ACT ASSESSMENTS

Type <sup>1</sup>	Data Element Name
L	Administrative Unit
L	Congressional District
L	County, Parish, Borough, Township
L	Proclaimed Unit (NFFID)
L	Region/Station/Area
L	State/Territory
L	Withdrawals
R	Water Uses

<sup>1</sup> Data Element (Variable) Type. For ease of reference, data elements or variables are groups by classes as follows:

L = Lands and Land Status Related Variables

R = Resource and Land Use Related Variables

Variables are listed alphabetically within these groupings and are defined in the Interim Resource Inventory Glossary.

## 23.8 - Fire

Exhibit 01 lists the data elements that have been used in the past as well as those that may be used in the future to develop the inventory-derived fire information to meet the needs of the Resources Planning Act Assessment for Fuels Improvements. This covers data used in the 1990 RPA Program for fuels management acres.

### 23.8 - Exhibit 01

#### FIRE RESOURCE RELATED DATA ELEMENTS WHICH MAY BE NEEDED FOR RESOURCES PLANNING ACT ASSESSMENTS

Type <sup>1</sup>	Data Element Name
E	Ecosystem/Cover Type
L	Administrative Unit
L	Region/Station/Area
L	State/Territory
R	Land Use Class
R	Range Treatment Class
R	Timber Treatment Opportunity Class
V	Stand Condition
V	Stand Structure

<sup>1</sup> Data Element (Variable) Type. For ease of reference, data elements or variables are groups by classes as follows:

- E = Ecology Related Variables
- L = Lands and Land Status Related Variables
- R = Resource and Land Use Related Variables
- V = Vegetation Related Variables

Variables are listed alphabetically within these groupings and are defined in the Interim Resource Inventory Glossary.

## **24 - State Survey Reports**

### **24.3 - Timber**

Prepare state survey reports upon completion of new statewide inventory of private timberlands. Include information about public lands in the state survey report. The data elements normally needed to produce the inventory-derived information for state survey reports are listed in section 23.3, exhibit 01 and FSH 4809.11, Forest Survey Handbook. All other information is optional.

## **25 - Land and Resource Management Planning**

Exhibit 01 lists the data elements that have been used in the past as well as those anticipated to be used in the future to develop the inventory-derived information to meet the needs for developing Forest plans. Use Exhibit 01 to coordinate data collection, maintenance, and sharing across functions. Whenever this information is used in the forest planning process, it must be compatible with the definitions and other guidance provided in this handbook and in the Interim Resource Inventory Glossary or the Forest Service Atlas.

## 25 - Exhibit 01

### DATA ELEMENTS WHICH MAY BE NEEDED FOR LAND AND RESOURCE MANAGEMENT PLANNING BY FUNCTION

Type <sup>1</sup>	Data Element Name	RGE	REC	TIM	WSH	AIR	WLF	FIS	GEO	LND	FIR <sup>2</sup>
A	Air Class I Boundaries	~	~	~	~	Y <sup>3</sup>	~	~	~	~	~
A	Chemistry, Atmospheric	~	~	~	~	Y	~	~	~	~	~
A	Chemistry, pH Dry Deposition	~	~	~	~	Y	~	~	~	~	~
A	Chemistry, pH Wet Deposition	~	~	~	~	Y	~	~	~	~	~
A	Chemistry, Snowpack	~	~	~	~	Y	~	~	~	~	~
A	Climate Type	~	~	~	~	Y	Y	~	~	~	~
A	Fuel Moisture	~	~	~	~	Y	~	~	~	~	~
A	Mixing Height	~	~	~	~	Y	~	~	~	~	~
A	Odor Type and Concentration	~	~	~	~	Y	~	~	~	~	~
A	Pollutant Loading	~	~	~	~	Y	~	~	~	~	~
A	Precipitation, Average Annual	~	Y	~	Y	~	Y	~	~	~	~
A	Precipitation, Hourly	~	~	~	Y	Y	~	~	~	~	~
A	Relative Humidity	~	~	~	~	Y	~	~	~	~	~
A	Temperature, Ambient	~	~	~	~	Y	~	~	~	~	~
A	Visibility Sensitivity	~	Y	~	~	Y	~	~	~	~	~
A	Visual Quality	~	~	~	~	Y	~	~	~	~	~
A	Visual Range	~	~	~	~	Y	~	~	~	~	~
A	Wind Speed	~	~	~	~	Y	~	~	~	~	~
E	Aquatic Habitat Types	~	~	~	~	~	~	Y	~	~	~
E	Ecological Status	Y	~	~	~	~	Y	Y	~	~	~
E	Ecological Type (Habitat Type)	Y	~	Y	~	Y	Y	Y	~	~	~
E	Ecological Unit	Y	~	~	Y	~	~	~	~	~	~
E	Ecoregion Code	Y	~	~	~	Y	Y	Y	~	~	~
E	Ecosystem/Cover Type	Y	Y	Y	Y	Y	Y	Y	~	~	Y
E	Land - Aquatic Type Association	~	~	~	~	~	Y	Y	~	~	~
E	Land Surface Form Code	Y	~	~	~	~	Y	Y	~	~	~
E	Potential Natural Community	Y	~	Y	~	Y	Y	Y	~	~	~
E	Trend	Y	~	~	~	~	~	~	~	~	~
F	Fish Harvest	~	~	~	~	~	~	Y	~	~	~
F	Fisheries Classification	~	~	~	~	~	~	Y	~	~	~
F	Macroinvertebrate Biotic Condition	~	~	~	~	~	~	Y	~	~	~
F	Species Management Status	~	~	~	~	~	~	Y	~	~	~
F	T & E Species Habitat	Y	~	~	~	Y	Y	Y	~	~	~
F	Wildlife & Fish Habitat Capability	~	~	~	~	~	Y	Y	~	~	~
F	Wildlife/Fish/T&E Abundance	~	~	~	~	Y	Y	Y	~	~	~
G	Geologic Features (Special)	~	~	~	~	~	~	~	Y	~	~
G	Geologic Hazards	~	~	~	~	~	~	~	Y	~	~
G	Ground Water Aquifers	~	~	~	~	~	~	~	Y	~	~
G	Landforms	~	Y	~	Y	~	Y	Y	Y	~	~
G	Lithologic Unit	~	~	~	~	~	~	~	Y	~	~
G	Mineral Commodities	~	~	~	~	~	~	~	Y	~	~
G	Paleontological Resources	~	~	~	~	Y	~	~	Y	~	~

## 25- Exhibit 01 -- Continued

Type <sup>1</sup>	Data Element Name	RGE	REC	TIM	WSH	AIR	WLF	FIS	GEO	LND	FIR <sup>2</sup>
G	Mineral Resource	~	~	~	~	~	~	~	Y	~	~
L	Administrative Unit	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
L	Congressional District	~	~	~	~	~	~	~	~	Y	~
L	County, Parish, Borough, Township	~	~	~	~	~	~	~	~	Y	~
L	Land Location (GLO)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
L	Land Location (Metes and Bounds)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
L	Ownership	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
L	Proclaimed Unit (NFFID)	~	~	~	~	~	~	~	~	Y	~
L	Region/Station/Area	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
L	State/Territory	~	~	~	~	~	~	~	~	Y	~
L	Subunit	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
L	Withdrawals	~	Y	Y	~	~	Y	~	Y	Y	~
R	Land Use Class	~	Y	Y	Y	~	Y	Y	~	~	~
R	Public Access	~	Y	~	~	~	~	~	~	~	~
R	Range Treatment Class	Y	~	~	~	~	~	~	~	~	~
R	Recreation Opportunity Class	~	Y	~	~	~	~	~	~	~	~
R	Recreation Use	~	Y	~	~	Y	~	~	~	~	~
R	Road Functional Class	~	Y	~	~	~	~	~	~	~	~
R	Road Surface	~	Y	~	~	~	~	~	~	~	~
R	Road System	~	Y	~	~	~	~	~	~	~	~
R	Time Since Disturbance	~	Y	~	~	~	~	~	~	~	~
R	Traffic Lanes	~	Y	~	~	~	~	~	~	~	~
R	Visual Resource Management Class	~	Y	~	~	~	~	~	~	~	~
R	Water Uses	~	~	~	Y	~	~	~	~	Y	~
R	Wildlife & Fish User Days (WFUD)	~	~	~	~	Y	Y	Y	~	~	~
S	Depth to Bedrock or Restriction	Y	~	~	Y	Y	~	~	~	~	~
S	Depth to Mottling or Water	Y	~	~	Y	~	~	~	~	~	~
S	Detrimental Soil Disturbance	~	~	~	Y	~	~	~	~	~	~
S	Effective Rooting Depth	Y	~	~	~	~	~	~	~	~	~
S	Erosion Severity	Y	~	~	Y	~	Y	Y	~	~	~
S	Forest Floor (Litter) and Humus	~	~	~	Y	~	~	~	~	~	~
S	Mass Stability	~	~	~	Y	~	~	~	~	~	~
S	Parent Material	Y	~	~	~	~	~	Y	~	~	~
S	Soil Cover	Y	~	~	Y	Y	Y	Y	~	~	~
S	Soil Drainage Class	Y	~	~	~	~	Y	Y	~	~	~
S	Soil Erosion Type	Y	~	~	Y	~	Y	Y	~	~	~
S	Soil Map Unit	~	~	~	Y	~	~	~	~	~	~
S	Soil Structure	Y	~	~	~	~	Y	~	~	~	~
S	Soil Taxonomic Unit	Y	Y	Y	Y	Y	Y	~	~	~	~
S	Soil Texture	Y	~	~	~	~	Y	~	~	~	~
V	Bark Thickness	~	~	Y	~	~	~	~	~	~	~
V	Basal Area	~	~	Y	~	~	Y	~	~	~	~
V	Bole Length	~	~	Y	~	~	~	~	~	~	~
V	Bole Top Diameter	~	~	Y	~	~	~	~	~	~	~
V	Butt Log Grade	~	~	Y	~	~	~	~	~	~	~
V	Canopy Cover	Y	~	~	~	~	Y	~	~	~	~
V	Cause of Death/Injury	~	~	Y	~	Y	~	~	~	~	~
V	Crown Class	~	~	Y	~	~	Y	~	~	~	~
V	Crown Closure (Cover)	Y	~	Y	~	~	~	Y	~	~	Y
V	Crown Length (Depth)	~	~	Y	~	~	Y	~	~	~	~
V	Crown Ratio	~	~	Y	~	~	Y	~	~	~	~
V	Crown Width (Diameter)	~	~	Y	~	~	~	~	~	~	~
V	Diameter at Breast Height (d.b.h.)	~	~	Y	~	~	Y	~	~	~	~
V	Diameter, Basal	~	~	Y	~	~	~	~	~	~	~

## 25 - Exhibit 01 -- Continued

Type <sup>1</sup>	Data Element Name	RGE	REC	TIM	WSH	AIR	WLF	FIS	GEO	LND	FIR <sup>2</sup>
V	Down Material Condition	~	~	~	~	~	Y	Y	~	~	~
V	Forage Utilization	Y	~	~	~	~	Y	~	~	~	~
V	Forest Land Class	~	~	Y	~	~	Y	~	~	~	~
V	Height Growth	~	~	Y	~	~	Y	~	~	~	~
V	Height to Crown, Compacted	~	~	Y	~	~	Y	~	~	~	~
V	Land Cover Category	Y	Y	Y	Y	Y	Y	Y	~	~	~
V	Mistletoe Infection Rating	~	~	Y	~	~	~	~	~	~	~
V	Most Hazardous Pest	~	~	Y	~	~	~	~	~	~	~
V	Plant Species	Y	Y	Y	~	Y	Y	Y	~	~	~
V	Principle Defect	~	~	Y	~	~	~	~	~	~	~
V	Production, Forage	Y	~	~	~	~	Y	~	~	~	~
V	Radial Growth (Increment)	~	~	Y	~	~	Y	~	~	~	~
V	Sawlog Length	~	~	Y	~	~	~	~	~	~	~
V	Sawlog Top Diameter	~	~	Y	~	~	~	~	~	~	~
V	Seedling/Shrub Count	~	~	Y	~	~	Y	~	~	~	~
V	Site Index	~	~	Y	~	~	Y	Y	~	~	~
V	Site Productivity Class	~	~	Y	~	~	~	~	~	~	~
V	Site Tree Quality	~	~	Y	~	~	~	~	~	~	~
V	Size Down Woody Material	~	~	~	~	~	Y	~	~	~	~
V	Snag Condition	~	~	~	~	~	Y	~	~	~	~
V	Stand Age	~	Y	Y	~	~	Y	Y	~	~	~
V	Stand Condition	~	~	Y	~	~	Y	~	~	~	~
V	Stand History	~	Y	~	~	Y	Y	Y	~	~	~
V	Stand Origin	~	Y	Y	~	~	Y	Y	~	~	~
V	Stand Size Class	~	~	Y	~	~	Y	~	~	~	~
V	Stand Structure	~	Y	Y	~	~	Y	~	~	~	~
V	Stand Year of Origin	~	~	Y	~	~	~	~	~	~	~
V	Stocking Percent	~	~	Y	~	~	Y	~	~	~	~
V	Tree Age	~	Y	Y	~	~	Y	Y	~	~	~
V	Tree Class	~	~	Y	~	~	Y	~	~	~	~
V	Tree History	~	~	Y	~	~	~	~	~	~	~
V	Tree Length (Height)	~	~	Y	~	~	Y	~	~	~	~
V	Tree Top Condition	~	~	Y	~	~	~	~	~	~	~
V	Tree Volume	~	~	Y	~	~	~	~	~	~	~
V	Vegetation Density	Y	~	Y	~	~	Y	~	~	~	~
V	Vegetation Height	~	Y	~	~	~	Y	Y	~	~	~
W	Channel Depth	~	~	~	Y	~	~	Y	~	~	~
W	Channel Entrenchment	~	~	~	Y	~	~	Y	~	~	~
W	Channel Gradient	~	~	~	Y	~	~	~	~	~	~
W	Channel Roughness	~	~	~	Y	~	~	Y	~	~	~
W	Channel Stability Rating	~	~	~	~	~	~	Y	~	~	~
W	Channel Substrate	~	~	~	Y	~	~	Y	~	~	~
W	Chemistry, Water	~	~	~	Y	Y	~	Y	~	~	~
W	Embeddedness	~	~	~	Y	~	~	Y	~	~	~
W	Hydrologic Unit Code	~	~	~	Y	~	~	Y	~	~	~
W	Instream Cover	~	~	~	~	~	~	Y	~	~	~
W	Instream Woody Debris	~	~	~	~	~	~	Y	~	~	~
W	Mean Water Depth	~	~	~	Y	~	~	~	~	~	~
W	Pool Quality	~	~	~	~	~	~	Y	~	~	~
W	Pool-Riffle Ratio	~	~	~	~	~	~	Y	~	~	~
W	Reach Number	~	~	~	Y	~	~	Y	~	~	~
W	Shore Depth	~	~	~	~	~	~	Y	~	~	~
W	Sinuosity	~	~	~	Y	~	~	Y	~	~	~
W	Stream Channel-Bank Angle	~	~	~	~	~	~	Y	~	~	~

## 25 - Exhibit 01 -- Continued

Type <sup>1</sup>	Data Element Name	RGE	REC	TIM	WSH	AIR	WLF	FIS	GEO	LND	FIR <sup>2</sup>
W	Stream Order	~	~	~	Y	~	Y	Y	~	~	~
W	Stream Shade Cover	~	~	~	Y	~	~	Y	~	~	~
W	Stream Type	~	~	~	Y	~	~	Y	~	~	~
W	Stream Width	~	~	~	Y	~	~	~	~	~	~
W	Streambank Undercut	~	~	~	Y	~	~	Y	~	~	~
W	Streamflow	~	~	~	Y	~	~	Y	~	~	~
W	Suspended Sediment	~	~	~	Y	~	~	Y	~	~	~
W	Temperature, Water	~	~	~	~	~	~	Y	~	~	~
W	Turbidity	~	~	~	Y	~	~	Y	~	~	~
W	Water Flow Velocity	~	~	~	Y	~	~	~	~	~	~

A = Air and Climate Related Variables  
 E = Ecology Related Variables  
 F = Fish/Wildlife Related Variables  
 G = Geology Related Variables  
 L = Lands and Land Status Related Variables  
 R = Resource and Land Use Related Variables  
 S = Soil Related Variables  
 V = Vegetation Related Variables  
 W = Water Related Variables

Variables are listed alphabetically within these groupings and are defined in the Interim Resource Inventory Glossary.

<sup>1</sup> Data Element (Variable) Type. For ease of reference, data elements or variables are grouped by classes as follows:

RGE is Range and Livestock  
 REC is Recreation and Wilderness  
 TIM is Timber  
 WSH/AIR is Watershed and Air  
 WLF/FIS is Wildlife and Fisheries  
 GEO is Minerals and Geology  
 LND is Lands  
 FIR is Fire

<sup>2</sup> Function Identification. The following codes are used to identify specific resource functions:

<sup>3</sup> "Y" indicates the data element may be needed to generate the specified information.

## 25.1 - Range and Livestock

Exhibit 01 lists the data elements that have been used in the past as well as those may be used in the future to develop the inventory-derived range information to meet the needs for Forest planning.

RGE-1 is Livestock Suitability including forage production and accessibility. Includes data to be displayed in the allotment management plan and summarized in the Forest Plan.

RGE-2 is Treatment needs in acres by ecological type. To be displayed in the allotment management plan and summarized in a table in the Forest Plan.

RGE-3 is Existing production in acres by production class displayed in the allotment management plan and summarized in a table in the Forest Plan. Data are summarized into production classes of 500 pound increments.

RGE-4 is Potential Production in acres by production class displayed in the allotment management plan and summarized in a table in the Forest Plan. Data are summarized into production classes in 500 pound increments.

RGE-5 is Soil Protection measured in acres by soil cover, erosion type, erosion severity, and percent compaction and displayed in the allotment management plan in terms of acres satisfactory or acres unsatisfactory. Data are summarized for the Forest Plan.

RGE-6 is Ecological Status and Resource Value Rating for livestock forage conditions by ecological type in acres. Displayed in the allotment management plan and summarized in the the Forest Plan. Ratings are based on the floristic similarity of the current vegetation to the Potential Natural Community and the current soil condition in relation to stated soil quality standards. The similarity can be expressed on a relative scale from 0 to 100 with adjective ratings assigned as low, moderate or high similarity and the potential natural community. Rate the forage conditions as satisfactory or unsatisfactory i.e. either meeting or not meeting forage objectives.

RGE-7 is Trend in ecological status by ecological type in acres displayed in the allotment management plan and summarized in the Forest Plan. Trend is expressed as: toward, away from, or not apparent in relation to the potential natural community (PNC). Distinguish between apparent trend inferred from indicators based on observations at a single point in time and long-term trend from observations and measurements on permanently established reference or monitoring sites. Trend may be also expressed as: toward, away from, or not apparent in relation to the desired plant community (DPC) based on management objectives. Do not mix acres displayed relative to PNC and DPC.

RGE-8 is Infestation with Noxious Farm Weeds. Acres displayed in the Allotment management plan and summarized in the Forest Plan.



RGE-9 is Forage Utilization. Acres by utilization class displayed as needed in monitoring compliance with the allotment management plan and meeting standards, guidelines and management requirements of the Forest Plan.

RGE-10 is Livestock Use displayed in numbers of livestock and AUM's of grazing displayed in the allotment management plan and summarized in the Forest Plan.

Forage production estimates should have a precision of  $\pm 20$  percent at the 80 percent probability level.

## 25.1 - Exhibit 01

### RANGE RESOURCE RELATED DATA ELEMENTS WHICH MAY BE NEEDED FOR LAND AND RESOURCE MANAGEMENT PLANNING

Type <sup>1</sup>	Data Element Name RGE	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10 <sup>2</sup>
E	Ecological Status	~	Y <sup>3</sup>	~	~	~	Y	~	~	~	~
E	Ecological Type (Habitat Type)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
E	Ecological Unit	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
E	Ecoregion Code	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
E	Ecosystem/Cover Type	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
E	Land Surface Form Code	Y	Y	Y	Y	~	~	~	~	~	~
E	Potential Natural Community	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
E	Trend	~	~	~	~	~	~	Y	~	~	~
F	T & E Species Habitat	Y	Y	~	~	~	~	~	Y	~	~
L	Administrative Unit	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
L	Land Location (GLO)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
L	Land Location (Metes and Bounds)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
L	Ownership	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
L	Region/Station/Area	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
L	Subunit	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
R	Range Treatment Class	~	Y	~	~	~	~	~	Y	~	~
S	Depth to Bedrock or Restriction	Y	~	~	Y	~	~	~	~	~	~
S	Depth to Mottling or Water	~	~	~	Y	~	~	~	~	~	~
S	Effective Rooting Depth	~	~	~	Y	~	~	~	~	~	~
S	Erosion Severity	~	~	~	Y	Y	~	~	~	~	~
S	Parent Material	~	~	~	Y	~	~	~	~	~	~
S	Soil Cover	~	~	Y	Y	Y	~	~	~	~	~
S	Soil Drainage Class	Y	~	~	Y	~	~	~	~	~	~
S	Soil Erosion Type	~	~	~	Y	Y	~	~	~	~	~
S	Soil Structure	Y	~	~	Y	~	~	~	~	~	~
S	Soil Taxonomic Unit	Y	~	~	Y	Y	~	~	~	~	~
S	Soil Texture	Y	~	~	Y	~	~	~	~	~	~
V	Canopy Cover	Y	Y	Y	Y	Y	Y	Y	Y	Y	~
V	Crown Closure (Cover)	~	~	~	~	~	~	~	Y	~	~
V	Forage Utilization	~	~	Y	Y	~	~	~	~	Y	~
V	Land Cover Category	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
V	Plant Species	Y	Y	Y	Y	~	Y	Y	Y	Y	~
V	Production, Forage	Y	Y	Y	Y	~	Y	Y	~	Y	~
V	Vegetation Density	~	~	~	~	~	~	~	Y	~	~

<sup>1</sup> Data Element (Variable) Type. For ease of reference, data elements or variables are groups by classes as follows:

## 25.1 - Exhibit 01--Continued

E = Ecology Related Variables

F = Fish/Wildlife Related Variables

L = Lands and Land Status Related Variables

R = Resource and Land Use Related Variables

S = Soil Related Variables

V = Vegetation Related Variables

Variables are listed alphabetically within these groupings and are defined in the Interim Resource Inventory Glossary.

<sup>2</sup> Use Identification. See section 25.1 for codes.

<sup>3</sup> "Y" indicates the data element may be needed to generate the specified information.

## **25.2 - Recreation and Wilderness**

Exhibit 01 lists the data elements that have been used in the past as well as those that may be used in the future to develop the inventory-derived recreation information to meet the needs for Forest planning.

REC-1 is Recreation Use (including use numbers and patterns). A grouping of data elements which measure the range of recreation activity and time/volume of use on specific administrative units.

REC-2 is Recreation Settings. This includes a range of data elements which describe and define the recreation environment.

REC-3 is Recreation Opportunities - Existing and Potential. (including setting, opportunities and supply of facilities). An array of data elements which describe the distribution and extent of the sites/opportunities for various types of recreation activities.

REC-4 is User Preference. A number of data elements which help to define the recreation characteristics and related use on a given unit of the National Forest System.

REC-5 is Visual Resources. A number of data elements which help to define the visual resource management objectives for specific sites within the National Forest System.

REC-6 is Cultural resources. Data elements needed to inventory the cultural resource values on the National Forests.

REC-7 is Wilderness. Data elements needed to inventory existing and potential Wilderness. We feel that the data elements listed are less than necessary to identify lands suitable for Wilderness.

REC-8 is Anticipated Changes in Diversity. Data elements which indicate changes in diversity.

REC-9 is Wilderness Wildfire and Insect/Disease Situation- Existing and Potential.

## 25.2 - Exhibit 01

### RECREATION AND WILDERNESS RESOURCE RELATED DATA ELEMENTS WHICH MAY BE NEEDED FOR LAND AND RESOURCE MANAGEMENT PLANNING

Type <sup>1</sup>	Data Element Name REC	-1	-2	-3	-4	-5	-6	-7	-8	-9 <sup>2</sup>
A	Precipitation, Average Annual	~	Y <sup>3</sup>	Y	~	~	Y	~	~	~
A	Visibility Sensitivity	~	~	~	~	Y	Y	~	~	~
E	Ecosystem/Cover Type	~	Y	Y	~	Y	Y	~	~	~
G	Landforms	~	Y	Y	~	Y	Y	~	~	~
L	Administrative Unit	Y	Y	Y	Y	Y	Y	Y	Y	Y
L	Land Location (GLO)	~	~	~	~	~	Y	~	~	~
L	Land Location (Metes and Bounds)	~	~	~	~	~	Y	~	~	~
L	Ownership	~	~	~	~	~	~	Y	~	~
L	Region/Station/Area	~	~	~	~	~	Y	~	~	~
L	Subunit	~	~	~	~	~	Y	~	~	~
L	Withdrawals	~	~	~	~	~	~	Y	~	~
R	Land Use Class	~	Y	Y	~	~	~	~	~	~
R	Public Access	~	Y	~	~	Y	~	~	~	~
R	Recreation Opportunity Class	~	Y	Y	Y	Y	~	~	~	~
R	Recreation Use	Y	~	Y	Y	Y	~	~	~	~
R	Road Functional Class	~	Y	Y	~	~	Y	Y	~	~
R	Road Surface	~	Y	Y	~	~	Y	Y	~	~
R	Road System	~	Y	Y	~	~	Y	Y	~	~
R	Time Since Disturbance	~	Y	Y	~	~	Y	Y	~	~
R	Traffic Lanes	~	Y	Y	~	~	Y	Y	~	~
R	Visual Resource Management Class	~	Y	Y	~	Y	~	~	~	~
S	Soil Taxonomic Unit	~	~	~	~	Y	Y	~	~	~
V	Land Cover Category	~	Y	Y	~	~	~	~	~	~
V	Plant Species	~	Y	Y	~	Y	Y	~	~	~
V	Stand Age	~	Y	Y	~	Y	~	~	~	~
V	Stand History	~	Y	Y	~	Y	Y	~	~	~
V	Stand Origin	~	Y	Y	~	Y	Y	~	~	~
V	Stand Structure	~	Y	Y	~	Y	~	~	~	~
V	Tree Age	~	Y	Y	~	Y	~	~	~	~
V	Vegetation Height	~	~	~	~	Y	~	~	~	~

<sup>1</sup> Data Element (Variable) Type. For ease of reference, data elements or variables are groups by classes as follows:

## 25.2 - Exhibit 01--Continued

A = Air and Climate Related Variables  
E = Ecology Related Variables  
F = Fish/Wildlife Related Variables  
G = Geology Related Variables  
L = Lands and Land Status Related Variables  
R = Resource and Land Use Related Variables  
S = Soil Related Variables  
V = Vegetation Related Variables

Variables are listed alphabetically within these groupings and are defined in the Interim Resource Inventory Glossary.

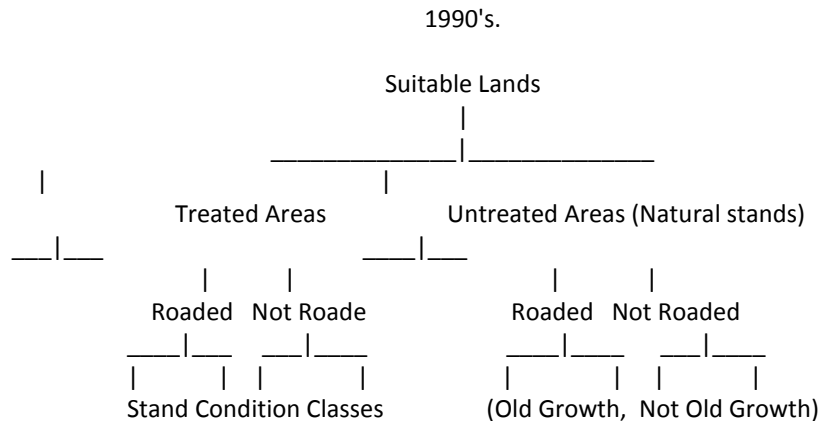
<sup>2</sup> Use Identification. See section 25.2 for codes.

<sup>3</sup> "Y" indicates the data element may be needed to generate the specified information.

### 25.3 - Timber

The following schema outlines the classes for which area and volume information is usually needed.

Schema for a classification of forest lands for the forest planning in the



Use the same schema for unsuitable forest lands. Report both acres and total volumes.

Exhibit 01 lists the data elements that have been used in the past as well as those that may be used in the future to develop the inventory-derived timber information to meet the needs for Forest planning.

TIM-1 is Land Classification (including areas withdrawn, non-capable, physically unsuited, and inadequate information). See FSH 2409.13, Timber Resource Planning Handbook, section 44, exhibit 01. Data are also used for Land Suitability Status Report FS-2400-P.

TIM-2 is Timber Productivity Class (area by class). See FSH 2409.13, Timber Resource Planning Handbook, Section 44, exhibit 03.

TIM-3 is Present and Future Forest (area, volume, and potential yield). See FSH 2409.13, Timber Resource Planning Handbook, Section 44, exhibit 06. Areas and volume (including woody phytomass) by treated vs untreated (natural) stands, roaded and non-roaded areas, and stand condition (old growth and other classes) are included. Data are also used for Potential Harvest Statement, Status Report FS-2400-F.

Estimates for growing stock volume, where economically practical, are to be within  $\pm 10$  percent ( $\pm 5$  percent in Regions 8 and 9) on available forest land per billion gross cubic feet of volume at the 67 percent confidence level. Area estimates, where economically practical, are to be within  $\pm 10$  percent for withdrawn forest land and  $\pm 3$  percent for available forest land per million acres at the 67 percent confidence level.

## 25.3 - Exhibit 01

### TIMBER RESOURCE RELATED DATA ELEMENTS WHICH MAY BE NEEDED FOR LAND AND RESOURCE MANAGEMENT PLANNING

Type <sup>1</sup>	Data Element Name	TIM	-1	-2	-3 <sup>2</sup>
E	Ecological Type (Habitat Type)		Y <sup>3</sup>	~	Y
E	Ecosystem/Cover Type		Y	Y	Y
E	Potential Natural Community		Y	Y	Y
L	Administrative Unit		Y	Y	Y
L	Land Location (GLO)		Y	Y	Y
L	Land Location (Metes and Bounds)		Y	Y	Y
L	Ownership		~	Y	Y
L	Region/Station/Area		Y	Y	Y
L	Subunit		Y	Y	Y
L	Withdrawals		Y	Y	Y
R	Land Use Class		Y	Y	Y
S	Soil Taxonomic Unit		Y	~	Y
V	Bark Thickness		~	Y	Y
V	Basal Area		Y	~	Y
V	Bole Length		~	Y	Y
V	Bole Top Diameter		~	Y	Y
V	Cause of Death/Injury		~	Y	Y
V	Crown Class		Y	Y	Y
V	Crown Closure (Cover)		Y	Y	Y
V	Crown Length (Depth)		~	~	Y
V	Crown Ratio		Y	Y	Y
V	Crown Width (Diameter)		~	~	Y
V	Diameter at Breast Height (d.b.h.)		Y	Y	Y
V	Diameter, Basal		Y	Y	Y
V	Forest Land Class		Y	Y	Y
V	Height Growth		Y	Y	Y
V	Height to Crown, Compacted		Y	Y	Y
V	Land Cover Category		Y	~	Y
V	Mistletoe Infection Rating		~	Y	Y
V	Most Hazardous Pest		~	Y	Y
V	Plant Species		Y	Y	Y
V	Principle Defect		~	Y	Y
V	Radial Growth (Increment)		Y	Y	Y
V	Sawlog Length		~	Y	Y
V	Sawlog Top Diameter		~	Y	Y
V	Seedling/Shrub Count		Y	~	Y
V	Site Index		Y	Y	Y
V	Site Productivity Class		Y	Y	Y
V	Site Tree Quality		Y	Y	Y
V	Stand Age		~	Y	Y
V	Stand Condition		~	Y	~
V	Stand Origin		Y	~	Y



## 25.3 Exhibit 01 --Continued

Type <sup>1</sup>	Data Element Name	TIM	-1	-2	-3 <sup>2</sup>
V	Stand Size Class		Y	Y	Y
V	Stand Structure		~	Y	~
V	Stand Year of Origin		~	Y	Y
V	Stocking Percent		Y	~	Y
V	Tree Age		Y	Y	Y
V	Tree Class		~	Y	Y
V	Tree History		~	Y	~
V	Tree Length (Height)		Y	Y	Y
V	Tree Top Condition		~	Y	~
V	Tree Volume		~	Y	Y
V	Vegetation Density		~	~	Y

<sup>1</sup> Data Element (Variable) Type. For ease of reference, data elements or variables are grouped by classes as follows:

- E = Ecology Related Variables
- L = Lands and Land Status Related Variables
- R = Resource and Land Use Related Variables
- S = Soil Related Variables
- V = Vegetation Related Variables

Variables are listed alphabetically within these groupings and are defined in the Interim Resource Inventory Glossary.

<sup>2</sup> Use Identification. See section 25.3 for codes.

<sup>3</sup> "Y" indicates the data element may be needed to generate the specified information.

## **25.4 - Watershed and Air**

Exhibit 01 lists the data elements that have been used in the past as well as those that may be used in the future to develop the inventory-derived watershed information to meet the needs for Forest planning.

WSH-1 is Soil Capability Rating (area). This is rating of the potential suitability of soils for different users and for predicting the behavior, productivity, and performance of soil under management. This is derived from soil resource inventories as described in FSM 2551 and FSH 2509.18, Chapter 1.

WSH-2 is Municipal Water Supplies. These are municipal supply watersheds that serve a public water system as defined in Public Law 93-523 (Safe Drinking Water Act); or as defined in State safe drinking water regulations. The definition does not include communities served by well or confined ground water unaffected by Forest Service activities. See FSM 2542.05 and 2542.1.

WSH-3 is Water Uses (consumptive and non-consumptive). These are the uses and amounts of use used at the present or needed in the future to meet Forest Service goals and objectives identified in Forest Land Management Plans. See FSM 2541.1.

WSH-4 is Flood Hazards. These are flood risks both natural and man-induced that pose a threat to facilities, lands, and investments, both on and off National Forest Lands. See FSM 2527.05 and 2527.1.

WSH-5 is Watershed Condition (area). These are watersheds categorized into one of three classes of watershed conditions. The classes are relative descriptions of the health of a watershed in terms of the factors which affect favorable conditions of flow and soil productivity. Management objectives are the standards for determining condition classes. See 36 CFR 219.23 e.

WSH-6 is Water Yield. This is the volume of water measured, modeled, or estimated from specified watersheds, management areas, or administrative units that result in stream flow or ground water recharge from National Forest Lands. See 36 CFR 219.23 c.

WSH-7 is Improvement Opportunities. These are soil or water improvement projects implemented within a defined watershed to improve watershed conditions. These projects are implemented for rehabilitation of degraded lands or protection to maintain or improve natural watershed conditions. See FSM 2522.

WSH-8 is Water Quality. This is an expression of the suitability of the water resource in streams, lakes, ground water, and other water bodies to support beneficial uses of that water. See 36 CFR 219.23 d and e.

WSH-9 is Riparian Area. This includes riparian ecosystems, aquatic ecosystems, and wetlands. Refer to FSM 2526 and 36 CFR 219.23 f.

WSH-10 is Ground water (quantity). This is for the inventories of ground water resources, including recharge and discharge areas. See FSM 1922.15, 25.

WSH-11 is Instream Flow Needs. Determinations of instream water flow needs for maintaining favorable conditions of flow and meet forest land management objectives. See 36 CFR 219.23 a.

Exhibit 02 lists the data elements that have been used in the past as well as those that may be used in the future to develop the inventory-derived air information to meet the needs for Forest planning.

AIR-1 is Visibility. It is physical parameters necessary to objectively describe visual air quality as well as the qualitative measures used to characterize the perception and acceptability of a scene.

AIR-2 is Flora Health. It is measurements and observations necessary to establish the current condition, identify trends and predict changes in flora health and status.

AIR-3 is Fauna Health. It is measurements and observations necessary to establish the current condition, identify trends and predict changes in fauna health and status.

AIR-4 is Geological Formations. It is measurements and observations necessary to establish the current condition, identify trends and predict changes in the condition of important and sensitive geological formation.

AIR-5 is Cultural Resources. It is measurements and observations necessary to establish the current condition, identify trends and predict changes in the condition of important and sensitive cultural features.

AIR-6 is Odor. It is measurements and observations necessary to establish the current condition, identify trends and predict changes in odor.

AIR-7 is Source Inventory. It is all attributes of a pollution source, located on Forest Service managed land, necessary to describe, locate, and to predict the fate of all pollutants emitted by it.

AIR-8 is Meteorology. It is meteorological parameters necessary to assist in the assessment of the air pollution-caused effects on forest resources.

AIR-9 is User Preferences. It is data describing the perceptions and management preferences of the various public communities served.

AIR-10 is Smoke Management. It is data necessary to assist in the assessment of the fate of smoke from prescribed fires and its effects.

AIR-11 is Class I Areas. It is a description of parts of the National Forests which have been designated special protection under the Clean Air Act. All areas that are not Class II.

AIR-12 is Class II Areas. It is a description of parts of the National Forests which have been designated special protection under the Clean Air Act. All areas that are not Class I.

## 25.4 - Exhibit 01

### WATERSHED RESOURCE RELATED DATA ELEMENTS WHICH MAY BE NEEDED FOR LAND AND RESOURCE MANAGEMENT PLANNING

Type <sup>1</sup>	Data Element Name WSH	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11 <sup>2</sup>
A	Precipitation, Average Annual	~	~	~	~	~	~	~	~	~	Y <sup>3</sup>	~
A	Precipitation, Hourly	~	~	~	Y	~	~	~	~	~	~	~
E	Ecological Unit	~	~	~	~	Y	Y	Y	Y	Y	Y	~
E	Ecosystem/Cover Type	~	~	~	~	Y	Y	Y	Y	Y	Y	~
G	Landforms	Y	~	~	~	Y	~	~	~	Y	Y	~
L	Administrative Unit	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
L	Land Location (GLO)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
L	Land Location (Metes and Bounds)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
L	Ownership	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
L	Region/Station/Area	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
L	Subunit	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
R	Land Use Class	~	~	~	~	~	~	~	~	Y	~	~
R	Water Uses	~	~	~	~	~	~	~	~	~	Y	~
S	Depth to Bedrock or Restriction	Y	~	~	~	Y	~	~	~	Y	~	~
S	Depth to Mottling or Water	Y	~	~	~	Y	~	~	~	Y	~	~
S	Detrimental Soil Disturbance	Y	~	~	~	Y	~	Y	Y	~	~	~
S	Erosion Severity	Y	~	~	~	Y	~	Y	Y	~	~	~
S	Forest Floor (Litter) and Humus	Y	~	~	~	Y	~	~	~	~	~	~
S	Mass Stability	Y	~	~	~	Y	~	~	~	Y	Y	~
S	Soil Cover	Y	~	~	Y	Y	~	Y	~	Y	~	~
S	Soil Erosion Type	Y	~	~	~	Y	~	Y	~	~	~	~
S	Soil Map Unit	Y	~	~	~	Y	~	~	~	Y	~	~
S	Soil Taxonomic Unit	Y	~	~	~	Y	~	~	~	Y	~	~
V	Land Cover Category	~	~	~	~	~	~	~	~	Y	~	~
W	Channel Depth	~	Y	Y	Y	Y	Y	Y	Y	Y	~	Y
W	Channel Entrenchment	~	Y	Y	Y	Y	Y	Y	Y	Y	~	Y
W	Channel Gradient	~	~	Y	Y	Y	Y	~	~	Y	~	Y
W	Channel Roughness	~	~	~	Y	Y	Y	Y	~	~	~	Y
W	Channel Substrate	~	~	Y	Y	Y	~	~	Y	Y	~	Y
W	Chemistry, Water	~	Y	~	~	Y	~	Y	Y	Y	Y	Y
W	Embeddedness	~	~	Y	~	Y	~	Y	Y	Y	~	Y
W	Hydrologic Unit Code	~	Y	Y	Y	Y	Y	~	Y	~	Y	~
W	Mean Water Depth	~	Y	Y	Y	Y	Y	~	Y	Y	~	~
W	Reach Number	~	Y	Y	~	Y	~	~	Y	~	Y	~
W	Sinuosity	~	~	~	Y	Y	Y	~	~	Y	~	Y
W	Stream Order	~	Y	~	Y	~	Y	Y	Y	Y	~	Y
W	Stream Shade Cover	~	Y	Y	~	Y	~	~	Y	~	~	~
W	Stream Type	~	Y	Y	Y	Y	Y	Y	Y	Y	~	Y
W	Stream Width	Y	~	~	Y	Y	~	~	~	~	~	~
W	Streambank Undercut	~	~	~	~	~	~	Y	~	~	~	~
W	Streamflow	~	Y	Y	Y	Y	Y	~	Y	Y	Y	Y

## 25.4 - Exhibit 01-- Continued

Type <sup>1</sup>	Data Element Name WSH	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11 <sup>2</sup>
W	Suspended Sediment	~	Y	Y	~	Y	~	~	Y	~	~	~
W	Turbidity	~	Y	Y	~	Y	~	~	Y	~	~	~
W	Water Flow Velocity	~	~	Y	Y	~	Y	~	~	~	Y	~

A = Air and Climate Related Variables

E = Ecology Related Variables

G = Geology Related Variables

L = Lands and Land Status Related Variables

R = Resource and Land Use Related Variables

S = Soil Related Variables

V = Vegetation Related Variables

W = Water Related Variables

Variables are listed alphabetically within these groupings and are defined in the Interim Resource Inventory Glossary.

<sup>1</sup> Data Element (Variable) Type. For ease of reference, data elements or variables are groups by classes as follows:

<sup>2</sup> Use Identification. See section 25.4 for codes.

<sup>3</sup> "Y" indicates the data element may be needed to generate the specified information.

## 25.4 - Exhibit 02

### AIR RESOURCE RELATED DATA ELEMENTS WHICH MAY BE NEEDED FOR LAND AND RESOURCE MANAGEMENT PLANNING

Type <sup>1</sup>	Data Element Name AIR	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12 <sup>2</sup>
A	Air Class I Boundaries	~	~	~	~	~	~	~	~	~	~	Y <sup>3</sup>	Y
A	Chemistry, Atmospheric	Y	Y	Y	Y	Y	Y	~	~	~	Y	Y	Y
A	Chemistry, pH Dry Deposition	Y	Y	Y	Y	Y	Y	~	~	~	Y	Y	Y
A	Chemistry, pH Wet Deposition	Y	Y	Y	Y	Y	Y	~	~	~	Y	Y	Y
A	Chemistry, Snowpack	~	Y	Y	Y	Y	~	~	~	~	~	Y	Y
A	Climate Type	~	~	~	~	~	~	~	~	~	~	Y	Y
A	Fuel Moisture	~	~	~	~	~	~	Y	~	~	Y	~	~
A	Mixing Height	~	~	~	~	~	~	~	Y	~	~	~	~
A	Odor Type and Concentration	~	~	~	~	~	Y	~	~	~	~	Y	Y
A	Pollutant Loading	Y	Y	Y	Y	Y	Y	~	~	~	Y	Y	Y
A	Precipitation, Hourly	~	~	~	~	~	~	~	Y	~	~	~	~
A	Relative Humidity	~	~	~	~	~	~	~	Y	~	~	~	~
A	Temperature, Ambient	~	~	~	~	~	~	~	Y	~	~	~	~
A	Visibility Sensitivity	~	Y	~	~	~	~	~	~	Y	Y	Y	Y
A	Visual Quality	~	Y	~	~	~	~	~	~	Y	Y	Y	Y
A	Visual Range	~	Y	~	~	~	~	~	~	Y	Y	Y	Y
A	Wind Speed	~	~	~	~	~	~	~	~	Y	~	~	~
E	Ecological Type (Habitat Type)	~	~	~	~	~	~	~	~	~	~	Y	Y
E	Ecoregion Code	~	~	~	~	~	~	~	~	~	~	Y	Y
E	Ecosystem/Cover Type	~	~	~	~	~	~	~	~	~	~	Y	Y
E	Potential Natural Community	~	~	~	~	~	~	~	~	~	~	Y	Y
F	T & E Species Habitat	~	Y	~	~	~	~	~	~	~	~	Y	Y
F	Wildlife/Fish/T&E Abundance	~	Y	~	~	~	~	~	~	~	~	Y	Y
G	Paleontological Resources	~	~	~	~	~	~	Y	~	~	~	Y	Y
L	Administrative Unit	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
L	Land Location (GLO)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
L	Land Location (Metes and Bounds)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
L	Ownership	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
L	Region/Station/Area	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
L	Subunit	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
R	Recreation Use	~	~	~	~	~	~	~	~	~	Y	Y	Y
R	Wildlife & Fish User Days (WFUD)	~	~	~	~	~	~	~	~	~	Y	Y	~
S	Depth to Bedrock or Restriction	~	~	Y	~	~	~	~	~	~	~	Y	Y
S	Soil Cover	~	Y	~	Y	~	~	~	~	~	~	Y	Y
S	Soil Taxonomic Unit	~	~	Y	~	~	~	~	~	~	~	Y	Y
V	Cause of Death/Injury	~	Y	Y	~	~	~	~	~	~	~	~	~
V	Land Cover Category	~	Y	Y	Y	Y	Y	~	~	~	Y	Y	Y
V	Plant Species	~	Y	~	~	~	~	~	~	~	~	Y	Y
V	Stand History	~	~	~	~	~	~	~	~	~	Y	Y	Y
W	Chemistry, Water	~	Y	Y	~	~	~	~	~	~	~	Y	Y

## 25.4 - Exhibit 02--Continued

<sup>1</sup> Data Element (Variable) Type. For ease of reference, data elements or variables are groups by classes as follows:

A = Air and Climate Related Variables  
E = Ecology Related Variables  
F = Fish/Wildlife Related Variables  
G = Geology Related Variables  
L = Lands and Land Status Related Variables  
R = Resource and Land Use Related Variables  
S = Soil Related Variables  
V = Vegetation Related Variables  
W = Water Related Variables

Variables are listed alphabetically within these groupings and are defined in the Interim Resource Inventory Glossary.

<sup>2</sup> Use Identification. See Section 25.4 for codes.

<sup>3</sup> "Y" indicates the data element may be needed to generate the specified information.



## 25.5 - Wildlife and Fisheries

Exhibit 01 lists the data elements that have been used in the past as well as those that may be used in the future to develop the inventory-derived wildlife information to meet the needs for Forest planning.

WLF-1 is Land Cover. Describes land areas by ecosystem, land cover type, land cover category, stand age, and other elements that describe the existing vegetation community and successional stage and the potential natural community that the area is capable of supporting.

WLF-2 is Threatened and Endangered Wildlife Species (including populations and quantities of habitat). Documents the actual and potential occurrence of threatened and endangered species in the area, based on existing and potential habitat conditions and the known range and habitat relationships of the species.

WLF-3 is Wildlife Species Occurrence. Documents the actual and potential existence of wildlife species within the area, based on existing and potential habitat conditions and the known range and habitat relationships of the species.

WLF-4 is Wildlife Species Abundance. Describes the existing and potential abundance of wildlife species based on habitat capability within the area. Abundance usually is expressed as population density values or by descriptors of relative abundance.

WLF-5 is Wildlife Vegetation Habitat. Interpreted designations of wildlife habitat derived from features of terrain, existing and potential vegetation, and known habitat relationships of the species. Examples: deer winter range, goshawk nesting habitat, bear denning areas.

WLF-6 is Wildlife Water Habitat. Interpreted designations of habitat for wildlife of aquatic and riparian environments, derived from features of terrain, hydrologic features, water type, physical and chemical conditions of the water environment, existing and potential vegetation, and known habitat relationships of the species. Examples: waterfowl nesting habitat, beaver ponds, otter habitat.

WLF-7 is Wildlife Soils Habitat. Interpreted designations of habitat for sensitive plants and fossorial wildlife based on soil type and characteristics, features of terrain, existing and potential vegetation, and known habitat relationships of the species.

WLF-8 is Wildlife Use and Harvest. Non-consumptive and consumptive uses of wildlife that have traditionally occurred or have potential to be supported within the area. Examples: wildlife photography, wildlife viewing, nature study, hunting, trapping. Data are displayed as wildlife user days (WFUD's).

Exhibit 02 lists the data elements that have been used in the past as well as those that may be used in the future to develop the inventory-derived fisheries information to meet the needs for Forest planning.

FIS-1 is Types of Streams and Rivers. Includes the stream class as it relates to fishery quality, angling opportunities, and habitat capability and is defined in Forest Plans.

FIS-2 is Types of Ponds, Lakes and Reservoirs. Classification relates to fishery quality, recreational opportunities, and habitat capability.

FIS-3 is Threatened and Endangered Fish and Aquatic Invertebrates. Includes organisms identified by State and Federal agencies as threatened and endangered. Also identifies measures of habitat quantity and quality, both current and potential.

FIS-4 is Fish Species Occurrence in River and Lake Habitats. Occurrence relates to presence or absence of fish species in aquatic habitats on Forest. Usually displayed as a range Forest-wide.

FIS-5 is Resident Fish Species Abundance. Measured as standing crop. Outputs are displayed as pounds/acre or other accepted measures.

FIS-6 is Anadromous Fish Species Abundance. Measured in number of smolts produced. Outputs are normally displayed as smolts/mile or a function of numbers per linear distance.

FIS-7 is Land Cover. Describes land areas by ecosystem, land cover type, ecoregion class and other elements that describe vegetative communities and the potential community that the area is capable of supporting.

FIS-8 is Resident and Anadromous Fish Species Use and Harvest. Recreational and commercial uses of fish. Data are displayed as fish user days (WFUD's) for recreational use and pounds of fish for commercial use.

FIS-9 is Aquatic Macroinvertebrate Indicator Species. Defined as both diversity and abundance of macroinvertebrates in a given body of water. An indicator of water quality. Primary function is Forest Plan monitoring.

FIS-10 is Fish Habitat Index Variables. Defines the relative fish habitat condition of riverine habitats. Data is summarized by a quality index for each stream habitat unit by Analysis Area as defined by Forest Plans.

## 25.5 - Exhibit 01

### WILDLIFE RESOURCE RELATED DATA ELEMENTS WHICH MAY BE NEEDED FOR LAND AND RESOURCE MANAGEMENT PLANNING

Type <sup>1</sup>	Data Element Name	WLF	-1	-2	-3	-4	-5	-6	-7	-8 <sup>2</sup>
A	Climate Type		Y <sup>3</sup>	~	~	~	Y	Y	Y	~
A	Precipitation, Average Annual		Y	~	~	~	Y	Y	Y	~
E	Ecological Status		Y	~	~	~	Y	Y	Y	~
E	Ecological Type (Habitat Type)		Y	~	~	~	Y	Y	Y	~
E	Ecoregion Code		Y	Y	Y	Y	Y	Y	Y	~
E	Ecosystem/Cover Type		Y	~	~	~	Y	Y	Y	~
E	Land - Aquatic Type Association		Y	~	~	~	Y	Y	Y	~
E	Land Surface Form Code		Y	~	~	~	Y	Y	Y	~
E	Potential Natural Community		Y	~	~	~	~	~	~	~
F	T & E Species Habitat		Y	~	~	~	Y	Y	Y	~
F	Wildlife & Fish Habitat Capability		Y	~	~	~	Y	Y	Y	~
F	Wildlife/Fish/T&E Abundance		~	Y	~	Y	~	~	~	~
G	Landforms		Y	~	~	~	Y	Y	Y	~
L	Administrative Unit		Y	Y	Y	Y	Y	Y	Y	Y
L	Land Location (GLO)		Y	Y	Y	Y	Y	Y	Y	Y
L	Land Location (Metes and Bounds)		Y	Y	Y	Y	Y	Y	Y	Y
L	Ownership		Y	Y	Y	Y	Y	Y	Y	Y
L	Region/Station/Area		Y	Y	Y	Y	Y	Y	Y	Y
L	Subunit		Y	Y	Y	Y	Y	Y	Y	Y
L	Withdrawals		Y	~	~	~	Y	Y	Y	~
R	Land Use Class		Y	~	~	~	Y	Y	Y	~
R	Wildlife & Fish User Days (WFUD)		~	~	~	~	~	~	~	Y
S	Erosion Severity		Y	~	~	~	Y	Y	Y	~
S	Soil Cover		Y	~	~	~	Y	Y	Y	~
S	Soil Drainage Class		Y	~	~	~	Y	Y	Y	~
S	Soil Erosion Type		Y	~	~	~	Y	Y	Y	~
S	Soil Structure		Y	~	~	~	Y	Y	Y	~
S	Soil Taxonomic Unit		Y	~	~	~	Y	Y	Y	~
S	Soil Texture		Y	~	~	~	Y	Y	Y	~
V	Basal Area		Y	~	~	~	Y	Y	Y	~
V	Canopy Cover		Y	~	~	~	Y	Y	Y	~
V	Crown Class		Y	~	~	~	Y	Y	Y	~
V	Crown Length (Depth)		Y	~	~	~	Y	Y	Y	~
V	Crown Ratio		Y	~	~	~	Y	Y	Y	~
V	Diameter at Breast Height (d.b.h.)		Y	~	~	~	Y	Y	Y	~
V	Down Material Condition		Y	~	~	~	Y	Y	Y	~
V	Forage Utilization		Y	~	~	~	Y	Y	Y	~
V	Forest Land Class		Y	~	~	~	Y	Y	Y	~
V	Height Growth		Y	~	~	~	Y	Y	Y	~
V	Height to Crown, Compacted		Y	~	~	~	Y	Y	Y	~
V	Land Cover Category		Y	~	~	~	Y	Y	Y	~

## 25.5 Exhibit 01-- Continued

Type <sup>1</sup>	Data Element Name	WLF	-1	-2	-3	-4	-5	-6	-7	-8 <sup>2</sup>
V	Plant Species		Y	~	~	~	Y	Y	Y	~
V	Production, Forage		Y	~	~	~	Y	Y	Y	~
V	Radial Growth (Increment)		Y	~	~	~	Y	Y	Y	~
V	Seedling/Shrub Count		Y	~	~	~	Y	Y	Y	~
V	Site Index		Y	~	~	~	Y	Y	Y	~
V	Size Down Woody Material		Y	~	~	~	Y	Y	Y	~
V	Snag Condition		Y	~	~	~	Y	Y	Y	~
V	Stand Age		Y	~	~	~	Y	Y	Y	~
V	Stand Condition		Y	~	~	~	Y	Y	Y	~
V	Stand History		Y	~	~	~	Y	Y	Y	~
V	Stand Origin		Y	~	~	~	Y	Y	Y	~
V	Stand Size Class		Y	~	~	~	Y	Y	Y	~
V	Stand Structure		Y	~	~	~	Y	Y	Y	~
V	Stocking Percent		Y	~	~	~	Y	Y	Y	~
V	Tree Age		Y	~	~	~	Y	Y	Y	~
V	Tree Class		Y	~	~	~	Y	Y	Y	~
V	Tree Length (Height)		Y	~	~	~	Y	Y	Y	~
V	Vegetation Density		Y	~	~	~	Y	Y	Y	~
V	Vegetation Height		Y	~	~	~	Y	Y	Y	~
W	Stream Order		Y	~	~	~	Y	Y	~	~

<sup>1</sup> Data Element (Variable) Type. For ease of reference, data elements or variables are groups by classes as follows:

A = Air and Climate Related Variables  
 E = Ecology Related Variables  
 F = Fish/Wildlife Related Variables  
 G = Geology Related Variables  
 L = Lands and Land Status Related Variables  
 R = Resource and Land Use Related Variables  
 S = Soil Related Variables  
 V = Vegetation Related Variables  
 W = Water Related Variables

Variables are listed alphabetically within these groupings and are defined in the Interim Resource Inventory Glossary.

<sup>2</sup> Use Identification. See section 25.5 for codes.

<sup>3</sup> "Y" indicates the data element may be needed to generate the specified information.

## 25.5 - Exhibit 02

### FISHERIES RESOURCE RELATED DATA ELEMENTS WHICH MAY BE NEEDED FOR LAND AND RESOURCE MANAGEMENT PLANNING

Type <sup>1</sup>	Data Element Name	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10 <sup>2</sup>
E	Aquatic Habitat Types	Y <sup>3</sup>	~	~	~	~	~	~	~	~	Y
E	Ecological Status	Y	Y	Y	~	~	~	Y	~	~	~
E	Ecological Type (Habitat Type)	Y	Y	Y	~	~	~	Y	~	~	~
E	Ecoregion Code	Y	Y	Y	~	~	~	Y	~	~	~
E	Ecosystem/Cover Type	Y	Y	Y	~	~	~	Y	~	~	~
E	Land - Aquatic Type Association	Y	Y	Y	Y	Y	Y	Y	~	Y	Y
E	Land Surface Form Code	Y	Y	Y	~	~	~	Y	~	Y	~
E	Potential Natural Community	Y	Y	Y	~	~	~	Y	~	~	Y
F	Fish Harvest	~	~	~	~	~	~	~	Y	~	~
F	Fisheries Classification	Y	Y	Y	~	~	~	~	~	Y	Y
F	Macroinvertebrate Biotic Condition	~	~	~	~	~	~	~	~	Y	~
F	Species Management Status	~	~	Y	Y	Y	Y	~	~	~	~
F	T & E Species Habitat	Y	Y	Y	~	~	~	~	~	~	~
F	Wildlife & Fish Habitat Capability	Y	Y	Y	~	~	~	Y	~	Y	Y
F	Wildlife/Fish/T&E Abundance	~	~	Y	~	Y	Y	~	~	Y	~
G	Landforms	Y	Y	Y	~	~	~	Y	~	~	~
L	Administrative Unit	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
L	Land Location (GLO)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
L	Land Location (Metes and Bounds)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
L	Ownership	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
L	Region/Station/Area	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
L	Subunit	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
R	Land Use Class	Y	Y	Y	~	~	~	Y	~	~	~
R	Wildlife & Fish User Days (WFUD)	~	~	~	~	~	~	~	Y	~	~
S	Erosion Severity	Y	Y	Y	~	~	~	Y	~	Y	Y
S	Parent Material	Y	Y	Y	~	~	~	Y	~	Y	Y
S	Soil Cover	Y	Y	Y	~	~	~	Y	~	Y	Y
S	Soil Drainage Class	Y	Y	Y	~	~	~	Y	~	Y	Y
S	Soil Erosion Type	Y	Y	Y	~	~	~	Y	~	Y	Y
V	Crown Closure (Cover)	Y	~	~	~	~	~	~	~	~	Y
V	Down Material Condition	Y	~	~	~	~	~	~	~	~	Y
V	Land Cover Category	Y	Y	Y	~	~	~	Y	~	~	~
V	Plant Species	Y	~	Y	~	~	~	Y	~	~	Y
V	Site Index	Y	Y	Y	~	~	~	Y	~	~	~
V	Stand Age	Y	Y	Y	~	~	~	Y	~	~	~
V	Stand History	Y	Y	Y	~	~	~	Y	~	~	~
V	Stand Origin	Y	Y	Y	~	~	~	Y	~	~	~
V	Tree Age	Y	~	Y	~	~	~	Y	~	~	Y
V	Vegetation Height	Y	~	Y	~	~	~	Y	~	~	Y
W	Channel Depth	Y	~	~	~	~	~	~	~	Y	Y
W	Channel Entrenchment	Y	~	~	~	~	~	~	~	~	Y
W	Channel Roughness	Y	~	~	~	~	~	~	~	~	Y

## 25.5 - Exhibit 02--Continued

Type <sup>1</sup>	Data Element Name	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10 <sup>2</sup>
W	Channel Stability Rating	Y	~	~	~	~	~	~	~	~	Y
W	Channel Substrate	Y	~	~	~	~	~	~	~	Y	Y
W	Chemistry, Water	Y	Y	~	~	~	~	~	~	Y	Y
W	Embeddedness	Y	~	~	~	~	~	~	~	~	Y
W	Hydrologic Unit Code	Y	Y	Y	Y	Y	Y	Y	~	Y	Y
W	Instream Cover	Y	~	~	~	~	~	~	~	~	Y
W	Instream Woody Debris	Y	~	~	~	~	~	~	~	~	Y
W	Pool Quality	Y	~	~	~	~	~	~	~	~	Y
W	Pool-Riffle Ratio	Y	~	~	~	~	~	~	~	~	Y
W	Reach Number	Y	~	~	Y	Y	Y	~	~	Y	Y
W	Shore Depth	~	Y	~	~	~	~	~	~	~	Y
W	Sinuosity	Y	~	~	~	~	~	~	~	~	Y
W	Stream Channel-Bank Angle	Y	~	~	~	~	~	~	~	~	Y
W	Stream Order	Y	~	~	~	~	~	~	~	~	Y
W	Stream Shade Cover	Y	~	~	~	~	~	~	~	~	Y
W	Stream Type	Y	~	~	~	~	~	~	~	Y	Y
W	Streambank Undercut	Y	~	~	~	~	~	~	~	~	Y
W	Streamflow	Y	~	~	~	~	~	~	~	Y	Y
W	Suspended Sediment	Y	~	~	~	~	~	~	~	~	Y
W	Temperature, Water	Y	Y	~	~	~	~	~	~	Y	Y
W	Turbidity	Y	~	~	~	~	~	~	~	~	Y

<sup>1</sup> Data Element (Variable) Type. For ease of reference, data elements or variables are grouped by classes as follows:

E = Ecology Related Variables  
 F = Fish/Wildlife Related Variables  
 G = Geology Related Variables  
 L = Lands and Land Status Related Variables  
 R = Resource and Land Use Related Variables  
 S = Soil Related Variables  
 V = Vegetation Related Variables  
 W = Water Related Variables

Variables are listed alphabetically within these groupings and are defined in the Interim Resource Inventory Glossary.

<sup>2</sup> Use Identification. See section 25.5 for codes.

<sup>3</sup> "Y" indicates the data element may be needed to generate the specified information.

## 25.6 - Minerals and Geology

Exhibit 01 lists the data elements that have been used in the past as well as those that may be used in the future to develop the inventory-derived minerals and geologic information to meet the needs for Forest planning for Mineral Occurrence (area by mineral resource and land availability) and for delineating areas of special geologic interest.

### 25.6 - Exhibit 01

#### GEOLOGY AND MINERALS RESOURCE RELATED DATA ELEMENTS WHICH MAY BE NEEDED FOR LAND AND RESOURCE MANAGEMENT PLANNING

Type <sup>1</sup>	Data Element Name
G	Geologic Features (Special)
G	Geologic Hazards
G	Ground Water Aquifers
G	Landforms
G	Lithologic Unit
G	Mineral Commodities
G	Mineral Resource
G	Paleontological Resources
L	Administrative Unit
L	Land Location (GLO)
L	Land Location (Metes and Bounds)
L	Ownership
L	Region/Station/Area
L	Subunit
L	Withdrawals

<sup>1</sup> Data Element (Variable) Type. For ease of reference, data elements or variables are groups by classes as follows:

G = Geology Related Variables

L = Lands and Land Status Related Variables

Variables are listed alphabetically within these groupings and are defined in the Interim Resource Inventory Glossary.

## 25.7 - Lands

Exhibit 01 lists the data elements that have been used in the past as well as those that may be used in the future to develop the inventory-derived land information to meet the needs for Forest planning.

### 25.7 - Exhibit 01

#### LANDS RESOURCE RELATED DATA ELEMENTS WHICH MAY BE NEEDED FOR LAND AND RESOURCE MANAGEMENT PLANNING

Type <sup>1</sup>	Data Element Name
L	Administrative Unit
L	Congressional District
L	County, Parish, Borough, Township
L	Land Location (GLO)
L	Land Location (Metes and Bounds)
L	Ownership
L	Proclaimed Unit (NFFID)
L	Region/Station/Area
L	State/Territory
L	Subunit
L	Withdrawals
R	Water Uses

<sup>1</sup> Data Element (Variable) Type. For ease of reference, data elements or variables are groups by classes as follows:

L = Lands and Land Status Related Variables

R = Resource and Land Use Related Variables

Variables are listed alphabetically within these groupings and are defined in the Interim Resource Inventory Glossary.



## 25.8 - Fire

Exhibit 01 lists the data elements that have been used in the past as well as those that may be used in the future to develop the inventory-derived fire information to meet the needs for Forest planning to describe the Fire Management Situation. Data are used in the National Fire Management Analysis. See FSH 5109.19, Fire Management Analysis and Planning Handbook. Data are also used for the development of the Fire Management Action plan (FSM 5190).

### 25.8 - Exhibit 01

#### FIRE RESOURCE RELATED DATA ELEMENTS WHICH MAY BE NEEDED FOR LAND AND RESOURCE MANAGEMENT PLANNING

Type <sup>1</sup>	Data Element Name
E	Ecosystem/Cover Type
L	Administrative Unit
L	Land Location (GLO)
L	Land Location (Metes and Bounds)
L	Ownership
L	Region/Station/Area
L	Subunit
V	Crown Closure (Cover)

<sup>1</sup> Data Element (Variable) Type. For ease of reference, data elements or variables are groups by classes as follows:

E = Ecology Related Variables

L = Lands and Land Status Related Variables

V = Vegetation Related Variables

Variables are listed alphabetically within these groupings and are defined in the Interim Resource Inventory Glossary.

## 26 - Other National Needs

Exhibit 01 lists the data elements that have been used in the past as well as those that may be used in the future to develop the inventory-derived information for other national needs. Use exhibit 01 to coordinate data collection, maintenance, and sharing across functions.

### 26 - Exhibit 01

#### DATA ELEMENTS THAT MAY BE NEEDED FOR OTHER NEEDS BY FUNCTION

Type <sup>1</sup>	Data Element Name	WSH	GEO	LND	FIR <sup>2</sup>
A	Climate Type	Y <sup>3</sup>	~	~	Y
A	Fuel Moisture	~	~	~	Y
A	Precipitation, Hourly	Y	~	~	~
A	Relative Humidity	~	~	~	Y
A	Visual Quality	Y	~	~	~
A	Wind Speed	Y	~	~	Y
E	Ecological Status	Y	~	~	~
E	Ecological Type (Habitat Type)	Y	~	~	~
E	Ecosystem/Cover Type	Y	~	~	Y
E	Potential Natural Community	Y	~	~	~
G	Geologic Formation	~	Y	~	~
G	Geologic Hazards	~	Y	~	~
G	Geologic Time Unit	~	Y	~	~
G	Landforms	Y	~	~	~
G	Lithologic Unit	~	Y	~	~
L	Administrative Unit	~	~	Y	~
L	Congressional District	~	~	Y	Y
L	County, Parish, Borough, Township	~	~	Y	~
L	Land Location (GLO)	Y	~	Y	Y
L	Land Location (Metes and Bounds)	Y	~	Y	Y
L	Ownership	~	~	Y	Y
L	Proclaimed Unit (NFFID)	~	~	Y	Y
L	Region/Station/Area	~	~	Y	Y
L	State/Territory	~	~	Y	Y
L	Subregion	~	~	~	Y
L	Subunit	~	~	Y	Y
L	Withdrawals	~	~	Y	Y
R	Fuel Model	~	~	~	Y
R	Public Access	~	~	~	Y
R	Road Functional Class	~	~	~	Y
R	Road Surface	~	~	~	Y
R	Road System	~	~	~	Y
R	Time Since Disturbance	~	~	~	Y
R	Water Uses	~	~	Y	~
S	Depth to Bedrock or Restriction	Y	~	~	~

## 26 - Exhibit 01-- Continued

Type <sup>1</sup>	Data Element Name	WSH	GEO	LND	FIR <sup>2</sup>
S	Depth to Mottling or Water	Y	~	~	~
S	Detrimental Soil Disturbance	Y	~	~	~
S	Effective Rooting Depth	Y	~	~	~
S	Erosion Severity	Y	~	~	Y
S	Forest Floor (Litter) and Humus	Y	~	~	Y
S	Mass Stability	Y	~	~	~
S	Parent Material	Y	~	~	~
S	Particle Size	Y	~	~	~
S	Soil Cover	Y	~	~	~
S	Soil Drainage Class	Y	~	~	~
S	Soil Erosion Type	Y	~	~	~
S	Soil Map Unit	Y	~	~	~
S	Soil Structure	Y	~	~	~
S	Soil Taxonomic Unit	Y	~	~	~
S	Soil Texture	Y	~	~	~
V	Canopy Cover	~	~	~	Y
V	Down Material Condition	~	~	~	Y
V	Height to Crown, Uncompacted	~	~	~	Y
V	Plant Species	Y	~	~	~
V	Production, Forage	Y	~	~	~
V	Site Productivity Class	Y	~	~	~
V	Size Down Woody Material	~	~	~	Y
V	Snag Condition	~	~	~	Y
V	Stand History	~	~	~	Y
V	Vegetation Height	Y	~	~	~

<sup>1</sup> Data Element (Variable) Type. For ease of reference, data elements or variables are grouped by classes as follows:

A = Air and Climate Related Variables  
 E = Ecology Related Variables  
 G = Geology Related Variables  
 L = Lands and Land Status Related Variables  
 R = Resource and Land Use Related Variables  
 S = Soil Related Variables  
 V = Vegetation Related Variables

Variables are listed alphabetically within these groupings and are defined in the Interim Resource Inventory Glossary.

<sup>2</sup> Function Identification. The following codes are used to identify specific resource functions:

WSH is Watershed  
 GEO is Minerals and Geology  
 LND is Lands  
 FIR is Fire

<sup>3</sup> "Y" indicates the data element may be needed to generate the specified information.

## **26.1 - Range and Livestock**

Minimum allotment management plan inventory requirements are the same as the needs identified in sec. 25.1. Additional requirements are found in Regional FSH 2209.21 handbooks.

## **26.4 - Watershed and Air**

Exhibit 01 lists data elements normally needed to produce the inventory-derived, watershed information requiring national standards for determining soil interpretations.

- WSH-1 Equipment Operability
- WSH-2 Regeneration
- WSH-3 Prescribed Burning
- WSH-4 Seedling Mortality
- WSH-5 Developed Recreation Sites
- WSH-6 Range Revegetation
- WSH-7 Mined Area Reclamation
- WSH-8 Surface Erosion

## 26.4 - Exhibit 01

### WATERSHED RESOURCE RELATED DATA ELEMENTS WHICH MAY BE NEEDED FOR SOIL INTERPRETATIONS

Type <sup>1</sup>	Data Element Name WSH	-1	-2	-3	-4	-5	-6	-7	-8 <sup>2</sup>
A	Climate Type	~	~	~	~	~	~	~	Y <sup>3</sup>
A	Precipitation, Hourly	~	~	~	~	~	~	~	Y
A	Visual Quality	~	~	~	~	~	~	~	Y
A	Wind Speed	~	~	~	~	~	~	~	Y
E	Ecological Status	~	~	Y	~	Y	Y	~	~
E	Ecological Type (Habitat Type)	~	Y	Y	Y	Y	Y	~	~
E	Ecosystem/Cover Type	Y	Y	Y	Y	~	Y	Y	Y
E	Potential Natural Community	~	Y	Y	Y	Y	Y	~	Y
G	Landforms	~	~	~	~	~	~	~	Y
L	Land Location (GLO)	Y	Y	Y	Y	Y	Y	Y	Y
L	Land Location (Metes and Bounds)	Y	Y	Y	Y	Y	Y	Y	Y
S	Depth to Bedrock or Restriction	~	Y	~	~	~	~	Y	~
S	Depth to Mottling or Water	Y	Y	~	~	~	~	~	~
S	Detrimental Soil Disturbance	~	~	~	~	~	Y	~	~
S	Effective Rooting Depth	~	~	Y	Y	~	~	~	Y
S	Erosion Severity	~	~	~	~	~	Y	~	~
S	Forest Floor (Litter) and Humus	~	~	Y	~	~	~	~	Y
S	Mass Stability	Y	~	Y	~	Y	~	Y	~
S	Parent Material	Y	Y	~	~	~	~	~	Y
S	Particle Size	Y	Y	~	~	~	~	~	Y
S	Soil Cover	~	~	~	~	~	~	~	Y
S	Soil Drainage Class	Y	Y	~	~	~	~	~	Y
S	Soil Erosion Type	~	~	~	~	~	~	~	Y
S	Soil Map Unit	Y	Y	Y	Y	Y	Y	Y	Y
S	Soil Structure	~	~	~	~	~	~	~	Y
S	Soil Taxonomic Unit	Y	Y	Y	Y	Y	Y	Y	Y
S	Soil Texture	Y	Y	~	~	~	~	~	Y
V	Plant Species	~	Y	Y	Y	~	Y	Y	Y
V	Production, Forage	~	~	~	~	~	~	~	Y
V	Site Productivity Class	~	Y	Y	Y	~	~	Y	~
V	Vegetation Height	~	~	~	~	~	~	~	Y

<sup>1</sup> Data Element (Variable) Type. For ease of reference, data elements or variables are groups by classes as follows:

- A = Air and Climate Related Variables
- E = Ecology Related Variables
- G = Geology Related Variables
- L = Lands and Land Status Related Variables
- S = Soil Related Variables
- V = Vegetation Related Variables

## **26.4 - Exhibit 01--Contiued**

Variables are listed alphabetically within these groupings and are defined in the Interim Resource Inventory Glossary.

<sup>2</sup> Use Identification. See section 26.4 for codes.

<sup>3</sup> "Y" indicates the data element may be needed to generate the specified information.

## **26.6 - Minerals and Geology**

In addition to the geologic variables described under section 25.6 for delineating areas of special geologic interest, the following the minerals and geologic variables are normally used in the preparation of a standard geologic map used for project work.

- Geologic Formation
- Geologic Hazards
- Geologic Time Unit
- Lithologic Unit

These variables are defined in the Interim Resource Inventory Glossary.

## **26.7 - Lands**

See Sec. 25.7 for a listing of the data elements that may be needed to produce the inventory-derived Lands information for Service-wide reporting systems including Landownership Status (LOS), Forest Land Use Report (FLUR), the Land Areas Report (LARS), Lands - East and West (LEW), and Geographic Information System (GIS).

## 26.8 - Fire

Exhibit 01 lists the variables usually needed for fire management planning.

### 26.8 - Exhibit 01

#### FIRE RESOURCE RELATED DATA ELEMENTS THAT MAY BE USED FOR FIRE MANAGEMENT PLANNING

Type <sup>1</sup>	Data Element Name
A	Climate Type
A	Fuel Moisture
A	Relative Humidity
A	Wind Speed
E	Ecosystem/Cover Type
L	Congressional District
L	Land Location (GLO)
L	Land Location (Metes and Bounds)
L	Ownership
L	Proclaimed Unit (NFFID)
L	Region/Station/Area
L	State/Territory
L	Subregion
L	Subunit
L	Withdrawals
R	Fuel Model
R	Public Access
R	Road Functional Class
R	Road Surface
R	Road System
R	Time Since Disturbance
S	Erosion Severity
S	Forest Floor (Litter) and Humus
V	Canopy Cover

<sup>1</sup> Data Element (Variable) Type. For ease of reference, data elements or variables are groups by classes as follows:

A = Air and Climate Related Variables

E = Ecology Related Variables

L = Lands and Land Status Related Variables

R = Resource and Land Use Related Variables

S = Soil Related Variables

V = Vegetation Related Variables

Variables are listed alphabetically within these groupings and are defined in the Interim Resource Inventory Glossary.



## 27 - Summary

Exhibit 01 summarizes the data elements that have been used in the past as well as those that may be used in the future to meet the needs for developing national assessments (RPA), Forest plans (LRMP), and other national needs (OTHER). Use this exhibit to coordinate data collection, data sharing, and information flows.

### 27 - Exhibit 01

#### SUMMARY OF DATA ELEMENTS THAT MAY BE USED TO DEVELOP FUTURE ASSESSMENTS, FOREST PLANS, AND OTHER NEEDS

Type <sup>1</sup>	Data Element Name	RPA	LRMP	OTHER <sup>2</sup>
A	Air Class I Boundaries	~	Y <sup>3</sup>	~
A	Chemistry, Atmospheric	Y	Y	~
A	Chemistry, pH Dry Deposition	~	Y	~
A	Chemistry, pH Wet Deposition	~	Y	~
A	Chemistry, Snowpack	Y	Y	~
A	Climate Type	Y	Y	Y
A	Fuel Moisture	~	Y	Y
A	Mixing Height	~	Y	~
A	Odor Type and Concentration	Y	Y	~
A	Pollutant Loading	Y	Y	~
A	Precipitation, Average Annual	Y	Y	~
A	Precipitation, Hourly	Y	Y	Y
A	Relative Humidity	Y	Y	Y
A	Temperature, Ambient	~	Y	~
A	Visibility Sensitivity	~	Y	~
A	Visual Quality	Y	Y	Y
A	Visual Range	Y	Y	~
A	Wind Speed	~	Y	Y
E	Aquatic Habitat Types	~	Y	~
E	Ecological Status	Y	Y	Y
E	Ecological Type (Habitat Type)	Y	Y	Y
E	Ecological Unit	Y	Y	~
E	Ecoregion Code	Y	Y	~
E	Ecosystem/Cover Type	Y	Y	Y
E	Land - Aquatic Type Association	Y	Y	~
E	Land Surface Form Code	Y	Y	~
E	Potential Natural Community	Y	Y	Y
E	Trend	Y	Y	~
F	Fish Harvest	Y	Y	~
F	Fisheries Classification	Y	Y	~
F	Macroinvertebrate Biotic Condition	~	Y	~

**27 - Exhibit 01-- Continued**

Type <sup>1</sup>	Data Element Name	RPA	LRMP	OTHER <sup>2</sup>
F	Species Management Status	Y	Y	~
F	T & E Species Habitat	Y	Y	~
F	Wildlife & Fish Habitat Capability	Y	Y	~
F	Wildlife/Fish/T&E Abundance	Y	Y	~
G	Geologic Features (Special)	~	Y	~
G	Geologic Formation	~	~	Y
G	Geologic Hazards	~	Y	Y
G	Geologic Time Unit	~	~	Y
G	Ground Water Aquifers	~	Y	~
G	Landforms	Y	Y	Y
G	Lithologic Unit	~	Y	Y
G	Mineral Commodities	Y	Y	~
G	Mineral Resource	Y	Y	~
G	Paleontological Resources	Y	Y	~
L	Administrative Unit	Y	Y	Y
L	Congressional District	Y	Y	Y
L	County, Parish, Borough, Township	Y	Y	Y
L	Land Location (GLO)	~	Y	Y
L	Land Location (Metes and Bounds)	~	Y	Y
L	Ownership	Y	Y	Y
L	Private Forest Land Owner	Y	~	~
L	Proclaimed Unit (NFFID)	Y	Y	Y
L	Region/Station/Area	Y	Y	Y
L	State/Territory	Y	Y	Y
L	Subregion	Y	~	Y
L	Subunit	~	Y	Y
L	Withdrawals	Y	Y	Y
R	Fuel Model	~	~	Y
R	Land Use Class	Y	Y	~
R	Public Access	Y	Y	Y
R	Range Treatment Class	Y	Y	~
R	Recreation Opportunity Class	Y	Y	~
R	Recreation Use	Y	Y	~
R	Road Functional Class	Y	Y	Y
R	Road Surface	Y	Y	Y
R	Road System	Y	Y	Y
R	Timber Treatment Opportunity Class	Y	~	~
R	Time Since Disturbance	Y	Y	Y
R	Traffic Lanes	Y	Y	~
R	Visual Resource Management Class	~	Y	~
R	Water Uses	Y	Y	Y
R	Wildlife & Fish User Days (WFUD)	Y	Y	~
S	Depth to Bedrock or Restriction	Y	Y	Y
S	Depth to Mottling or Water	~	Y	Y

**27 - Exhibit 01-- Continued**

Type <sup>1</sup>	Data Element Name	RPA	LRMP	OTHER <sup>2</sup>
S	Detrimental Soil Disturbance	~	Y	Y
S	Effective Rooting Depth	~	Y	Y
S	Erosion Severity	Y	Y	Y
S	Forest Floor (Litter) and Humus	~	Y	Y
S	Mass Stability	Y	Y	Y
S	Parent Material	Y	Y	Y
S	Particle Size	~	~	Y
S	Soil Cover	Y	Y	Y
S	Soil Drainage Class	Y	Y	Y
S	Soil Erosion Type	Y	Y	Y
S	Soil Map Unit	Y	Y	Y
S	Soil Structure	Y	Y	Y
S	Soil Taxonomic Unit	Y	Y	Y
S	Soil Texture	Y	Y	Y
V	Bark Thickness	Y	Y	~
V	Basal Area	Y	Y	~
V	Bole Length	Y	Y	~
V	Bole Top Diameter	Y	Y	~
V	Butt Log Grade	Y	Y	~
V	Canopy Cover	Y	Y	Y
V	Cause of Death/Injury	Y	Y	~
V	Crown Class	Y	Y	~
V	Crown Closure (Cover)	Y	Y	~
V	Crown Foliage Density	Y	~	~
V	Crown Form (Shape)	Y	~	~
V	Crown Length (Depth)	Y	Y	~
V	Crown Ratio	Y	Y	~
V	Crown Volume Percent	Y	~	~
V	Crown Width (Diameter)	Y	Y	~
V	Diameter at Breast Height (d.b.h.)	Y	Y	~
V	Diameter, Basal	Y	Y	~
V	Diameter, Stump	~	~	~
V	Down Material Condition	~	Y	Y
V	Forage Utilization	Y	Y	~
V	Forest Land Class	Y	Y	~
V	Height Growth	Y	Y	~
V	Height to Crown, Compacted	Y	Y	~
V	Height to Crown, Uncompacted	Y	~	Y
V	Land Cover Category	Y	Y	~
V	Mistletoe Infection Rating	Y	Y	~
V	Most Hazardous Pest	Y	Y	~
V	Plant Species	Y	Y	Y
V	Principle Defect	Y	Y	~
V	Production, Forage	Y	Y	Y

## 27 - Exhibit 01-- Continued

Type <sup>1</sup>	Data Element Name	RPA	LRMP	OTHER <sup>2</sup>
V	Radial Growth (Increment)	Y	Y	~
V	Sawlog Length	Y	Y	~
V	Sawlog Top Diameter	Y	Y	~
V	Seedling/Shrub Count	Y	Y	~
V	Site Index	Y	Y	~
V	Site Productivity Class	Y	Y	Y
V	Site Tree Quality	Y	Y	~
V	Size Down Woody Material	~	Y	Y
V	Snag Condition	~	Y	Y
V	Stand Age	Y	Y	~
V	Stand Condition	Y	Y	~
V	Stand History	Y	Y	Y
V	Stand Origin	Y	Y	~
V	Stand Size Class	Y	Y	~
V	Stand Structure	Y	Y	~
V	Stand Year of Origin	Y	Y	~
V	Stocking Percent	Y	Y	~
V	Tree Age	Y	Y	~
V	Tree Class	Y	Y	~
V	Tree History	Y	Y	~
V	Tree Length (Height)	Y	Y	~
V	Tree Top Condition	Y	Y	~
V	Tree Volume	Y	Y	~
V	Vegetation Density	Y	Y	~
V	Vegetation Height	Y	Y	Y
W	Channel Depth	Y	Y	~
W	Channel Entrenchment	Y	Y	~
W	Channel Gradient	Y	Y	~
W	Channel Roughness	~	Y	~
W	Channel Stability Rating	~	Y	~
W	Channel Substrate	~	Y	~
W	Chemistry, Water	Y	Y	~
W	Embeddedness	Y	Y	~
W	Hydrologic Unit Code	Y	Y	~
W	Instream Cover	~	Y	~
W	Instream Woody Debris	~	Y	~
W	Mean Water Depth	~	Y	~
W	Pool Quality	~	Y	~
W	Pool-Riffle Ratio	~	Y	~
W	Reach Number	~	Y	~
W	Shore Depth	~	Y	~
W	Sinuosity	~	Y	~
W	Stream Channel-Bank Angle	~	Y	~
W	Stream Order	~	Y	~

## 27 - Exhibit 01-- Continued

Type <sup>1</sup>	Data Element Name	OTHER <sup>2</sup>	RPA	LRMP
W	Stream Shade Cover	~	Y	~
W	Stream Type	Y	Y	~
W	Stream Width	Y	Y	~
W	Streambank Undercut	~	Y	~
W	Streamflow	Y	Y	~
W	Suspended Sediment	Y	Y	~
W	Temperature, Water	~	Y	~
W	Turbidity	~	Y	~

<sup>1</sup> Data Element (Variable) Type. For ease of reference, data elements or variables are groups by classes as follows:

A = Air and Climate Related Variables  
 E = Ecology Related Variables  
 F = Fish/Wildlife Related Variables  
 G = Geology Related Variables  
 L = Lands and Land Status Related Variables  
 R = Resource and Land Use Related Variables  
 S = Soil Related Variables  
 V = Vegetation Related Variables  
 W = Water Related Variables

Variables are listed alphabetically within these groupings and are defined in the Interim Resource Inventory Glossary.

<sup>2</sup> Use Identification. The following codes are used to identify specific areas of use:

RPA is the Renewable Resources Planning Act Assessment (Sec. 23)  
 LRMP is Land and Resource Management Planning (Sec. 25)  
 OTHER is other uses (Sec. 26)

<sup>3</sup> "Y" indicates the data element may be needed to generate the specified information.