

# **WILDLAND FIRE MANAGEMENT PLAN**

**For the**

**Colville Indian Reservation**

Prepared By:

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And

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# **Wildland Fire Management Plan**

**For the**

## **Colville Indian Reservation**

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## TABLE OF CONTENT

Chapter I - Wildland Fire Management Plan Introduction .....	9
Purpose and need .....	9
Environmental Compliance .....	9
Authority for Implementation of the Wildland Fire Management Plan.....	9
Compliance with bureau of Indian Affairs Policy .....	10
Enabling Management Policies.....	10
Resource values to be protected.....	10
Role of Wildland Fire Management Plan .....	10
Fire Policy history.....	11
Chapter II – Tribal Goals and Objectives Directed Toward Wildland Fire Management .....	12
Tribal Fire Management Policy .....	12
Tribal Fire Management Goals .....	12
Specific Fire Management Goals.....	12
Fire Management Standards .....	13
Fire Management Guidelines.....	13
Chapter III – Description of Area .....	14
Location .....	14
Land Ownership.....	14
General Climate/Weather.....	14
Fire/Fuels .....	15
Historical Perspective .....	15
Existing Conditions.....	19
Plant Associations.....	20
Ponderosa Pine PAG's .....	20
Douglas-fir PAG's .....	21
Grand Fir PAG.....	21
Subalpine Fir PAG's .....	23
Fuel Models .....	24
Chapter IV – Values to be Protected.....	27
Socioeconomic/Tribal Trust Responsibilities; Life .....	27
Socioeconomic/Tribal Trust Responsibilities; Budgets, Staffing, Training Requirements .....	27
Resources, Property and Other Values .....	27
Timber.....	27
Range/Agriculture.....	28
Cultural/Historical/Religious Values .....	29
Wildland Urban Interface .....	32
Air Quality .....	33
Water Quality.....	33
Wildlife Habitat .....	34
Large Ungulates .....	35
Other Mammals .....	37
Threatened or Endangered Species Habitat – Birds.....	38
Sharp-tail Grouse .....	39
Bald Eagle.....	41
Threatened or Endangered Species Habitat – Mammals .....	42

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Lynx .....	42
Threatened or Endangered Species Habitat – Fish .....	44
Bull Trout.....	44
Chinook Salmon.....	44
Threatened or Endangered Species Habitat – Plants.....	45
Soils .....	45
Other Values to be Protected .....	46
Chapter V – Preparedness Strategy.....	47
Authority and Responsibility .....	47
Overhead Staff .....	48
Superintendent .....	48
Forest Manager .....	48
Fire Management Officer.....	48
Finance Section.....	48
Tribal Coop Coordinator.....	48
Office Assistant II.....	49
Logistic Section .....	49
Assistant Fire Management Officer - Logistics .....	49
Training Officer .....	49
Lead Dispatcher .....	50
Dispatcher .....	50
Warehouse Manager .....	50
Fire Prevention Officer .....	51
Fire Prevention Technicians .....	52
Heavy Equipment Mechanic.....	52
Fire Lookouts.....	52
Relief Lookouts.....	52
Assistant Fire Management Officer – Fuels/Fire.....	52
Prescribed Fire/Fuels Specialist.....	53
Supervisory Fuels Technician.....	53
Operations Specialist .....	53
Aviation Manager .....	53
Heli-tack Crew .....	54
Supervisory Equipment Operator.....	54
Equipment Operators .....	54
District Fire/Fuels Technicians .....	54
Engine Operators .....	55
Support Facilities .....	55
Equipment.....	55
Facilities.....	55
Mt. Tolman Fire Center Offices.....	55
Fire Training Center.....	55
Fire Warehouse .....	55
Heavy Equipment Shop .....	56
Detection.....	56
Fire Lookouts.....	56
Aerial .....	56
Coordination Agreements .....	56
Cooperators .....	57
Non-Fire Support Overhead.....	57
Training and Qualifications .....	57

Training Program .....	57
Physical Fitness Program .....	58
Air Operations .....	58
Chapter VI – Mobilization Strategy .....	59
Dispatch Hierarchy .....	59
Weather Forecasts .....	59
Local Weather Stations for Determining Fire Danger Indices .....	60
Criteria and Action Guidelines .....	60
Pre-suppression .....	60
Closure Plan .....	60
Incident Mobilization Guide .....	64
Mission Statement .....	64
Policy .....	64
Objectives .....	64
Administrative Procedures .....	65
Multiple Fire Situations .....	67
Reciprocal Areas .....	68
Extended Attack Mobilization Strategy .....	68
Off-Reservation Dispatch Procedures .....	68
Overhead Crews .....	68
Equipment and Supplies .....	69
Aircraft .....	70
Reports .....	71
Precaution Levels .....	71
Preparedness Levels .....	72
Burned Area Emergency Rehabilitation (BAER) Mobilization Strategy .....	72
Chapter VII – Prevention Strategy .....	75
Specific Items that Warrant Special Mention .....	75
Fire (Burning) Permit System .....	75
Public Information and Education .....	75
Closures/Restrictions .....	77
Enforcement .....	77
Hazard Abatement .....	77
Prevention Workload Analysis (PWA) .....	78
Firework Policy .....	78
Public Information and Education .....	78
Information .....	78
Education .....	79
Public Safety Measures .....	79
Fire Critique .....	79
Annual Summary Report .....	80
Annual Fire Management Plan Review .....	80
Chapter VIII – Appropriate Management Response Strategy .....	81
Fire Management Zones .....	81
Decision Responsibilities and Risk Analysis .....	85
Stage I – Initial Fire Assessment .....	87
Stage II – Short –Term Implementation Actions .....	87
Stage III – Long-Term Assessment and Implementation Actions .....	88
Periodic Fire Assessment .....	89
Wildland Fire Decisional Support System (WFDSS) .....	89
AMR Prescription Determination .....	90

Prescription Parameters .....	90
Chapter IX – Fuel Management/Hazard Reduction .....	101
Risk - Hazard Assessment .....	101
Non-Urban Interface Hazard Reduction Workload .....	102
Wildland Urban Interface Hazard Reduction Workload.....	103
Example Strategies.....	103
Indirect .....	103
Direct .....	103
Rearrangement .....	103
Treatment Plan Development Strategy .....	103
Fuel Bed Conditions .....	104
Guidelines .....	104
Treatment Plan Implementation Strategy .....	105
Implementation Team .....	105
Duties .....	105
Prescribed Burning Parameters .....	106
Scheduling.....	106
Authorization to Burn .....	107
Mop Up .....	107
Financing .....	109
Burn Complexity.....	109
Smoke Management Strategy .....	109
Monitoring Strategy .....	110
WFDSS Strategy .....	110
Chapter X – Burned Area Emergency Stabilization and Rehabilitation (BAER).....	112
Specifications, Treatment and Funding Conditions .....	113
Watershed Treatments .....	113
Natural Resource Specifications (Other than Watersheds):.....	114
Protection of Threatened and Endangered Species (Flora and Fauna) .....	114
Weed Control .....	114
Timber Resource Values.....	114
Cultural Resource Treatments.....	115
Cultural Resources Damage Assessment, compliance and Rehabilitation (including archeology, cultural landscapes and traditional cultural properties).....	115
Historic Structure Condition, Assessment, Compliance and Rehabilitation.....	116
Infrastructure & Safety Specifications .....	116
Fence .....	116
Resource Protection and Public Safety Actions.....	117
Facility Replacement .....	117
Facility Construction/Structural Stabilization and Clean-up .....	117
Slash Mitigation .....	118
Other Rehabilitation Measures.....	118
BAER Measures for Protecting Investments .....	119
Dust Abatement .....	119
Research and Continuous Forest Inventory (CFI) Plots .....	119
Other .....	119
Minimum Impact Fire Suppression.....	119
REFERENCES CITED.....	121
ACRONYMS AND GLOSSARY .....	124
APPENDIX 1.....	132

## LIST OF FIGURES

Figure III - 1. Precipitation Zones on the Colville Indian Reservation.....	16
Figure III - 2. Fire Management Zones on the Colville Indian Reservation.....	22
Figure III - 3. FBO Fuel Models on the Colville Indian Reservation. ....	26
Figure IV - 1 Wildland/Urban Interface Zones on the Colville Reservation. ....	32
Figure IV - 2. Colville Indian Reservation Big-game Winter Range. ....	36
Figure IV - 3. Hellsgate and Omak Game Reserves on the Colville Indian Reservation. ....	36
Figure IV - 4. Sharp-tail Grouse Leks, Nesting and Winter Range on the Colville Reservation. ....	40
Figure IV - 5. Balk Eagle Nest and Winter Roost Sites on the Colville Reservation. ....	42
Figure IV - 6. Lynx Habitat Distribution on the Colville Reservation. ....	43
Figure VIII - 1. National Wildfire Coordinating Group Policy Framework and Flowchart.....	83
Figure VIII - 2. Fire Management Zones and Representative Locations on the Colville Reservation. ....	93
Figure VIII - 3. Energy Release Component (ERC) Calculated for Nespelem and Kramer, both in FMU1/RL Non-Urban Trust Areas. ....	92
Figure VIII - 4 . Energy Release Component (ERC) Calculated for Kramer in a FMU2/RL Non-Urban Trust and FMU3/RL Non-Urban Trust Areas).....	957
Figure VIII - 5. Energy Release component (ERC) Calculated for Gold Mountain in a FMU3/RL	
Figure VIII - 6 Energy Release Component (ERC) Calculated for WUI (ERC) Figure VIII - 7	
Energy Release Component (ERC) Calculated for FMU 6 and 7/RL Natural/Wilderness areas..	99

## LIST OF TABLES

Table IV - 1. Value Estimate of Current (2001) Range and Agriculture Values. ....	28
Table IV - 2. Risk of Significant Negative Effects to Cultural Resources from Fire, Suppression and Rehabilitation. * .....	31
Table IV - 3. Known Occurrences of Endangered or Threatened Plant Species on Lands within or Adjacent to the Colville Indian Reservation. ....	45
Table V - 1. Available Shared Fire Support Resources. ....	<b>Error! Bookmark not defined.</b>
Table VI - 1. Manning and Specific Action Guides for the Colville Reservation. ....	61
Table VI - 2. Closure Plan Action Guidelines for the Colville Reservation. ....	63
Table VII - 1. Fire Prevention Specific Manning and Action Guide for the Colville Reservation.....	76
Table VII - 2. Fire Problem Identification – Colville Reservation .....	78
Table VIII - 1. WFIP Implementation Stages for the Colville Reservation.....	86
Table VIII - 2. Guide for Wildland Fire Suppression Response in the FMU1 (Low Elevation Shrub /Grassland-Dry) /RL Non-Urban Trust Areas on the Colville Reservation.....	<b>Error! Bookmark not defined.</b>
Table VIII - 3. Guide for Wildland Fire Suppression Response in the FMU2 (Low Elevation Shrub /Grassland-Dry)/RL Non-Urban Trust Areas on the Colville Reservation. ....	914

Table VIII - 4. Guide for Wildland Fire Suppression Response in the FMZ3 (Low Elevation Timber/Shrub - Dry)/RL Non-Urban Trust Areas on the Colville Reservation.....	93
Table VIII - 5. Guide for Wildland Fire Suppression Response in the FMZ4 (Mid-High Elevation Timber/Shrub - Moist)/RL Non-Urban Trust Areas on the Colville Reservation....	<b>Error! Bookmark not defined.</b>
Table VIII - 6. Guide for Wildland Fire Suppression Response in the FMU5 WUI (Wildland UrbanInterface Areas on the Colville Reservation.....	<b>Error! Bookmark not defined.</b>
Table VIII - 7. Guide for Wildland Fire Suppression Response in the FM6 (Subalpine Forest)/RL Grizzly and FMU7 Mountain/Moses Mountain Areas on the Colville Reservation. ....	100
Table IX - 1. Proposed Average Annual Fuels Treatment Activity, PFIRM Colville Reservation.....	103

## **CHAPTER I - WILDLAND FIRE MANAGEMENT PLAN INTRODUCTION**

### **PURPOSE AND NEED**

The Wildland Fire Management Plan for the Colville Indian Reservation is a strategic plan that defines the fire program role in the management of wildland and prescribed fire on the Colville Indian Reservation. This Wildland Fire Management Plan (WFMP) is an integral part of the Colville Indian Reservation Plan For Integrated Resources Management (PFIRM).

The implementation of this WFMP will allow fire to play its natural ecologic role on the Reservation while protecting human life, structures and cultural resources. The WFMP includes fire prescriptions, incorporates the use of management-ignited prescribed fire in predetermined areas, and allows for multiple suppression strategies on all fires declared wildland. Fire is an active and powerful natural force that has the potential to affect most all areas and land management programs of the Colville Indian Reservation. The WFMP will govern a highly complex fire program that meets Colville PFIRM objectives.

### **ENVIRONMENTAL COMPLIANCE**

This Wildland Fire Management Plan is tiered to the Colville Indian Reservation Plan For Integrated Resource Management Final Environmental Impact Statement and Record of Decision. The Record of Decision for this EIS is, in essence, a programmatic statement of intent that establishes basic policies and sets forth the planning element that will be employed by the Colville Natural Resources Department in future site-specific decisions. Copies of the Environmental Impact Statement and Record of Decision may be obtained from the Colville Confederated Tribes, Department of Natural Resources, P. O. Box 150, Nespelem, WA 99155.

### **AUTHORITY FOR IMPLEMENTATION OF THE WILDLAND FIRE MANAGEMENT PLAN**

The Federal Wildland Fire Management Policy directs that every Federal land area with burnable vegetation will have a Wildland Fire Management Plan. The goals and objectives for the WFMP on the Colville Indian Reservation are established by the Colville Confederated Tribes Department of Natural Resources and implementation of the fire management program on the Reservation is the responsibility of the U.S. Department of Interior (USDI), Bureau of Indian Affairs (BIA).

## **COMPLIANCE WITH BUREAU OF INDIAN AFFAIRS POLICY**

The secretary of the U.S. Department of Interior, through the wildland fire bureau directors and the Deputy Commissioner of Indian Affairs, is responsible for the fire management activities of the Department (including such activities when contracted for, in whole or in part, with other Agencies or Tribes) under the statutes cited in 910 DM 1.1.

### **Enabling Management Policies**

References that identify current fire management policies, authority and management's direction for the Colville Confederated Tribes can be found in the following:

Bureau of Indian Affairs Manual #99-04 Part 90, Release 5/99.

- 25 CFR 163.28 Fire management authority given to the Secretary, USDI.
- National BIA Fire Management Planning Analysis (FMPA) Handbook, 1997
- National Fire Management Analysis System (NFMAS) Technical Manual, 1997.
- National Interagency Incident Management System (IMS) Technical Publications PMS 310-1-2000 and PMS 330-1-1993.
- Interagency Helicopter Operations Guide (IHOG),.
- Record of Decision and Plan for Implementation, Integrated Resources Management Plan, Colville Indian Reservation,

## **RESOURCE VALUES TO BE PROTECTED**

Fire can either destroy or enhance resources on the Colville Indian Reservation thereby affecting the Tribe's economic well-being. It may be necessary for the Fire Management Staff to aggressively suppress wildland fire to protect resource values, and at other times wisely and judiciously utilize prescribed fire to protect and enhance other resource values. Colville Tribal members have expressed their interest in both aspects of the fire management program. Natural resources such as forestry, range, wildlife, water and air quality are integral parts of the culture and economics of the Colville Indian Reservation and both aspects of fire management can be used to protect these multifaceted resource values. Person-made or natural resource components of Colville historic and cultural resources can be irreversibly damaged by uncontrolled fire and need to be protected whenever possible.

## **ROLE OF WILDLAND FIRE MANAGEMENT PLAN**

The Wildland Fire Management Plan for the Colville Indian Reservation describes the operational procedures in fire management that implements portions of the Colville Indian Reservation Plan For Integrated Resource Management, 2015-2030. The WFMP is the primary link between the Reservation's resource management plans and fire management field operations. The Fire Management Planning Analysis (FMPA) determines most effective level (MEL) fire suppression program levels based on resource values.

## **FIRE POLICY HISTORY**

Fire policy and fire management on the Colville Indian Reservation has been guided through the years by national fire policy direction and trends.

Fire policy has been modified substantially during the last century. The first national fire policy came after several years of severe fires between 1910 and 1935. In the context of the ecological theory of the time, fire exclusion was believed to promote ecological stability. In addition, fire exclusion could also reduce commodity damages and economic losses.

In 1935 the “10 AM Policy” was instituted wherein the objective was to prevent all human caused fires and contain any fire started by 10 a.m. the following day. By the 1960’s fire management costs were increasing exponentially. In addition, research was demonstrating that some positive benefits could be derived from natural and prescribed fire, and some leeway was granted for early and late season fires. A 10-Policy was added in 1971, which set a pre-suppression objective of containing all fires within 10 acres. In 1977, a new fire policy encouraged a pluralistic approach – fire by prescription. In the event initial attack failed alternatives to full suppression were to be considered. Fire suppression became fire management.

Review following the 1988 Yellowstone fires continued fire policy evolution. The review affirmed the positive benefits of fire, but also identified the inherent risks and liabilities of using fire and recommended greater planning, preparation, cooperation, and management oversight.

The extent and fatalities of the 1994 South Canyon Incident led to another review that again affirmed the positive benefits of fire. It recognized that fire was part of a larger problem, one of several symptoms of natural ecosystems becoming increasingly unstable due to altered regimes. It talked about the needs for landscape level resource management, the integration of fire into land management planning and implementation, and the involvement of all affected landowners and stakeholders. A report *1995 Federal Wildland Fire Management Policy & Program Review* documented these findings.

This direction was reviewed following the 2000 fire season with a report prepared by the Secretaries of Interior and Agriculture, *Managing the Impact of Wildfires on Communities and the Environment: A Report to the President in Response to the Wildfires of 2000*. The report focuses on several key points: restoring landscapes and rebuilding communities, undertaking projects to reduce risks, working directly with communities, and establishing accountability. Congress expressed its support with substantial new financial resources along with new direction for aggressive planning and implementation to reduce risks of wildland fire in Wildland Urban Interface acres. The Secretaries’ report and the Congressional action are generally known as the National Fire Plan.

## **CHAPTER II – TRIBAL GOALS AND OBJECTIVES DIRECTED TOWARD WILDLAND FIRE MANAGEMENT**

### **TRIBAL FIRE MANAGEMENT POLICY**

Support and direction for the Colville Fire Management Program is located within the Colville Indian Reservation Integrated Resource Management Plan 2015-2030. The PFIRM provides support for fire suppression, pre-suppression programs and prescribed burning programs.

### **Tribal Fire Management Goals**

An important goal of the Colville Confederated Tribes is to manage the Tribe's natural resources holistically through the development and implementation of the Integrated Resources Management Plan 2015-2030 that was approved by Colville Business Council Resolution. The Colville PFIRM establishes a list of fifteen socio-economic, ecosystem enhancement and protection goals to be achieved on the Colville Indian Reservation. In order to accomplish these FIRM goals under direction of the Federal Wildland and Prescribed Fire Policy and Fire Management Planning Analysis, fire management specific goals along with standards and guidelines have been established.

### **Specific Fire Management Goals**

The following fire management specific goals have been developed for the Colville Reservation:

- Every firefighter, every fireline supervisor, every fire manager and every Agency administrator will take positive actions to ensure compliance with established safe firefighting practices.
- Recognize the role of wildland fire as an essential ecological process and natural change agent and incorporate applicable knowledge into the fire planning process.
- Life and property values will be protected from damaging wildfires.
- Prescribed fire will be used for protecting and resource benefits under approved plans and acceptable conditions.
- Air quality impacts will always be considered in the prescribed fire planning process.
- An effective fire suppression capability will be maintained with minimum funding requirements and the utilization of suppression methods least damaging to the Reservation's resource values and environment.
- An aggressive wildland fire prevention program will be supported.
- Utilize only trained and qualified personnel on wildland and prescribed fire assignments.
- All wildland fires will be rehabilitated to minimize further damage or destruction to soil, water, forest, wildlife, roads, fauna and flora.

## **Fire Management Standards**

The following standards have been developed to coordinate the requirement of the Colville Fire Management Goals with guidelines set forth by the Federal Wildland and Prescribe Fire Policy, and the Fire Management Planning Analysis:

- Firefighter and public safety are the first priority in every fire management activity.
- Maintain an effective wildland fire suppression program and responsive prescribed fire management program.
- Develop fire management plans, programs, and activities that will support tribal land and resource management plans and their implementation when attainable.
- Foster Federal, State, Tribal, and Local interagency coordination and cooperation.
- Maintain a fire management program that is economically viable, based on values to be protected, costs, and land resource management objectives.
- All wildland fire personnel will be trained to those standards listed in the Wildland and Prescribed Fire Qualifications System Guide (PMS 310-1)
- Rehabilitate all wildland fires according to standards and guidelines outlined in the BAER Handbook.

## **Fire Management Guidelines**

To meet the Reservations' fire management goals and standards, the following guidelines will be followed:

1. Manage a wildland fire program that provides for firefighter and public safety, is cost-efficient, is responsive to land stewardship needs and to other resources management goals and objectives.
2. Maintain a training program that will provide sufficient numbers of trained and qualified firefighters to support the wildland fire and prescribed fire programs.
3. Maintain a comprehensive fuel's management program that addresses multi-disciplinary fire applications.
4. Conduct a fuel's inventory that will integrate with the GIS database and provide for long term trend monitoring.
5. Actively participate in interagency fire management operations through planning and sharing of resources under formal agreements.
6. Maintain a wildland fire prevention program that will strive to reduce all human caused wildland fires.
7. Continue to utilize Fire Management Planning Analysis for program planning.
8. Support and maintain a responsive and effective Burned Area Emergency Rehabilitation team.
9. Promote tribal contracting and employment opportunities when available.
10. Aggressively suppress all wildland urban-interface wildfires.
11. Utilize "Light-Hands-on-the-Land fire tactics whenever feasible.
12. Provide for a safe working environment by strictly adhering to national standards for qualifications, physical fitness, and personal protective equipment as outlined in PMS 310-1,.

## **CHAPTER III – DESCRIPTION OF AREA**

### **LOCATION**

The 1,392,265-acre Colville Indian Reservation is located in the north central portion of the State of Washington. The Reservation, the largest in the State of Washington measures approximately 35 miles north to south and 80 miles east to west. About 610,000 acres of the Reservation are in Okanogan County and 782,000 acres in Ferry County. More specifically, the Reservation is bounded on the east and south by the Columbia River, on the west by the Okanogan River and on the north by the township line common to Townships 34 and 35 north of the Willamette meridian. Much of the Reservation is mountainous covered by conifer forest, but lands bordering the Okanogan and Columbia Rivers are arid and naturally covered with vegetation of steppe environments. About 1,023,700 acres of the Reservation are in tribal trust and the remaining lands are in a non-trust status (owned by private individuals or corporations).

The principal towns on the Colville Reservation are Nespelem, Keller, Elmer City and Coulee Dam in the central portion, Inchelium in the eastern portion and East Omak on the western boundary. In addition to the Reservation communities, a large number of people live in more rural locations throughout the Reservation. This wildland urban interface with natural vegetation fuel complexes is increasing each year.

### **LAND OWNERSHIP**

The land ownership pattern on the Reservation is complex and dynamic. Two basic categories of ownership are present: trust lands, which are held in trust by the U.S. Government, and fee patent lands, which are on the county land records and are taxed. Trust lands include both tribal lands owned collectively by the Tribes and allotted lands owned by Tribal members. Joint ownership of an allotment by several heirs is common.

Non-Indians own most fee lands, while both the tribes and individual tribal members own some fee lands. Small amounts of land within the Reservation are owned by, or held in easement by, the U.S. Government, State of Washington, Ferry County or Okanogan County. These publicly owned lands are mostly rights-of-way associated with highway and road construction or dams and developments. The total trust land amounts to approximately 1,063,200 acres, of which 1,023,700 acres are tribal lands and 39,500 acres, are allotted lands. Fee land acreage is approximately 321,886 acres. The amount of lands under tribal ownership is continuing to increase with the tribal policy of buying fee and allotted land whenever possible (U.S. Bureau of Reclamation 1979).

### **GENERAL CLIMATE/WEATHER**

Because of the location of the Reservation and its elongated east-west shape, the Reservation encompasses the interface of three climatic regimes. Vegetation of the southern portion of the

Reservation along the Columbia River reflects the strong influence of the arid and semi-arid climates and steppe region (shrub and grass dominated vegetation) of the north central Columbia Basin.

The western half of the Reservation displays the strong influence of the rain shadow cast by the Cascade Mountain range that produces a warmer and drier climate than the ponderosa pine and Douglas-fir forestlands to the east. The eastern half of the Reservation (in particular the northeast corner) is influenced by the maritime weather patterns that produce the cooler and moister climates that add grand fir and western red-cedar to the forest composition in the extreme northeastern Washington.

The bulk of the annual precipitation comes during the winter months in the form of snow at the higher elevations, and rain at the lower elevations. Summers are characterized by a hot dry period, July through mid September, punctuated by monsoon type thunderstorms. See Figure III - 1 for precipitation patterns.

## **FIRE/FUELS**

### **Historical Perspective**

Many elders say the forest is different today than it used to be. They picture the forest as having been open and park-like with big ponderosa pine trees and very little brush. They describe riding horseback through a forest unimpeded by thick vegetation. In 1904, a forester named Franklin Reed described two forest types on the Reservation (Reed 1904):

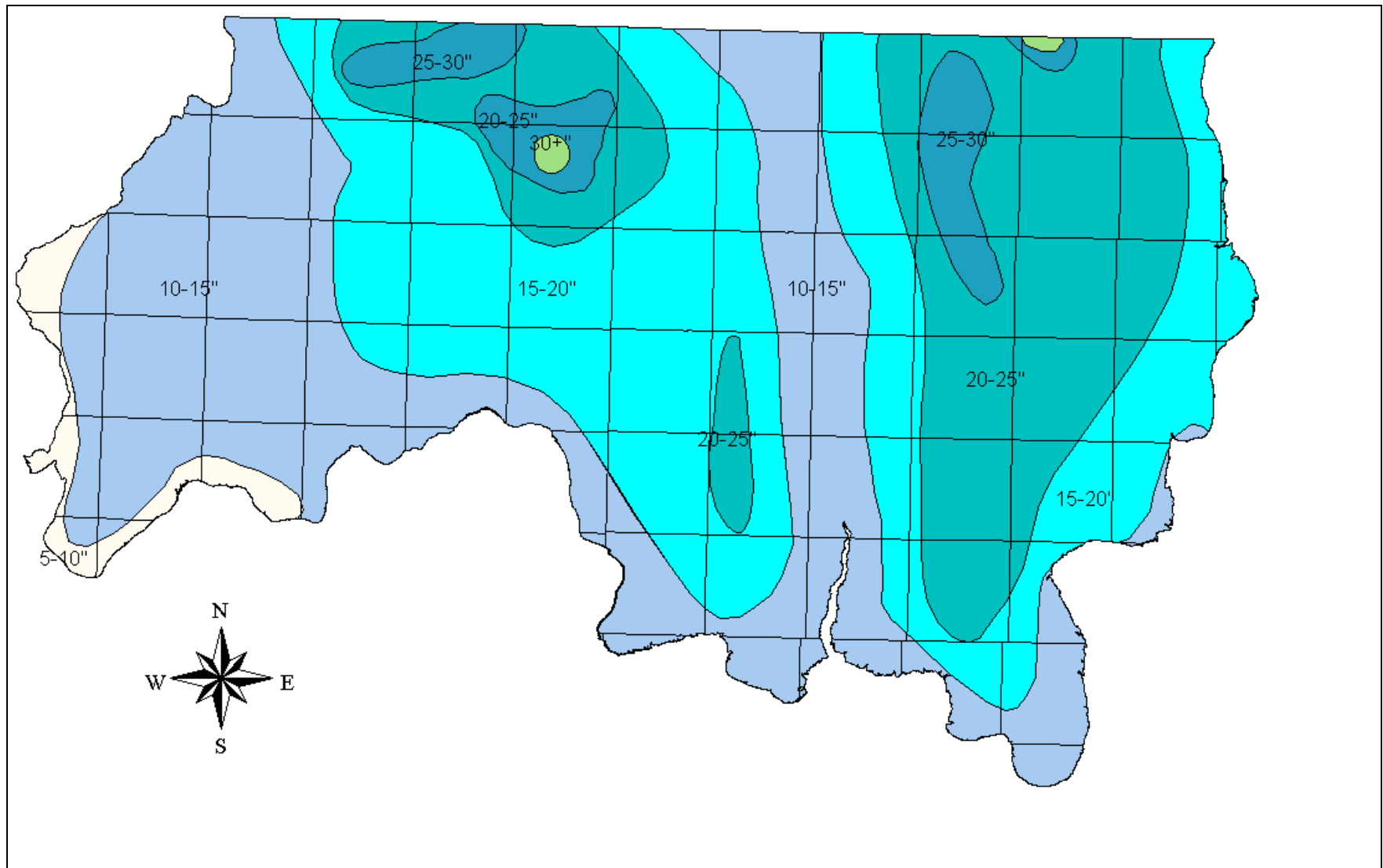
"... a pure, open stand of bull pine (ponderosa) with a ground cover of bunch grass. The stand consists of 10 to 15 trees, 12 inches and over diameter breast-high, per acre..."

Reed describes this pine type as occurring on predominantly southern exposures up to 3,500 feet elevation. The second type, which he called mixed forest, occurred above 3,500 feet elevation, on all north exposures below that, and in the bottom of deep, narrow, sheltered valleys, such as the San Poil River and Hall, and Barnabee Creeks. He describes this mixed stand as:

"... a dense stand of red fir (Douglas-fir) and larch with a varying intermixture of yellow (ponderosa) and lodgepole pine. The stand is often so dense as to prevent the growth of grass, but where it is open enough the ground cover is usually pinegrass. (The) proportion of timber under 12 inches in diameter breast high is so high that the yield per acre is not heavy..."

These early descriptions indicate that forest conditions in the historical past may have been different than they are today. Historical conditions are likely to represent the forest as influenced by natural processes, and thus may be indicative of the nature or ecology of the forest.

Figure III - 1. Precipitation Zones on the Colville Indian Reservation.



Reed describes fire on the Reservation as follows:

"Fires have occurred in the timbered portion of the Reservation every summer since anything was known about the country. At one time or another, the whole area has been burned over. Once a forest fire gets burning no attempt is ever made to put it out unless it gets so near to threaten destruction to buildings or fences."

Boyce and Dumas (1997) pointed out that fires have burned through Reservation forests for thousands of years, most likely since the recession of the ice age 10,000 to 15,000 years before present. The Reservation is subject to considerable summer thunderstorm activity. Additionally, the indigenous people had a tradition of igniting fires for various reasons. These factors, in conjunction with rainfall patterns, created a historic pattern of frequent fires across the Reservation. At the dryer low elevations, fire resistant ponderosa pine predominated in mosaics of even-aged, relatively open stands. At the highest elevations or in very moist areas, seral species were periodically replaced by cataclysmic fire events.

Between 1910 and 1930 there were several large stand-replacing fires in the higher elevations characterized by sub-alpine fir and lodgepole pine. By 1930, though, fire suppression had begun to change the forest. The transition between forest and rangeland appears to have expanded into areas that did not support trees in the past. The density of trees throughout all alterations of the forest has increased as well, primarily from the suppression of fires. Further discussion on the changing forest in response to fire control is shown in the *Forest Vegetation* section.

Historically the frequency, intensity, and extent of fires differed considerably across the Reservation. These differences can be categorized by the concept of the fire regimes as described by Agee (1981). They are a function of growing environment (temperature and moisture patterns), ignition pattern (lightning, human), and plant species characteristics (fuel accumulation, adaptations to fire). Fire regimes found on the Colville Reservation include"

High-severity regimes: Fires are very infrequent (more than 100 years); they are usually high intensity, stand replacement fires. They are typically moist and cool areas where fire occurs under unusual conditions, such as during long drought and with dry, hot winds (Pickford, et. al. 1980). Fires are often of short duration (days to weeks) but of high intensity and severity. Historically this regime would be characterized by the sub-alpine habitat types and covers about 80,500 acres. In Table I - 1 below describing the Vegetative Cover Types these would be categorized as lethal natural fire regimes.

Moderate-severity regimes: Fires are infrequent (25-100 years); they are partial stand replacement fires, including significant areas of high and low severity. They occur in areas with typically long summer dry periods and fires will last weeks to months. Periods of intense fire behavior are mixed with periods of moderate- and low-intensity fire behavior; variable weather is associated with variable fire effects. Historically this regime would be characteristic of the wet Douglas-fir, grand fir habitat types and areas dominated by hardwoods or a hardwood conifer mix, and covers about 612,823 acres. These Vegetative Cover Types are categorized as mixed natural fire regimes (Table I - 1).

Low-severity regimes: Fires are frequent (1-25 years); they are low intensity fires with few overstory effects. Frequent fires limit the time for fuel to accumulate, so typical fire intensity is

moderate to low. Historically this regime would be characteristic of the ponderosa pine and dry Douglas-fir habitat types and covers about 242,305 acres. These Vegetative Cover Types (Table I – 1) are categorized as non-lethal natural fire regimes.

Table III - 1. Plant Association Groups (Cover Types) Identified on the Colville Indian Reservation.

PLANT ASSOCIATION GROUPS	PLANT ASSOCIATIONS	CROWN* DENSITY	AREA ACRES
Ponderosa Pine – Grass	Ponderosa Pine/bluebunch Wheatgrass ( <i>PIPO/AGSP</i> ) Ponderosa Pine/Idaho fescue ( <i>PIPO/FEID</i> )	45% 40%	68,175
Ponderosa Pine – Bitterbrush	Ponderosa Pine/bitterbrush ( <i>PIPO/PUTR</i> ) Ponderosa Pine/ricegrass ( <i>PIPO/ORHY</i> ) Ponderosa Pine/bitterbrush/bluebunch wheatgrass ( <i>PIPO/PUTR/AGSP</i> ) Ponderosa Pine/bitterbrush/Idaho Fescue ( <i>PIPO/PUTR/FEID</i> )	45% 50% 45% 45%	64,838
Douglas-fir – Warm, Dry	Douglas-fir/Idaho fescue ( <i>PSME/FEID</i> )	90%	22,960
Douglas-fir – Cool, Dry	Douglas-fir/pinegrass ( <i>PSME/CARU</i> ) Douglas-fir/pinegrass/bearberry ( <i>PSME/CARU/ARUV</i> ) Douglas-fir/spirea ( <i>PSME/SPBEL</i> )	95% 85% 90%	86,332
Douglas-fir – Warm, Moist	Douglas-fir/snowberry ( <i>PSME/SYAL</i> ) Ponderosa Pine/snowberry ( <i>PIPO/SYAL</i> )	100% 90%	253,666
Douglas-fir – Cool, Moist	Douglas-fir/oceanspray ( <i>PSME/HODI</i> ) Douglas-fir/ninebark/heartleaf arnica ( <i>PSME/PHMA/ARCO</i> ) Douglas-fir/ninebark-pachistima ( <i>PSME/PHMA-PAMY</i> )	95% 95% 100%	257,385
Grand Fir	Grand fir/twinflower ( <i>ABGR/LIBOL</i> ) Grand-fir/twinflower/Pacific Yew ( <i>ABGR/LIBOL-TABR</i> ) Grand-fir/fairy bells ( <i>ABGR/DIHO</i> ) Western Red-cedar/twinflower ( <i>THPL/LIBOL</i> )** Western Red-cedar/wild sarsaparilla ( <i>THPL/ARNU3</i> )	100% 100% 100% 100% 100%	51,450
Subalpine Fir – Warm	Subalpine fir/twinflower ( <i>ABLA2/LIBOL</i> )	100%	18,015
Subalpine Fir – Cold	Subalpine fir/huckleberry ( <i>ABLA2/VACCI</i> ) Subalpine fir/pine grass ( <i>ABLA2/CARU</i> ) Subalpine fir/pachistima ( <i>ABLA2/PAMY</i> )	100% 100% 100%	62,469
TOTAL	--	--	886,810
* Existing crown closure density (tentative – needs adjustment for Reservation)			
** The western red-cedar plant associations have been included in the grand fir PAG because of their limited area and distribution.			

Non-forest regimes: Vegetation of the southern portion of the Reservation along the Columbia River reflects the strong influence of the arid and semi-arid climates and steppe region (shrub and grass dominated vegetation) of the north central Columbia Basin. Fires are frequent (1-25 years); the effect on vegetation varies by species composition and community structure. For example, longer fire free intervals lead to dominance of bitter/sage brush communities which when burned are replaced for a time by herb dominated communities. This savanna type covers approximately 446,165 acres.

### Existing Conditions

The fire regimes as shown above have formed the structure of natural forests on the Reservation. However, few Reservation forestlands have been managed for natural conditions such as those created by fires of the past. Fire is less prevalent on today's landscape than in historic times, due to effective fire control policies. Success in fire suppression has allowed more uniform and increasing fuel loads across the Reservation, shifting forest fire effects that were typically of low and moderate severity in historic fires to severe fires today. Ironically, the increased risk of valuable timber loss has forced the use of more intensive and often mechanized forms of suppression actions. This in turn has added to fire costs with greater impacts on other resource values (CCT 1992).

Fire exclusion, and past selective cutting, has changed the structure, composition and density of the today's existing forest. Fire suppression removed the primary source of natural thinning in forest stands. It also removed a powerful force that selected in favor of seral species by favoring thick-barked fire resistant trees and shade intolerant pioneer species. Additionally, suppression of naturally recurring fires has allowed the accumulation of fuels.

Selective harvest methods have advanced the successional character by disproportionately removing seral species while opening up the forest canopies enough to favor the establishment of either brush or shade tolerant climax species. Favoring the creation of understory plant communities changed the structure, or multiple canopy stands. Existing conditions now after eighty years of management are many multi-level stands that support more trees per acre than they did historically. The upper canopy levels are often made up of the remnants of the pre-management forest, largely ponderosa pine and western larch. The lower levels are frequently made up of over-dense stands of shade tolerant, climax species. Accumulated fuel levels are high. Historical photographs and narratives illustrate a change in understory vegetation with brush becoming a more dominant component.

Land use patterns have also altered the natural fire regimes. In the savanna areas noted above approximately 20,000 acres is now cultivated. There are significant areas of urban concentration, approximately 1,600 acres and more rural urban interface that is difficult to map but is estimated at approximately 4,000 acres.

The fire management zones (Figure III - 2) are based upon areas of habitat types noted above, natural fire regimes, natural ignition patterns, and expected fire behavior given current fuels conditions. Areas by zones are **Zone 1:** 397,256 acres, **Zone 2:** 318,070 acres, **Zone 3:** 319,950 acres and **Zone 4:** 255,480 acres.

## Plant Associations

Clausnitzer and Zamora (1987) developed the classification system used on the Colville Indian Reservation to describe 28 plant associations found on forested areas. This ecological classification provides for the identification of biological site potential by means of vegetation characteristics and involves the recognition of land units based on potential climax vegetation or plant associations (Daubenmire 1968).

The Plant Association Group (PAG) is the environmental unit used by the Colville Reservation forest resource management teams. Plant Association Groups provide a means to organize many forest stands into a more manageable number of identifiable units having relatively similar biotic and abiotic environments. The PAG vegetation, soils and other physical characteristics on a site serve as indicators of future species composition, productivity potential and probable responses to management actions.

The 28 forest plant associations identified on the Reservation were combined into nine plant association groups (PAG's) based on similar environmental conditions, disturbance regimes, response to disturbance and productivity. Figure I-3 provides a list of these forest plant associations and acreage on the Reservation for each PAG.

Compared to lands in the Cascade Mountains to the west and Selkirk Mountains to the east, the Reservation supports a limited diversity of plant associations. Based on information in the plant association database the major climax tree species on the Reservation Figure I-3 is Douglas-fir. Four relatively similar Douglas-fir PAG's occupy over 70 percent of the Reservation forest. Ponderosa pine PAG's occur at the lowest elevations and constitutes about 15 percent of the forested landscape. Grand fir occurs at higher elevations east of the San Poil River, with volcanic ash modified soils generally being the only environmental factor differing between the Douglas-fir and grand fir associations. Subalpine fir PAG's dominate the highest elevations, making up the remaining 8 percent of the potential forest vegetation.

### *Ponderosa Pine PAG's*

The forested area of the Reservation classified into the ponderosa pine PAG's is dominated by ponderosa pine with only minor amounts of Douglas-fir. Quaking aspen may occur on wetter soils. These PAG's include a large part of the deer and elk winter range. Ponderosa pine forests present at the turn of the century were the result of frequent low intensity fires, caused by both lightning and aboriginal ignitions. The result was a forest mosaic of small to moderate sized even-aged patches. Stocking levels were low, creating very open stands.

Now, stands in the ponderosa pine PAG's are often choked with understory regeneration as the result of an extended period of fire exclusion. The extensive stocking has encouraged a proliferation of a number of bark beetle species. Whereas fire formerly thinned the stands from below, the bark beetles are now thinning them from above, killing the most valuable trees first. This is occurring despite repeated entries that have removed high-risk trees and reduced the amount of old-growth to low levels. Mistletoe, which was formerly a localized problem, is now widespread with understory trees being rapidly infected by residual overstory. The large stumps

created by several cycles of previous logging are increasingly the focus of annosum root rot centers. Plentiful ladder fuels, mistletoe brooms and dead and down material makes the threat of catastrophic fire a greatly increased possibility in the area identified in the ponderosa pine PAG's. Under existing conditions, tree mortality appears to be increasing and site productivity declining in these PAG's.

### ***Douglas-fir PAG's***

Tree species occurring on lands in the Douglas-fir PAG's include Douglas-fir, ponderosa pine, western larch, lodgepole pine, and quaking aspen. The lower elevation area in these PAG's provides deer and elk winter range. Fire history indicates slightly less frequent fires of slightly higher intensity than in the drier ponderosa pine PAG's and has created a large mosaic of patches burned by surface fires or crowning fires. Fire resistant and seral species were favored, with regeneration occurring in the fire created openings and fire induced thinning occurring elsewhere. Individual stands within the complex mosaic were largely even-aged. All the common forest pests, while present, were usually at endemic levels.

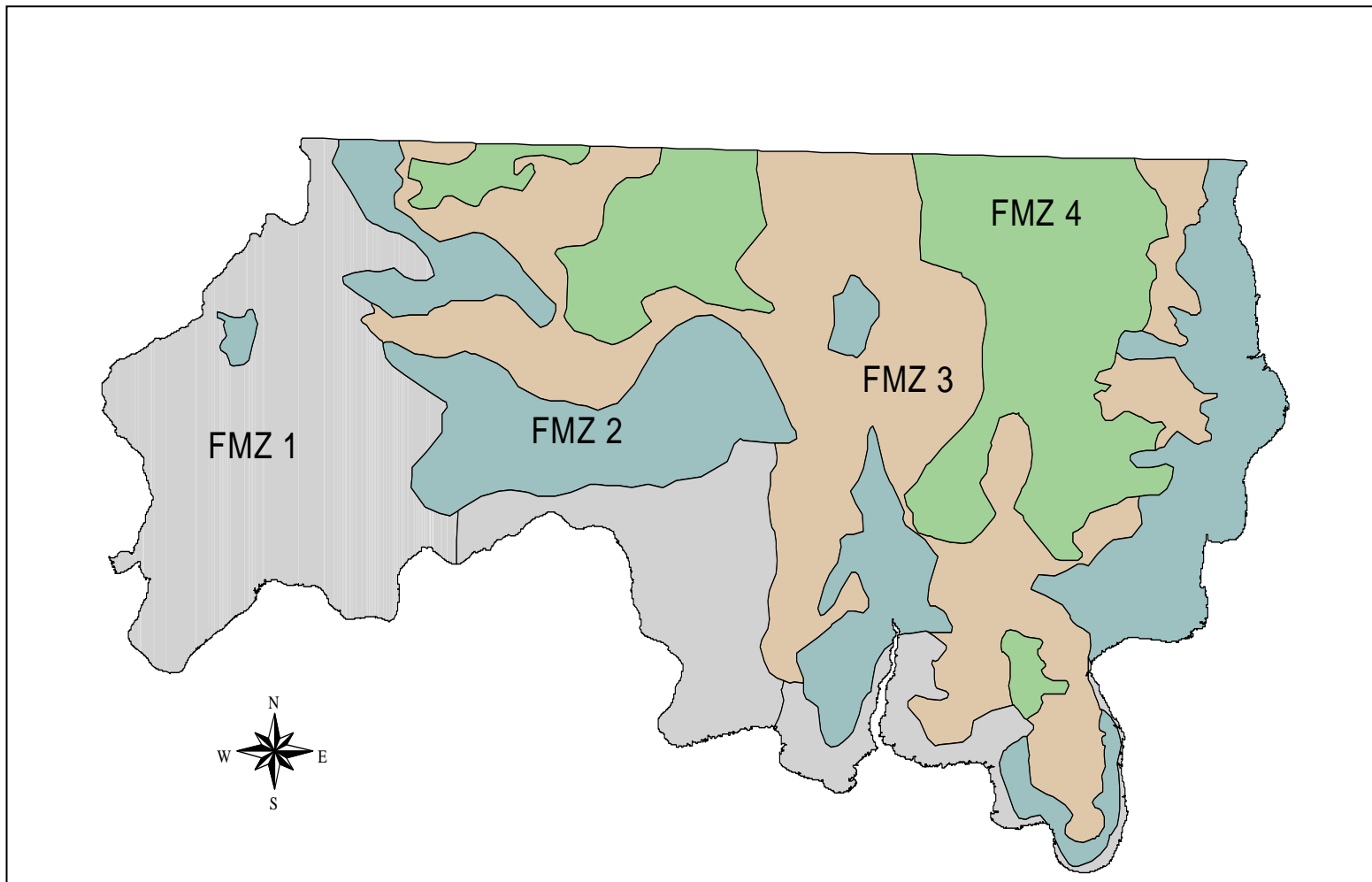
With fire control starting in the early 1900s, the natural thinning and stand replacement function in these PAG's no longer occurred to any level of significance. The introduction of selection logging along with fire control no longer opened up stands sufficiently to favor the establishment of shade intolerant seral species. Additionally, the fire functions of duff reduction for site preparation and continual culling of the more fire sensitive climax species was eliminated. The result has been a massive conversion to a condition of overstocked Douglas-fir understories. The seral species overstories diminished as successive stand entries continue.

Armillaria and laminated root disease, which formerly were endemic, have exploded in the presence of their preferred host, Douglas-fir. Bark beetles in epidemic proportions are serious pests related to the overstocked conditions while mistletoe has spread under the multi-canopy conditions.

### ***Grand Fir PAG***

The grand fir PAG has the greatest diversity of tree and understory plant species. Tree species include grand fir, Douglas-fir, western larch, ponderosa pine, lodgepole pine, Engelmann spruce, western red-cedar (moister soils), Sitka alder, paper birch, and quaking aspen. Lands in this PAG provide deer and elk summer range, hiding and thermal cover. This PAG, located on soils more moist than occupied by Douglas-fir PAG's, sometimes occupies favorable aspects or sheltered positions in a complex matrix within the Douglas-fir zone. The natural fire frequency within lands classified in the grand fir PAG varies from somewhat longer than the Douglas-fir PAG's to nearly rotation length in the wettest locations. In most cases, recurring fires precluded the development of thin barked, shallow rooted climax grand fir while favoring fire resistant western larch. Douglas-fir in older age classes also has a thick bark and might be classified as moderately fire resistant. In many cases the natural stands prior to wildfire suppression were nearly indistinguishable from the Douglas-fir zone stands except for a more lush understory vegetation and an increased component of Douglas-fir allowed by the longer fire frequency. Historically, grand fir was well represented only in the most humid or protected locations.

Figure III - 2. Fire Management Zones on the Colville Indian Reservation.



Here, as in the Douglas-fir zone, fire exclusion and selection logging have allowed the development of understories of the most shade tolerant species (grand fir and Douglas-fir), resulting in chronic overstocking, multi-level stands, and large numbers of host trees for a variety of forest pests and diseases. Annosum root rot in grand fir is a serious problem along with various heart rot fungi. Armillaria and laminated root rots attack both grand fir and Douglas-fir. Dwarf mistletoe in Douglas-fir and western larch reacts dramatically when closed stands are opened up, and the understories are soon infected in multi-story stands. The spruce budworm and tussock moth are expected to soon become epidemic and the combination of all of the above plus the chronic overstocking can be expected to create future bark beetle problems. Fuel buildup and large quantities of ladder fuels, combined with the fire sensitive grand firs, insures that any fire in the future will cause serious damage or stand replacement.

### ***Subalpine Fir PAG's***

Tree species located on lands within the subalpine fir PAG's include subalpine fir, Douglas-fir, western larch, lodgepole pine, Engelmann spruce, Sitka alder, quaking aspen, and paper birch. The area provides cover for deer and elk during the summer season along with forage in disturbed areas. Being at the highest elevations or in the coldest areas, lands in these PAG's have the lowest fire frequency. The longer period between fires, plus generally favorable climatic conditions, allowed for higher fuel accumulations than in most forest areas of the Reservation. Fires, when they occurred, were more likely to be catastrophic in nature and resulted in stand replacement with seral, fire related lodgepole pine or lodgepole pine-western larch mixtures. In some areas, even-aged fire-resistant old-growth western larch stands developed. Climax subalpine fir is found only in limited areas on the Reservation.

Fire suppression and selection logging have allowed many old-growth western larch stands to develop understories of shade tolerant subalpine fir, Engelmann spruce or Douglas-fir, with each successive selection harvest decreasing the amount of western larch remaining in the overstory. Armillaria, laminated, and annosum root rots are damaging the shade tolerant species. Douglas-fir and western larch mistletoe infections have become serious in the partially harvested overstories, and understories are becoming infected. Spruce budworm and tussock moth are now present in the host species (Douglas-fir and subalpine fir) and are expected to cause future significant losses.

Lodgepole stands have not, for the most part, been selectively logged but for many years were bypassed because of low product values. This has resulted in a large inventory of lodgepole at or near rotation age, most of which is in an overstocked condition. Mountain pine beetle activity is increasing and will continue for many years into the future. Lodgepole mistletoe, while present, is usually not serious due to the extensive even-aged structures and younger age of the stands.

## Fuel Models

The National Fire Danger Rating System (NFDRS) depends upon an ordered set of weather records to establish conditions of the day. These weather conditions along with the 1978 NFDRS fuel models are used to represent the day-to-day and seasonal trends in fire danger. Modifications to the fuel models are possible by changes in live/dead ratios, moisture content, fuel loads, and drought influences by the large fuel effect on fire danger. The 13 fuel models for fire behavior estimation are for the severe period of the fire season when wildfires pose greater control problems and impact on land resources. Fire behavior predictions must utilize on-site observations and short-term data to extrapolate from remote measurement stations. The field use situation generally is one of stress and urgency. Therefore, the selection options and modifications for fuel models are limited to maintain a reasonably simple procedure to use with fire behavior prediction methods such as BEHAVE, and FARSITE. The NFDRS fuel models are part of a computer data processing system that presently is not suited to real-time, in-the-field prediction of fire behavior. Therefore, this discussion of fuel model acreage deals primarily with the 13 FBO fuel models. Conversion to the NFDRS models can be made as explained by Anderson 1982. Time since disturbance will greatly affect the assessment of fuels for any given site; therefore the following discussion is a snapshot in time.

The following gives the approximate acreage of fuels conditions on the Reservation derived from satellite imagery.

• Fuel Model 1	325,049 Acres
• Fuel Model 2	294,614 Acres
• Fuel Model 5	335,161 Acres
• Fuel Model 8	226,439 Acres
• Fuel Model 9	107,498 Acres
• Fuel Model 10	13,102 Acres
• Urban	1,400 Acres
• Agriculture	37,887 Acres
• Water*	10,471 Acres
• Rock/Thin Soils	11,121 Acres
• Total	1,362,742 Acres

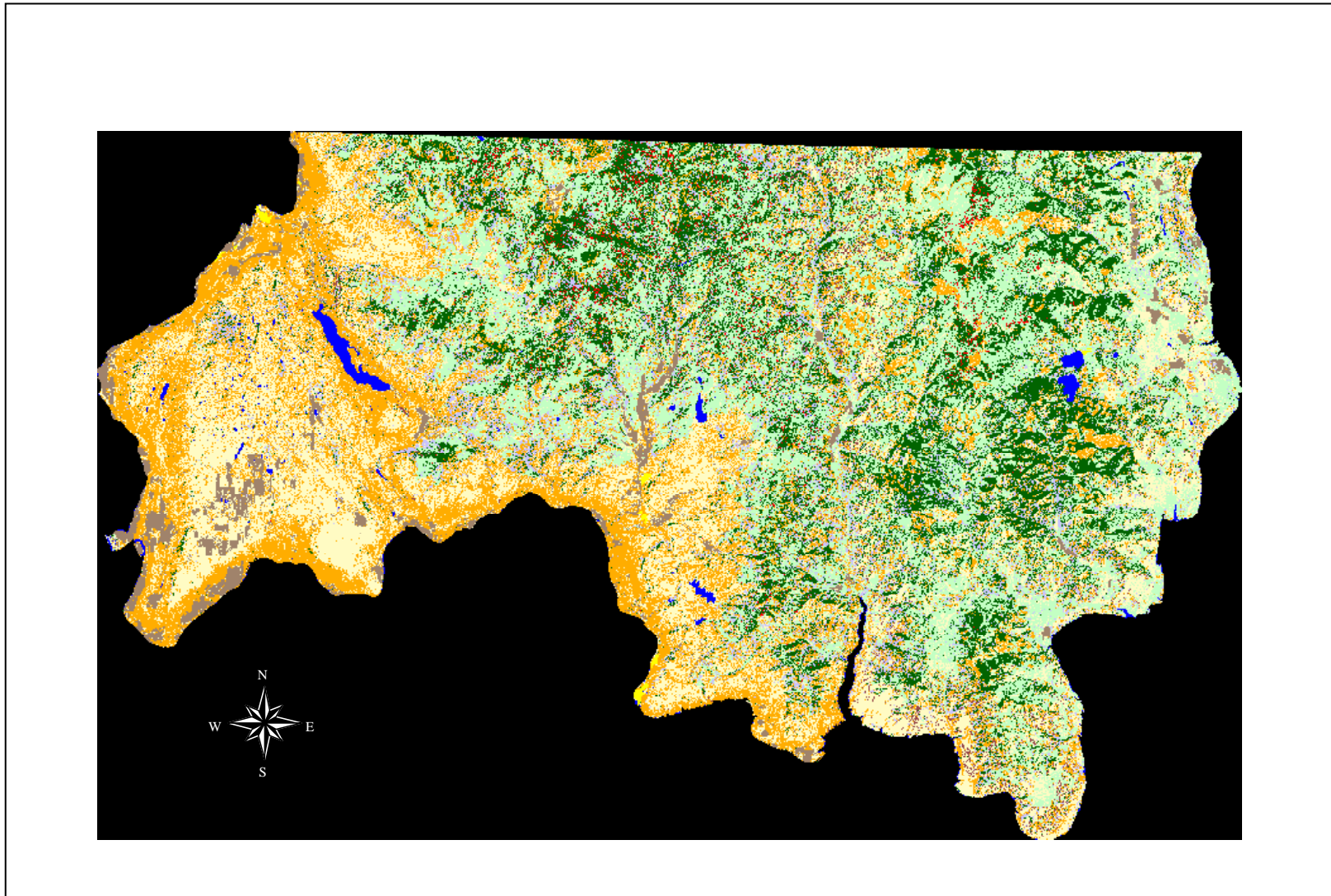
\*Does not include the acreage of Reservation under the waters of Rufus Woods and Roosevelt Lakes.

A large portion of that area designated as Fuel Model 5 is covered with timber. These areas have a large component of the understory vegetation in brush species. This component produces a large live fuel component which does not occur in Fuel Models 8 and 9, and which differs from the species composition found in fuel model 2. In addition, the amount of large fuel loading characteristic of Fuel Model 10 is not applicable in many of these stands. However, in some areas, the fuel depth characteristic of Fuel Model 5 is not met but this Fuel Model gives a better fit than the others do. In the future, a custom Fuel Model should be developed for these areas.

This assessment is available as a grid coverage for the Reservation. This coverage can be used with the FARSITE fire area simulator as a strategic and tactical tool for the Reservation staff.

Some of the Reservation fuels characteristics remain fairly constant over a relatively long time period such as those classified as non-forest regimes as discussed previously. However, disturbance of the native forest vegetation occurs presently on the scale of approximately 20,000 acres per year. This is primarily through timber harvest and timber stand improvement activities. Therefore, at any one time there is approximately this acreage in fresh activity fuels, primarily of Fuel Model 11 and to a lesser extent Fuel Model 12. As these fuels are treated for either hazard reduction or age, the fuel assessment for that particular tract will change.

Figure III - 3. FBO Fuel Models on the Colville Indian Reservation.



## **CHAPTER IV – VALUES TO BE PROTECTED**

During development of the Plan For Integrated Resources Management, 2015-2030 (PFIRM) a wide range of Issues, Concerns and Opportunities (ICOs) involving fire and fire impacts were disclosed and evaluated. Below is a summary of values to be protected as directed in the PFIRM. For a more detailed discussion of fire ICOs and the values to be protected consult the PFIRM.

### **SOCIOECONOMIC/TRIBAL TRUST RESPONSIBILITIES; LIFE**

The first priority in every fire management activity is the safety of the firefighter and the public.

The nature of fire management and fire suppression is hazardous duty for the firefighters and can pose a threat to the public. Firefighters are taught how to recognize potential hazards to their well-being and instructed not to take action that might compromise their safety. On the other hand, the public may not recognize the hazard or how to avoid being involved. A fire produces smoke that can cause unsafe visibility and breathing conditions especially for any one that suffers from a respiratory problem.

### **SOCIOECONOMIC/TRIBAL TRUST RESPONSIBILITIES; BUDGETS, STAFFING, TRAINING REQUIREMENTS**

The PFIRM and this Wildland Fire Management Plan will increase the current responsibilities of the Fire Management Staff with significant changes in wildland fuel management and fire use. Increases in Fire Management budget may be necessary. The US Congress has also established separate moneys for accomplishing wildland hazard fuel reduction and this could become available once the WFMP addressing these goals is approved.

### **RESOURCES, PROPERTY AND OTHER VALUES**

#### **Timber**

Fire can play a dual role in forest management in that it can destroy a valuable revenue resource causing a major impact on local economics. Fire can also be used by forest management to clean up unwanted natural/activity fuels and prepare forest sites for natural and artificial regeneration.

Boyce and Dumas (1997) pointed out that fires have burned through Reservation forests for thousands of years, most recently since the recession of the ice age 10,000 to 15,000 years before present. The Reservation is subject to considerable summer thunderstorm activity. Additional, the indigenous people had a tradition of igniting fires for various reasons. These factors, in conjunction with rainfall patterns, created a historic pattern of frequent fires across the Reservation. At the dryer low elevations, fire resistant ponderosa pine predominated in mosaics of even-aged, relatively open stands. At the highest elevations or in very moist areas, seral species were predominately replaced by cataclysmic fire events.

Recently fire exclusion, and past selective cutting, has changed the structure, composition, and density of today's forest. Fire suppression removed the primary source of natural thinning in forest stands. It also removed a powerful force that selected in favor of seral species by favoring thick-barked fire resistant trees and shade intolerant pioneer species. The success in fire suppression has allowed more uniform and increasing fuel loads across the Reservation, shifting fire effects that were typically of low and moderate severity to severe fires today.

The 1,392,265-acre Colville Indian Reservation is comprised of 901,622-acres of forestland of which 673,025-acres has been classified as commercial forestland. The PFIRM identifies an annual allowable harvest from these forests at 77.6 MMBF per year with a present net value of \$125.5 million.

A PFIRM objective is to "Restore fire as a natural process by developing and implementing prescribed fire plans on a landscape basis." In many cases, this would be accomplished with a combination of reducing stocking to desired levels, followed by prescribed fire. Standards and guidelines for the treatment of harvest fuels are contained in the PFIRM. The PFIRM also increases the level of prescribed fire on non-harvest areas to restore and maintain desired forest conditions to 6,400 acres per year.

### Range/Agriculture

Range and agricultural lands would suffer a short-term impact causing loss of crops and/or grazing within the area burned over. The following Table IV -1 represents a value estimation of current range and agriculture values for the Colville Reservation. These figures were provided by the Colville Agency, Bureau of Land Operations Office and represent an approximate estimate.

Table IV - 1. Value Estimate of Current (2001) Range and Agriculture Values.

Resource	calculation	value
Livestock Forage	1,100,000 acres x 1 ac/aum x \$6,00/aum	\$ 660,000
Wildlife/Plant Residual	1,100,000 acres x .1ac/aum x \$6.00/aum	\$ 660,000
Dryland Grain	5,000 acres x 40 bu. x \$4.00/bu	\$ 800,000
Dryland Hay	3,500 acres x 2 tons x \$60/ton	\$ 420,000
Fences	1,200 miles x \$6,000/mi.	\$7,200,000
Spring Development	300 x \$500/repair	\$ 150,000
Corrals	10 x \$2,000	\$ 20,000
Total		\$9,910,000

Fire could also provide long-term benefits to rangeland by reducing shrub cover, recycling nutrients, increasing biomass production, stimulation of seed production and retardation of encroachment by conifers while maintaining improved stands of grass. Fire will consume dropped ponderosa pine needles that contain a phytotoxin that can inhibit the germination and growth of grass seedlings. The PFIRM calls for 1,000 acres of rangeland to be treated by prescribed fire annually.

### **Cultural/Historical/Religious Values**

Fire can play a dual role in this area; (1) causing extensive damage to cultural and historical resources, and (2) improving the site conditions by removing unwanted fuel, restoring the natural life history of important food and medicinal plants, and improving visibility.

The importance of cultural resources to the CCT has been formally stated in the PFIRM and the Colville Cultural Resources Protection Ordinance (Resolution 1983-411), which sets out the basic procedures for cultural resources management on the Colville Reservation. In 1996, the Colville Business Council (Resolution 1996-29) also established the position of the Tribal Historic Preservation Officer (THPO). The THPO has been designated as the primary point of contact regarding cultural resources management on the Colville Reservation. Under the National Historic Preservation Act, the THPO is to be consulted regarding the potential of undertakings on the Reservation to adversely affect cultural resources.

Over 600 cultural resources have been recorded within Colville Reservation. Prehistoric camps are the single most common type of cultural resource, many of which have been recorded along the Columbia, Okanogan, and San Poil Rivers. Camps make up a little more than a quarter of the known sites. All historic-period sites combined make up another quarter of the known sites. Many of the historic-period sites are abandoned homesteads, but corrals, mining adits and shafts, and logging camps are also present. Stacked rock features (cairns), pits hollowed out of talus slopes, and other rock alignments constitute another 20% of the recorded sites. Many of these rock features are considered to be prehistoric burials, and they are considered highly sensitive. Rock features are most common in areas of exposed bedrock, especially on ridges or promontories, or on talus slopes. Other categories of cultural resource include burials, rock art, major prehistoric villages, rock shelters, peeled trees, and prehistoric trails. Additional information on cultural and historic values can be found in the PFIRM. The Colville Confederated Tribes value cultural resources because they represent a physical link to the history of the Tribes and because of their role in traditional beliefs and activities that continue into the present day.

In the Ordinance, the CCT has adopted criteria developed by the Advisory Council on Historic Preservation (ACHP) regarding the significance of cultural resources. In brief, a cultural resource is considered significant if it is eligible for inclusion in the National Register of Historic Places (NRHP). Eligible resources are generally over 50 years old, retain their integrity of location and setting, and meet one or more of the following criteria:

1. That are associated with events that have made a significant contribution to the broad patterns of our history; or
  2. that are associated with the lives of person significant in our past; or
  3. that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
  4. that has yielded, or may be likely to yield, information important in prehistory or history.
- (36 CFR60.4)

Cultural resources that meet these criteria are considered eligible for inclusion in the National Register, and consideration of the effects of fire management on these resources is required under Tribal and Federal laws and regulations. An event or undertaking is considered to have a significant or adverse effect on a cultural resource if it alters the attributes of that resource such that it no longer eligible for inclusion. For example, a distinctively constructed wooden homestead would no longer be considered eligible for inclusion in the NRHP if it burned down as a result of an uncontrolled wildfire. The wildfire would be considered to have an adverse effect on that particular cultural resource.

Not all cultural resources are equally at risk to damage from fire or fire-related activities like suppression or rehabilitation. Table IV-2 below summarizes the risk of damage to some of the major categories of cultural resource present on the Colville Reservation.

The potential for fire damage to prehistoric cultural resources varies with the type of resource and the intensity of the fire. Hot and deep burning fires have the capacity to fracture stone tools found in campsites, and hot fires may damage pictographs painted on granite because the heat can cause the rock to "exfoliate" or loose thin slabs of material near the surface. Peeled trees are obviously at risk to damage from fires. Cairns, talus pits, and other rock features, on the other hand, tend to be relatively unaffected by fire. Fires may actually improve some traditional cultural properties because they can remove underbrush and diseased trees that interfere with traditional uses. Historic period sites, particularly abandoned homesteads, are particularly subject to fire damage because they often contain wooden structures that burn rapidly. Historic archaeological sites are more subject to fire damage than prehistoric sites because they lay closer to the surface and many of the glass and ceramic items can easily be fractured by heat.

Suppression has the capacity to significantly affect any cultural resource, especially when they involve the use of heavy equipment. Standard fire-fighting procedure often involves the use of bulldozers to dig firelines along the flanks of fires and along ridgelines. Bulldozers can easily damage prehistoric campsites and historic-period home sites. People building cairns and other rock features important to traditional practices have often favored rocky ridgelines, placing them directly in the path most likely to be taken by someone building a fire-break.

Rehabilitation typically focuses on stabilization of soils and restoration of vegetation in burned or bulldozed areas, so in many cases, it helps to preserve cultural resources that might otherwise be lost through erosion. Nevertheless, the use of heavy equipment during rehabilitation also creates the potential for significant negative effects. Salvage logging after a burn, like any other logging, also has the potential to adversely affect cultural resources.

Table IV - 2. Risk of Significant Negative Effects to Cultural Resources from Fire, Suppression and Rehabilitation. \*

Cultural resource Type	fire intensity			suppression technique			rehabilitation Method		
	Cool	Moderate	Hot	Hand Line	Mechanical Line	Aerial	Seeding	Erosion Structure	Salvage Logging
<b>Prehistoric</b>									
Camp	L	L	M	M	H	L	L	L	H
Cairn	L	L	L	L	H	L	L	M	H
Talus Pit	L	L	L	L	M	L	L	M	H
Burial	H	H	H	H	H	L	L	M	H
Quarry	L	L	M	M	H	L	L	M	H
Rock Art	L	L	H	L	M	L	L	L	H
House Pit	L	M	H	M	H	L	L	L	H
Rock Shelter	L	M	H	L	L	L	L	L	L
Peeled Tree	M	H	H	L	H	L	L	L	H
<b>Historic</b>									
Homestead	M	H	H	L	H	L	L	M	H
Logging Camp	M	H	H	L	H	L	L	M	H
Mining Camp	M	H	H	L	H	L	L	M	H
Mine Shaft	L	L	L	L	M	L	L	L	M
Corral	M	H	H	L	H	L	L	M	H
Bridge	M	H	H	L	H	L	L	M	H
Trail	L	L	L	L	M	L	L	M	M
Road	L	L	L	L	M	L	L	M	M
<b>Traditional</b>									
Berry Harvest	L	M	H	L	M	L	M	L	M
Root Harvest	L	M	H	L	M	L	M	L	M
Trad. Cult. Prop.	L	L	H	L	H	L	M	M	H
L = Low Risk of Damage; M = Moderate Risk of Damage; H = High Risk of Damage									
* This list is not intended to be a comprehensive list of cultural resources or fire related activities. It is intended to portray general trends of risk.									

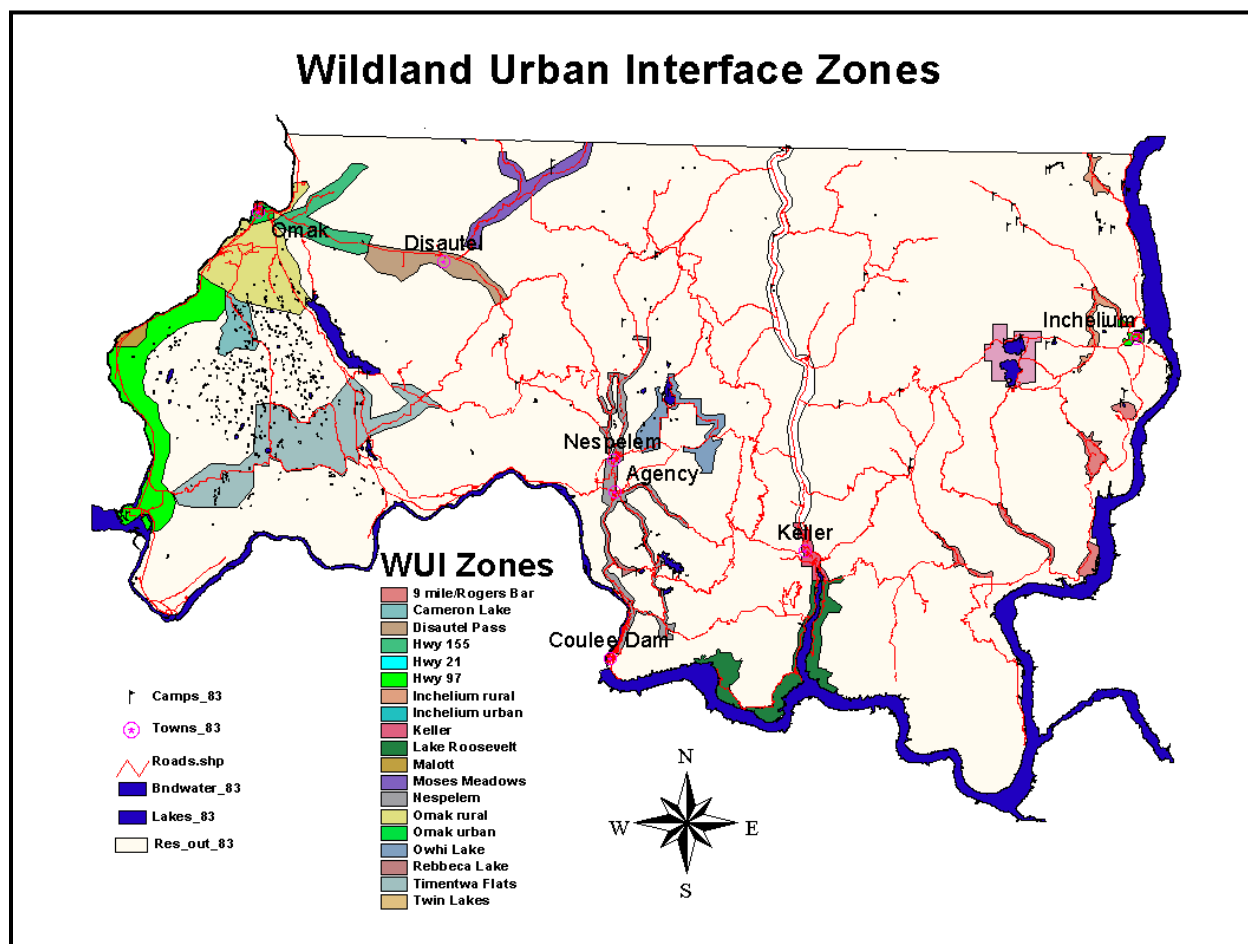
Fire can also be an important positive factor in the life history of important plants used as a cultural resource. Many of the important vegetation items used in ceremonies or as food and medicinal sources, such as biscuit root, camas, and bitterroot rely on fire or similar disturbances to promote seedling establishment and/or vegetative sprouting. The application of suitable levels of fire behavior may also be a significant tool for controlling unwanted woody vegetation within specific areas, such as dry meadows.

### Wildland Urban Interface

Increased development of the wildland/urban interface (WUI) within the Colville Reservation increases the number of person caused fires that, in turn, increases the potential for damage to both natural resources and residential structures. The damage caused by a wildland fire may be so extensive that homes, out-buildings, and other developments may be lost causing great financial burden on the property owner.

The Wildland/Urban Interface (WUI) zones as defined during the Fire Prevention Plan development are shown in Figure IV-1.

Figure IV - 1 Wildland/Urban Interface Zones on the Colville Reservation.



## **Air Quality**

Smoke from wildland fires can contribute to short-term and intermediate health effects. The health effects are generally reversible but long-term exposure has the potential to cause or exacerbate a wide range of health problems. Little data exists confirming or denying a higher risk for wildland fire personnel. Individuals with asthma, allergies, or the capacity to develop reactive airways are more likely to be susceptible to the effects of smoke (Sharkey 1997). Visibility reduction from wildland fire can impact scenic vistas, as well as create hazards along transportation routes. Of particular concern are low-lying areas near bodies of water (e.g., lakes, stream and river corridors) that are prone to the development of fog. These same areas can be geographic locations where SMOG can form, a mixture of smoke particulates and fog moisture droplets.

Management objectives and standards to lessen the impact of wildland fire on air quality are found in the PFIRM. Cooperation in the implementation of wildland fire projects should be accomplished with neighboring, and local, land management agencies and organizations that utilize fire use. This would serve to coordinate fire use and limit the effects on air quality.

## **Water Quality**

Water can be impacted by fire since large fires tend to change the timing, duration, and volume of spring runoff. The change in timing can have an impact on how much water is available downstream during spring the irrigation season. Surface erosion may also be increased, creating more silt and debris into the water systems. These events may also change specific habitats within waterways that may temporarily impact aquatic wildlife histories. Potential risks to fisheries from wildfires include:

- The potential of additional sediment to streams or lakes from erosion
- Potential sediment delivery from transportation systems and/or firelines to streams and lakes.
- Potential risks to fish stocks from effects of the fire.
- Lost and/or altered fish habitat within the fire area.
- Potential risks to the riparian/wetland functions within the fire area.
- Increased downstream water temperatures.

Increased sediment delivery may potentially adversely impact lakes, fisheries, and water quality. The kokanee and trout fisheries are managed by the CCT as substitute fisheries for lost salmon and steelhead runs because of Grand Coulee and Chief Joseph Dams. Fisheries have significant cultural and subsistence value to the Tribe, as well as recreational value and income value from the sale of non-tribal fishing licenses.

A primary concern of fisheries after a wildfire is the increased delivery of sediment and the loss of riparian habitat. Recovery of the riparian areas and proper functioning will be dependent on

pattern, extent, and intensity of the burn. The use of soil and nutrient stabilization measure during emergency rehabilitation actions will reduce the risk to these fishery resources.

The condition of a stream channel may affect the magnitude of impacts that may occur because of a wildland fire incident. Fire impacts may exacerbate the unstable nature of some streams and cause adverse effects to spawning habitat and water quality. The loss of large and small woody debris and riparian vegetation, contributing shade to the stream, may result in loss of rearing habitat and increased downstream water temperatures. Effects of forest fire on the structure of zooplankton, phytoplankton, benthic, and the littoral communities will vary with the amount of sediment and nutrient delivery to the streams and lakes. The greatest period of danger will be following the next episode of significant rainfall. Contour log terracing and broadcast seeding on highly burned upland slopes >35% will help maintain the functionality of the riparian zones and assist in decreasing sediment delivery to aquatic habitats. Additionally, the use of sediment collection dams may be necessary to reduce this risk.

Of greater concern to any of the fishery or aquatic resources are from roads used during fire suppression and pending salvage sales. Many roads were traditionally constructed within the riparian zones. Increased activities during suppression and salvage have a high potential to deliver sediment to stream systems and lakes. These risks are increased if buffering vegetation between roads and aquatic areas have been lost in the fire. Fire suppression roads that have been compacted need to be carefully ripped with a zigzag pattern to reestablish soil function and allow water to penetrate soils and enter the ground water system. Care must be taken on slopes to prevent water from trenching and running down furrows. Large woody debris in the stream system will improve over time as burned dead trees fall from rot or windfall. Smaller wood will be less abundant for one to ten years, depending on burn severity, until recovery of the riparian zone occurs.

### **Wildlife Habitat**

In general, fire affects wildlife by modifying habitat. Vegetation diversity provides for a diversity of wildlife species. Lack of diversity tends to result in fewer wildlife species, or decreasing population levels of some wildlife. Across the Colville Reservation there are several and varying habitat types. The effects of the fire and suppression activities will vary with the seasonal timing of the wildfire, the intensity and pattern of the burn and the specific habitats in the area of the wildfire. Habitats of concern are:

- Shrub steppe
- Big game winter range
- Mesic areas, e.g., deciduous and riparian areas, wetlands, lakes, and streams
- Rock outcrops
- Snags
- Coniferous boreal forest

Potential risks to wildlife from wildfire include:

- Potential loss T&E species and/or habitat within the fire area.

- Potential loss of wildlife and/or habitat and winter range associated within the fire area.
- Potential loss of travel corridors and increased fragmentation of habitat.
- Potential risk to riparian/wetland function and habitat within the fire area.
- Potential risk to habitat improvements.

The designated winter range for deer and elk is dispersed throughout the Reservation. These animals are culturally significant to Colville Confederated Tribal Members for subsistence and ceremonial uses. There are a large number of bear on the Reservation, as well as wild horses. Other species of importance may include goshawks, marten, fisher, pileated woodpeckers, hairy woodpeckers, white-headed woodpeckers, and snowshoe hare. Upland birds include quail, Hungarian partridge, ruffed grouse and blue grouse.

### ***Large Ungulates***

Although large ungulates including deer (mule and white tail) and elk are not species listed for protection, their cultural, subsistence, ceremonial and spiritual significance to the Colville Confederated Tribes requires assessment. The distribution of big-game winter range on the Reservation is shown in Figure IV-2 and the assessment of the direct and indirect effects of wildland fire on this winter range is shown below. The Reservation's Hellsgate and Omak Game Reserves are shown in Figure IV - 3.

#### **Direct Effects:**

Mortality rates for the large ungulates would be expected to be low and would depend upon a fires rate of spread. The geological landscape and topographic features, such as box canyons that animals could be trapped in, would also affect mortality rates. In addition, young animals born that year would be highly mobile late in the summer, during the peak of fire season, again reducing mortality. Fire early in the fawning/calving season would have increased risk of mortality. Any animals in the area of a fire will for the most part be displaced. However, suppression crews may report sighting an occasional large ungulate. There are bighorn sheep in some areas that may be affected by a fire. These would mostly likely occur in the Omak lake area. Many animals with large home ranges will return after the fire and focus on the unburned or lightly burned areas. Those species with smaller home ranges will either return or will repopulate the area from outside sources once vegetation resources recover. With next years spring green-up of new grasses an influx of elk and mule deer especially would be expected.

Figure IV - 2. Colville Indian Reservation Big-game Winter Range.

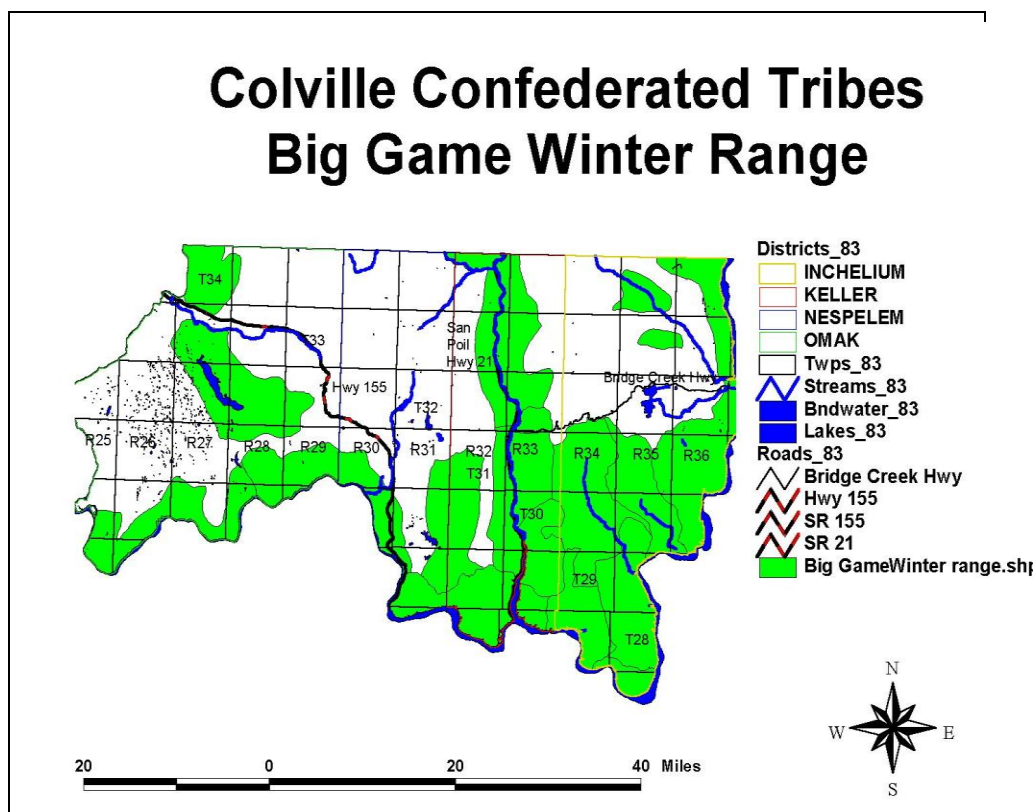
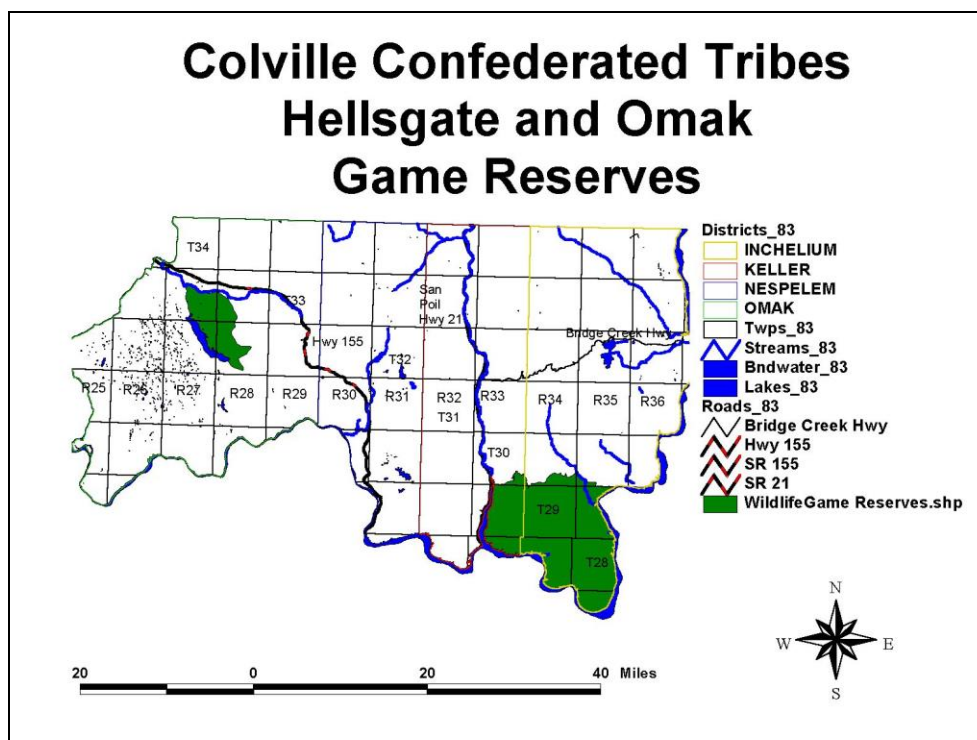


Figure IV - 3. Hellsgate and Omak Game Reserves on the Colville Indian Reservation.



The grass-forb component of foraging habitat within the fire area should be improved after the first rains, fall, and spring green-up occur. However, there will be a shortage of browse (shrub species) available for the next two to five years and often much longer, up to twenty or more years. Bitterbrush is of particular concern as it has high use and is not well adapted to fire. Bitterbrush is not only used by the sharp-tail grouse, but is an important forage component for large wild ungulates. Localized loss would result in the displacement of deer/elk/moose for a minimum of two to five years, depending on severity. Large-scale loss could have devastating effects on the large wild ungulate populations.

The Colville Confederated Tribes Fish and Wildlife Department plans to aerially monitor the winter range over the next few years. A series of permanent photo points will be established within a fire complex area to visually document the vegetative response. In addition, it is suggested that the Colville Confederated Tribes Forest and Range Management Departments plan to monitor natural recovery areas as well as fire vegetation treatment areas by the same use of permanent photo points.

Road closures would be implemented as soon as possible on new roads that will not be needed for salvage logging. Further road closures should be implemented as soon as salvage and planting are completed. This would decrease disturbance levels and provide more security for animals where screening cover has been lost to fire and possibly more might be removed during following timber sales and/or salvage operations.

### ***Other Mammals***

Many other mammals, including coyote, cougar, bobcat, bears, porcupine, beaver, and badger, may be found within a fire area for all or part of their life cycles. Denning habitat includes cliffs, caves, rock piles, talus slopes, riparian areas, downed logs, large tree snags and stumps. Food items include other mammals, small birds, fish, reptiles, amphibians and vegetation.

Depending on the mobility of the animal, most of these species could avoid the direct effect of the fire by fleeing or taking shelter. The natural terrain and topographic features such as box canyons in the vicinity of a fire, that could trap animals, may increase mortality losses. If any carcass or injured animal is found by fire suppression crews CCT Fish and Wildlife Department needs to be notified as soon as possible and prior to burial of the carcass. Data regarding the species, age, sex, extent of injuries needs to be collected to determine if there are young animals born this year that would need to be located. Mobility of young would depend on the species and the time of the year, late in the summer, most would be highly mobile.

Small areas of rock outcrops, deciduous forests, and riparian areas are usually intermixed throughout a wildland fire affected area. These affected areas are often homes for a variety of wild animals and can be deceptive as to the high amount of use received. Riparian areas that have intermittent stream channels may be dry in mid and late summer and could be highly affected by severe fire intensity while riparian areas retaining a high vegetation moisture level may remain unburned. The close proximity of unburned habitat to the areas of severe burn would reduce impacts on the numerous animals that rely on these specialized habitats.

Snags, or dead standing trees, are another significant, specialized habitat component often significantly affected throughout a wildland fire area. There are 50-60 species of birds and mammals along with numerous invertebrates that depend on snags for nesting, shelter and/or feeding sites. Animals that use snags can be divided into two groups: primary cavity excavators, such as woodpeckers that create and live in cavities of snags and whose old nest holes provide homes for secondary cavity users such as birds, bats and squirrels. Large snags (≥21 inches dbh) provide the best habitat and are the only snags that certain species can use.

Woodpecker, nuthatches and chickadees are primary cavity excavators. However, only woodpeckers can excavate in hard snags. There are species of trees, such as sycamore (*Platanus* spp.), that naturally form numerous cavities but none are present in this part of North America. Therefore, it is important on the Reservation to manage for both snags and the birds that create the cavities used by other species.

Impacts to area-wide snag habitat can be expected to vary with fire intensity. On some sites snags may be unaffected while on other sites, all trees, dead and living, may be consumed by fire. Green trees killed by fire are technically snags but their value for cavity excavation often diminishes due to case-hardening. These burned trees do, however, have value as perch sites and provide some vertical structure in areas where the understory has been removed. There may also be a temporary shortage of insects within the fire area. However, insectivorous foraging opportunities will increase for woodpeckers and other birds as the trees killed or injured by the fire attract opportunistic insects.

Salvage harvest in the fire-affected area would be anticipated. Harvest plans should include the retention of numerous green recruitment and standing dead trees for snag attrition. It is recommended that existing snags be left and not felled in areas where salvage activity is planned unless necessary for safety. Planned roads closure will assist in limiting access by firewood gatherers, reducing pressure on remaining snags. A plan to tag snags for wildlife use may be helpful in retaining snags.

Road closure as soon as possible after the fire event is extremely important for protecting wildlife. If the burned area is a high use site by elk and deer, restrictive access action may need to be taken to reduce hunting pressure. Road closures will significantly reduce risk and the area may need to be closed to hunting for three to five years.

### **Threatened or Endangered Species Habitat – Birds**

The two major T&E bird species of concern on the Colville Reservation are: (1) the Columbian sharp-tailed grouse (*Pedioecetes phasianellus columbianus*), a federal listed Species of Concern, that reside in high densities on the west-side shrub/steppe habitat of the Reservation, and (2) the bald eagle (*Haliaeetus leucocephalus*) with isolated nests located at several lakes and larger populations along the San Poil River and Lake Roosevelt corridors. The bald eagle is a Threatened species under the federal Endangered Species Act (ESA). The ferruginous hawk (*Buteo regalis*) and the sage grouse (*Centrocercus urophasianus*), both are Federal Species of Concern and have Threatened State status are infrequent on the Reservation. The sandhill crane

*Grus canadensis*), has no Federal status but is listed as Endangered by Washington State and is a migrant species on the Reservation.

### ***Sharp-tail Grouse***

A primary TEPS of concern is the Columbian sharp-tailed grouse (*Pedioecetes phasianellus columbianus*), a federally listed Species of Concern that occurs in moderate densities on the South-central and west-side of the Reservation (Figure IV-4). There are areas of land that are protected under BPA/Columbia Sub-Basin agreements in which several leks are located. The *Washington State Status report for the Sharp-Tailed Grouse*, (1998) states that 47 percent of sharp-tail grouse in Washington State are located on the Colville Reservation. This bird is of special concern to both the Tribe and the U.S. Fish and Wildlife Service due to population declines both locally and across the subspecies geographic range.

#### **Direct Effects**

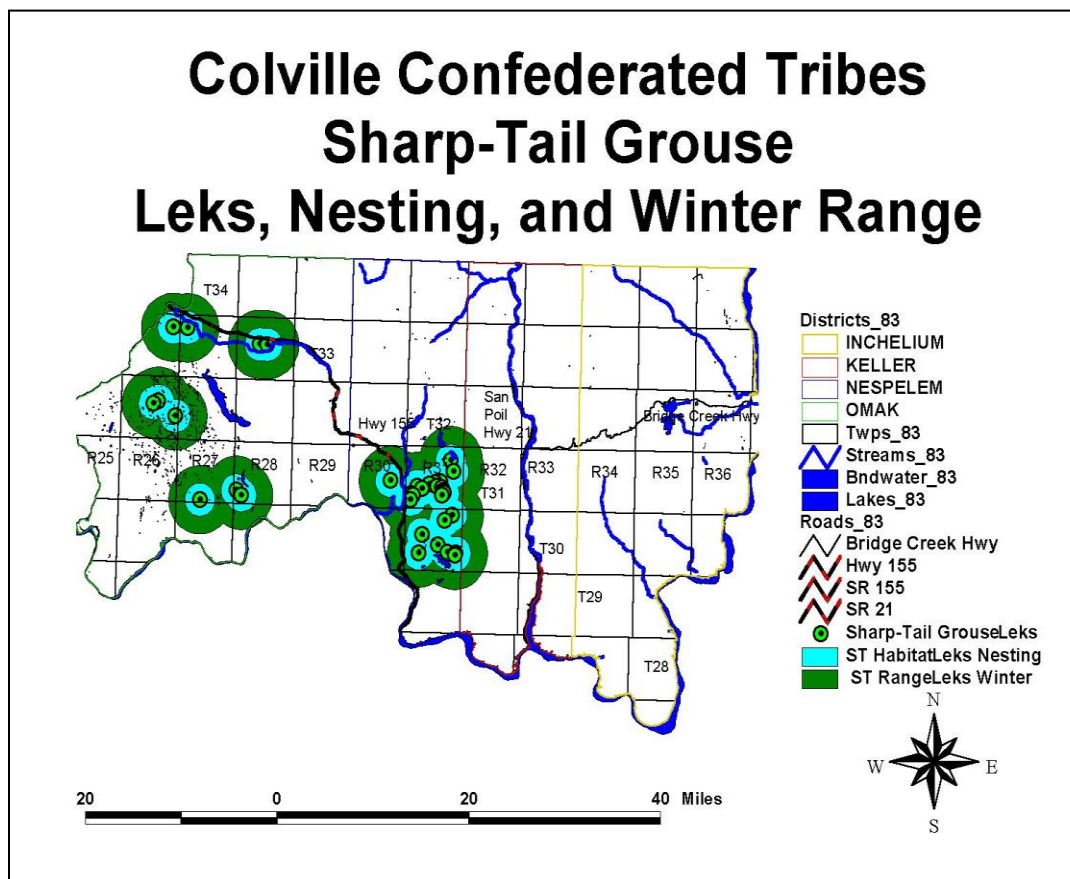
The direct effects of wildland fire would include the loss of sharp-tailed grouse or eggs, and the destruction of leks, nesting, and rearing habitat. Female sharp-tailed grouse devote late spring and early summer to nesting and brood-rearing. They move to areas containing shrubs and broadleaf plants often making use of riparian areas. Habitat suitability is dependent on amount, height, and density of vegetation, especially forbs and grasses from the previous year. Summer habitat used by females with broods may be different than habitat used by males or females without broods. Nests are most often built on slopes that face northeast for greater moisture and vegetation. Usually only one brood is hatched a year. If the first brood is unsuccessful, a second may be attempted.

If it is late in the rearing season (mid-July), most eggs from even second broods have hatched. Sharp-tail chicks are precocial, and are able to walk shortly after hatching, and fly at 7 to 10 days old. They become more active at two to three weeks. Displacement may occur if the female feels the fire is threatening her brood. After mid-July even the youngest are sufficiently mobile to escape an immediate fire area and minimal direct effects would be expected. A wildfire early in the breeding season could have severe effects on sharp-tail grouse populations with the loss of the year's hatchlings.

#### **Indirect Effects**

Potential year-round and winter habitat may occur within the fire zone in the shrub/steppe, low elevation draws, and riparian areas. If leks (dancing/mating grounds) are destroyed by the fire, nesting habitat that generally occurs within a 1.6 mile radius of the lek and winter habitat that occurs within a 3.3 mile radius of the lek may be affected by the fire. This may cause further displacement and threaten winter survival.

Figure IV - 4. Sharp-tail Grouse Leks, Nesting and Winter Range on the Colville Reservation.



The intensity of the fire in a shrub steppe community and possible damage to the soils will determine regeneration potential. If bunch grass plants affected by a fire retain most of their basal crown and root system, regeneration potential can be expected to be high. Bunchgrasses are fire-adapted species and it is anticipated that the fire would rejuvenate these plants and in turn, will benefit the sharp-tails. Livestock grazing should be deferred from the burn areas for two to three growing seasons to allow full recovery of the grasses in the area. There is potential risk following a fire for replacement of native grass species by noxious weeds. Noxious weed competition factors need to be considered during rehabilitation, to reduce risk.

Most fires would in the long-term enhance potential sharp-tail habitat although there would be a temporary loss of residual nesting cover and winter habitat. Monitoring of habitat vegetation re-growth, sharp-tail winter use and population studies should be planned for the two to three years following a fire event.

Bitterbrush plants may be impacted to varying degrees. They may be completely removed by the fire or receive some degree of heat damage. Bitterbrush response to fire is variable and reestablishment will largely depend on: (1) the degree of natural re-seeding; and (2) later seedling success in out-competing native vegetation and noxious weeds, in particular cheatgrass, also rejuvenated by the fire. Bitterbrush and other large rangeland shrubs are important to sharp-

tails as a source of cover, especially in the spring as residual cover for nesting and winter thermal cover in the upland draws. Tribal vegetation specialists have projected that much of the bitterbrush impacted by fire will reestablish within five years. However, this would be dependent of the intensity of the burn and the specific site as well as the type of bitterbrush. Recumbent plants tend to tolerate fire better than the columnar plants. Monitoring will be required to determine regeneration. If the fire is of sufficient intensity to destroy the seed bank planting may be required to reestablish areas of bitterbrush.

### ***Bald Eagle***

The bald eagle (*Haliaeetus leucocephalus*), is a resident on the Reservation. There are isolated nests located along several lakes, with larger populations on the San Poil River and Lake Roosevelt corridors (Figure IV - 5). Most of the winter roost sites on the Reservation have been located along Lake Roosevelt; however, some also occur on Rufus Woods Lake. Direct effects refer to mortality or disturbance, which results in flushing, displacement or harassment. Indirect effects refer to modification of habitat and/or prey species.

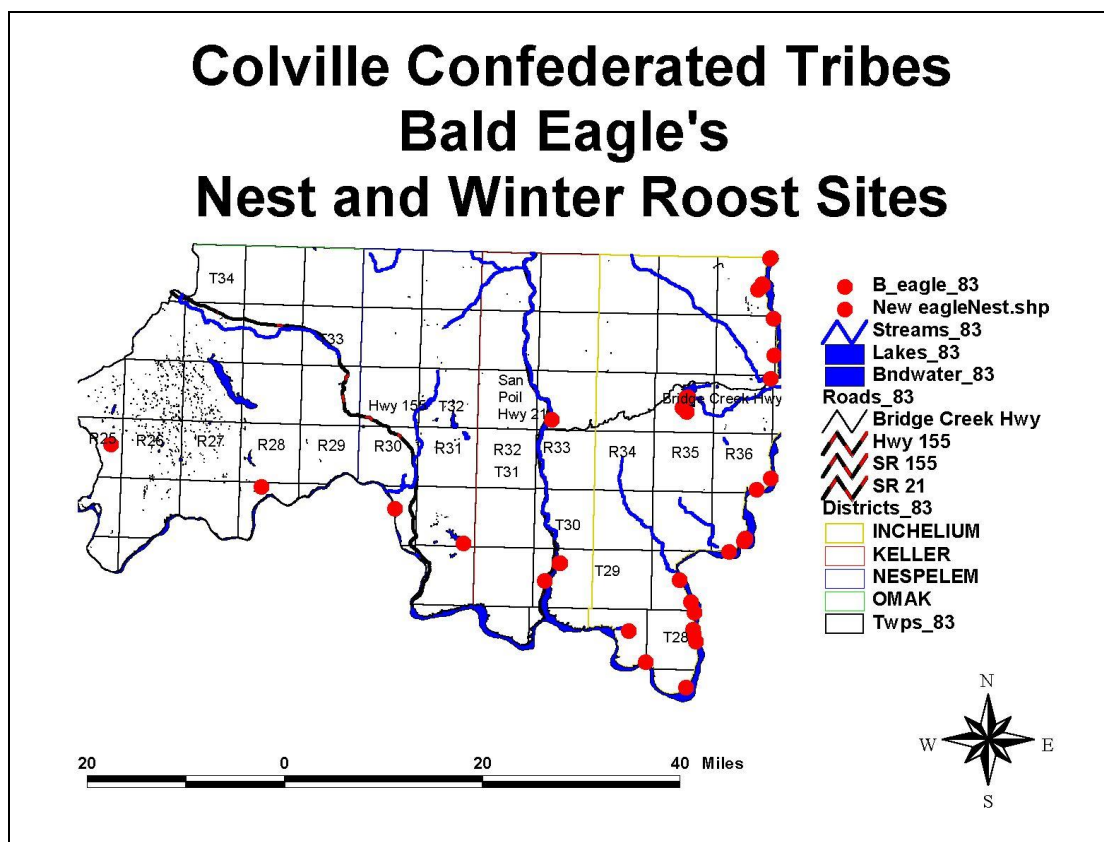
Bald eagles nest along tributaries and in sight of large water bodies. Nest on the Reservation have been recorded and mapped with a Global Positioning System (GPS). Eagles tend to prey heavily on fish near their nest site. When fish are scarce, they may take birds or small mammals, or scavenge on carcasses killed by other predators or natural causes.

**Direct Effects:** Mortality caused by the fire or suppression activities would be rare. The seasonal timing of a fire will alter direct effect risks. Nesting and fledgling activity typically occurs between February 1 and August 31. A fire prior to the young of the year having fledged and being mobile could result in mortality. Displacement is more likely due to smoke, and disturbance by suppression crews, and low flying helicopters, which would probably use nearby streams and lakes as a source of water for fire suppression. The displacement would most likely be to another nearby large water body, and should be temporary, causing minimal effect.

**Indirect Effects:** Habitat trees for nesting and winter roost sites may be lost in the fire. The standing dead trees (snags) on the Reservation are usually low in number and some of the trees killed by fire need to be retained for snag recruitment and provide potential roost sites. These great birds can be extremely tenacious and would be expected to return the following spring if habitat trees remain. Monitoring of the nest and winter roost sites within a fire area should be planned for. New nesting activity should also be monitored.

If fisheries are significantly impacted there would be an indirect effect on the eagles prey source. There may be an immediate increase in the number of small animal and rodent carcasses available for scavenging in the area. Long-term effects to the prey species would not be anticipated.

Figure IV - 5. Balk Eagle Nest and Winter Roost Sites on the Colville Reservation.



### Threatened or Endangered Species Habitat – Mammals

The Canadian lynx (*Lynx canadensis*) have habitat in several areas predominately along the northern boarder of the Reservation. The lynx became a Threatened species under the federal Endangered Species Act (ESA) in April 2000.

Other ESA species include the grizzly bear (*Ursus arctos horribilis*), which is federally listed as Threatened and has Endangered status in Washington State, it is most likely a transient species. The gray wolf (*Canis lupus*), for which there have been recent unconfirmed sightings has Endangered Federal and State status.

#### *Lynx*

Lynx have been sighted in some areas of the Reservation and habitat areas have been delineated (Figure IV-6). The elevation components of lynx habitat, places them into the moister high elevation zones above 3600 feet. These areas have traditionally had a longer fire cycle and although they're at a reduced risk for fire, the potential for a catastrophic event remains present. This is especially true in areas where there have been high levels of fuel accumulation. Lynx are a very specialized species that are dependent on the lodge pole pine zones. Snowshoe hare, a

critical prey component are known to exist in areas of very young lodge pole pine. Different growth stages of lodge pole pine provide for the needs of lynx. Lynx make use of very dense lodge pole pine/sub-alpine fir stands for travel corridors and windblown and jack-strawed trees for denning habitat. This is preferred to be distributed at thirty (30) percent forage, thirty (30) percent travel corridor, ten (10) percent denning, and thirty (30) percent non-lynx habitat mixture.

#### Direct Effects

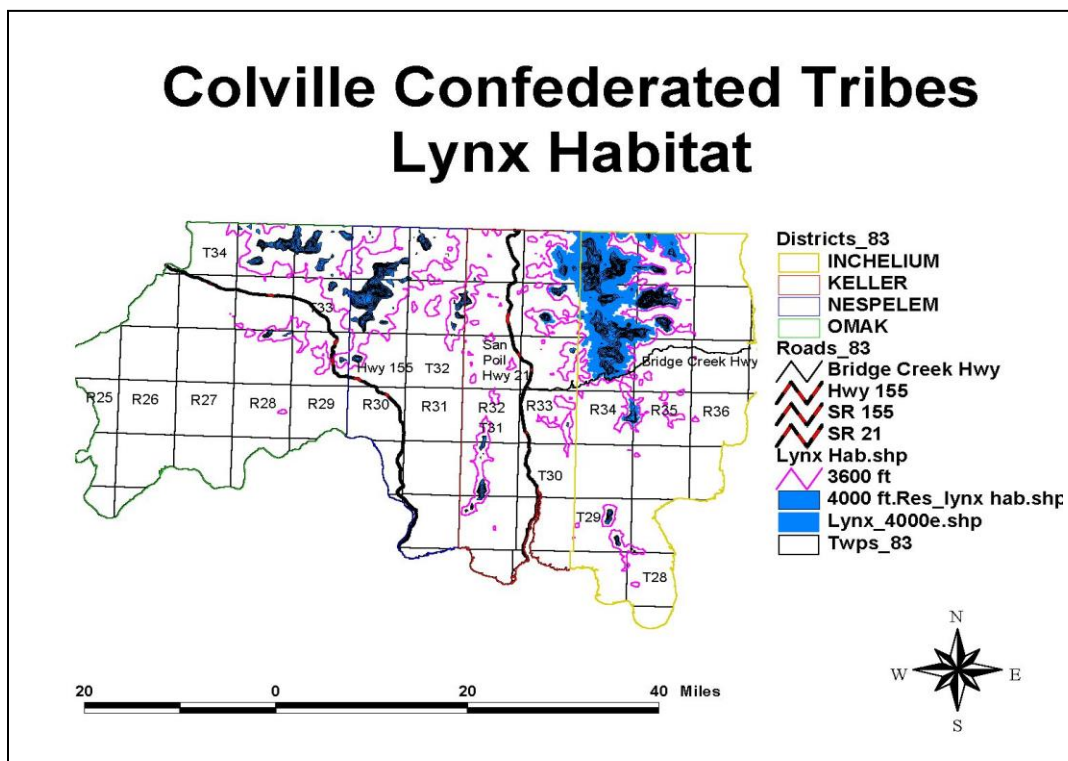
Mortality would be expected to be low due to the elevation of lynx habitat and the low populations that occur on the Reservation. Again, seasonal timing may be a component in mortality rates. Lynx do not like disturbance and avoidance and displacement would be highly likely.

#### Indirect Effects

The lodgepole pine in the high elevations could receive significant effects. However, since it is a tree species which is fire-adapted opening of the seed bank by fire may increase the lodge pole pine in the area causing positive effects on the snowshoe hare populations and increase foraging habitat for the lynx over the two to ten years following a fire.

In the long term improved lynx habitat for foraging and travel are anticipated and as the cover component increases (up to 80-150 years) denning habitat may develop.

Figure IV - 6. Lynx Habitat Distribution on the Colville Reservation.



### **Threatened or Endangered Species Habitat – Fish**

Salmonids found on or adjacent to the Reservation with ESA standing include bull trout (*Salvelinus confluentus*) that were listed Federally as Threatened in 1998, spring chinook salmon (*Oncorhynchus tshawytscha*), and summer steelhead. Currently a strong effort being made to reestablish spring chinook and summer steelhead runs in Omak Creek and its tributaries on the west-side of the Reservation. Other species of concern historically found on the Reservation not currently listed include redband trout, an interior trout species.

#### ***Bull Trout***

Bull trout are native salmonids found in the upper Columbia River Basin drainages. They have been the object of much attention and discussion since their populations and range of distribution has been declining. Currently bull trout are listed as "Threatened" species by the USFWS on June 10, 1998 (63 FR 31647).

Bull trout closely resemble Dolly Varden (*Salvelinus malma*) and were long considered an inland form of that coastal anadromous trout until Cavender (1978) identified them as a distinct species. The American Fisheries Society officially recognized them as *Salvelinus confluentus* in 1980.

As of fall 1995, bull trout had not been observed in waters of the Reservation for five years, with the exception of one specimen found in Lake Roosevelt in 1990 (Hunner and Jones, 1997). It is believed that bull trout were common on the Reservation; however elder tribal members referred to them as 'native brook trout', and some reports of bull trout may have been cutthroat trout. Habitat degradation, loss of prey species (salmon and steelhead fry and fingerlings) and the introduction of brook trout beginning in the 1890's have all contributed to the loss of bull trout on the Reservation (Hunner and Jones 1997).

Bull trout are thought to have been extirpated in the Okanogan River, Nespelem, San Poil, and Kettle rivers; Barnaby, Hall, Stranger, and Wilmont Creeks according to the NMFS ESA listing for bull trout. Two juvenile bull trout were observed during 1999 studies of Rufus Woods Lake by the Biological Division of the U.S. Geological Survey (Vendetti, 1999; USGS report currently in publication). One adult bull trout was also observed during this same study (Sears, personal communication 2000). Three adult bull trout were also observed in Sheep Creek, one adult in Nez Perce Creek and one adult in Hawk Creek. During 1999, two juveniles were observed in Onion Creek, all tributaries to Lake Roosevelt (Viel, 2000; Colville National Forest personal communication).

#### ***Chinook Salmon***

All Chinook salmon in the Okanogan River are apparently anadromous and are considered part of the Upper Columbia River Summer- and Fall-Run ESU. After careful review NMFS ruled that this ESU did not require protection under the Endangered Species Act provisions. The reintroduction of spring Chinook salmon to the waters of the Reservation is under study and their possible applicability to the Endangered Species Act is unknown at this time.

### Threatened or Endangered Species Habitat – Plants

No federally listed threatened or endangered plant species are known to occur in the Reservation. Only one Threatened species, Ute's ladies-tresses (*Spiranthes diluvialis*) is known to occur in a location adjacent to the Reservation (Table IV - 3). All other plant species considered as Threatened or Endangered with suitable habitat on the Reservation or have suitable habitat on lands adjacent to the Reservation are Washington State listed species.

The Ute's ladies-tresses orchid is known to inhabit wetland and riparian areas including springs and wet meadows, river meanders and floodplains. This orchid is generally found above 1,500 feet elevation and below the margin of montane forests. The wet habitats for this species are generally associated with open shrublands, grasslands or in forest/non-forest transitional zones.

Table IV - 3. Known Occurrences of Endangered or Threatened Plant Species on Lands within or Adjacent to the Colville Indian Reservation.

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS <sup>1</sup>	STATE STATUS <sup>1</sup>	KNOWN COUNTY OCCURRENCE <sup>2</sup>
<i>Camissonai pygmaea</i>	Dwarf evening-primrose	-	T	D
<i>Cypripedium parviflorum</i>	Yellow lady's-slipper	-	E	F/O/S
<i>Delphinium viridescens</i>	Wenatchee Larkspur	-	T	D
<i>Ophioglossum pusillum</i>	Adder's-tongue	-	T	D/S
<i>Oxytropis campestris</i> var. <i>columbiana</i>	Columbia crazyweed	-	T	F/S
<i>Petrophyton cinerascens</i>	Chelan rockmat	-	T	D
<i>Phacelia lenta</i>	Sticky phacelia	-	T	D
<i>Polemonium pectinatum</i>	Washington polemonium	-	T	L
<i>Silene spaldingii</i>	Spalding's silene	-	T	L
<i>Spiranthes diluvialis</i>	Ute's ladies-tresses	T	T	O
<i>Trifolium thompsonii</i>	Thompson's clover	-	T	D
<sup>1</sup> Status - E = Endangered; T = Threatened; C = Candidate; SC = Species of Concern.				
<sup>2</sup> County - D = Douglas, F = Ferry, L = Lincoln, O = Okanogan, S = Stevens.				

### Soils

Soils across the Reservation are highly variable and not equally susceptible to adverse impacts from disturbance. Considering soil characteristics in the vicinity of a wildland fire is necessary in both suppression and rehabilitation depending on the resources at risk. An Inherent Soil

Sensitivity Rating was developed for the soil types and phases found on the Reservation, (Hunner and Jones, 1997), that define a soil's susceptibility to disturbance and sensitivity to surface runoff.

### **Other Values to be Protected**

The negative effects to cultural resources are summarized previously in the Culture/Historical/Religious Values section. Fire can also have both damaging and beneficial effect to recreation. A short-term impact could be reduced wildlife habitat with a long-term improvement of the same habitat. Fire would have a short-term loss of wild berry patches with the long-term increase in the size of these patches. Recreation opportunities within the fire area will also suffer short-term impact with long-term benefits. Impacts may include temporary closure of the area for recreational use and a reduction in scenic values. Benefits would be improved sight distance and improved wildlife habitat.

## **CHAPTER V – PREPAREDNESS STRATEGY**

Preparedness activities are carried out prior to a fire occurrence to ensure that the appropriate response to that fire can be accomplished. Preparedness activities include: budget planning, equipment acquisition, equipment maintenance, equipment inventory, recruitment, training, reviewing and revising, if needed, any cooperative agreements, and meeting with cooperators. The objective of the preparedness effort is to have a well-trained and well-equipped fire management organization in place to manage all fire situations within the Colville Reservation.

### **AUTHORITY AND RESPONSIBILITY**

Federal statutes and the Code of Federal Regulation provide basic authority for protection of Indian timber and range. In Indian Affairs Manual, Part 90, Wildland Fire Management Policies and Responsibilities, “The Superintendent shall protect Indian lands from wildland fire by taking appropriate action as specified in the approved fire management plan to meet landowner objectives”. Additional fire related direction and management standards are found in the Integrated Resources Management Plan.

At the Colville Agency, the Superintendent shall rely on the Forest Manager to oversee fire suppression activities. The Forest Manager shall instruct the Fire Management Officer to develop adequate fire plans and training procedures that will include personnel from all branches of the Superintendents and Tribal staffs as necessary for organization of suppression crews to mobilize in time of emergency. The Branch of Forestry, under the direction of the Forest Manager shall take suppression action against fires, as outlined in this document.

When the Branch of Forestry has insufficient manpower and facilities to cope with the fire situation, the Superintendent shall make available to the Forest Manager the personnel, equipment of other Branches to the extent necessary to effect control. When assistance becomes necessary the Superintendent shall also request the assistance of cooperators. If it is still impossible to effect control, the Superintendent will inform the Northwest Regional director and request assistance from its cooperators.

## **Overhead Staff**

### ***Superintendent***

The Superintendent has the primary responsibility for protection of the trust properties from loss by fire. He/She will designate the Natural Resources Department responsible for the preparation of plans covering prevention, pre-suppression, discovery and suppression of wildland fires.

### ***Forest Manager***

The Forest Manager has been delegated federal trust responsibility of natural resource protection by the Superintendent of the BIA Colville Agency. To provide natural resource protection, the Forest Manager ensures that a viable fire management program is in place that is well-trained, safe, effective and cost efficient. In addition, he/she may act as a resource advisor during a Type I or II incident or function as a relief duty officer on assigned fire incidents.

### ***Fire Management Officer***

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The Fire Management Officer is responsible for overall supervision of the Fire Management Program. He/She provides direct supervision to the Operations Supervisor, Logistic Supervisor and the Fire Planning Supervisor, and is the Coop-Agreement coordinator. The Fire Management Officer sets overall program direction to assure all program functions, activities, projects, and practices incorporate the tribes and the federal government's goals of a safe, effective and ecologically sound fire management program. In addition, he/she may act as a Type III Incident Commander, Division Supervisor, or Burn Boss Type II on assigned incidents or projects.

## **Finance Section**

### ***Tribal Coop Coordinator***

The Tribal Coop Coordinator (TCC) manages the Program Budgets, including budget modifications, narratives, reports, and information submitted on DI-1's, subsidiary accounts, suppression accounts, rehabilitation accounts, building accounts and other funds authorized for use by the Fire Management program. The TCC develops the annual budget presented to the Colville Business Council for implementation by utilizing the Fire Management Planning Analysis. The TCC tracks funding necessary to provide salaries for federal staff and transfers remaining funds into the proper Tribal accounts as well as follows changes in program needs and implements budget modifications necessary to balance accounts.

The TCC serves as the Fire Management Programs Contracting Officer with authority to develop Emergency Equipment Rental Agreements and Agreements for Services with local vendors and

operators. This includes the authority to negotiate rates for services based upon the Fire Business Management Handbook and the Emergency Equipment Rental Rate.

The TCC organizes and implements the Expanded Dispatch organization when necessary to meet fire suppression actions requiring this level of support and fills overhead positions on wildfires to the level of his/her current qualifications.

### ***Office Assistant II***

The Office Assistant II (OAI) assists in the management of the Program Budgets, including budget modifications, narratives, reports, and subsidiary accounts, and other funds authorized for use by the Fire Management Prescribed Fire Program. The OAI assists in the development of contracts to be used in site treatment and implementation of Prescribed Fire Projects at a District Level. The OAI follows changes in program needs and implements budget modifications necessary to balance accounts.

### **Logistic Section**

#### ***Assistant Fire Management Officer - Logistics***

The Assistant Fire Management Office for Logistics (AFMOL) is responsible for supervision of the Logistics/Planning section of the Fire Management Program. He/She provides direct supervision to the Lead Dispatcher, Warehouse Manager, Training Officer, Prevention Officer and Heavy Equipment Mechanic. The AFMOL also assists in providing training for Initial Attack Forces, Emergency Firefighters, local contractors, Natural Resources Department Staff, and other Agency staff. The present AFMOL is qualified at the ICT3 and DIVS level.

#### ***Training Officer***

Provide training in those wildland fire courses that he is qualified to instruct. This may be at the unit instructor level or the lead instructor level. Arrange for qualified instructors for those courses that he requires assistance in, including lead instructors, unit instructors. Act as course coordinator for all wild fire related training held at the Colville Reservation. Manage the Colville Agency's RED CARD program. This includes Task Book implementation, training assignments and recommendation for certification, training plans etc.

The Training Officer may also fill those overhead positions for which he/she is fully qualified. This can include both on- and off-Reservation incidents. The Training Officer manages the Work Capacity test (pack test) at the Agency level and works with local fire districts to insure that they are aware of any necessary training requirements as well as assists them in meeting these needs.

Portland Area Office has requested the present Training Officer's assistance in various training programs including basic firefighter for the military and other BIA agencies, and currently he is

scheduled to instruct S-420, as the Safety Officer. The Training Officer represents the Colville Reservation Fire Management Program at various meetings such as the Northwest Area Training Officer's meeting, Training Cadre meetings, etc.

### ***Lead Dispatcher***

The Lead Dispatcher (LD) provides supervision for the Dispatcher, seasonal lookout relief's, lookouts, and other assigned personnel. The LD prepares all BIA time and attendance reports, and input these reports into the computer system for verification by the Superintendent. The Lead Dispatcher manages the NFDRS program that includes entering RAWS data, receiving outputs, managing green-up and freeze dates based on current conditions each season.

The Lead Dispatcher enters all fire suppression data and prescribed fire data into the WFMI system in a timely manner. This data is provided to the LD by Incident Commanders and Prescribed Fire personnel in a timely and accurate manner. The LD manages the dispatch office and initial attack dispatching to provide accurate records of resources ordered, arrival times, and other resource information. The LD provides flight following services for all fire management aircraft and other aircraft providing services on the reservation when requested. The LD interacts with the Expanded Dispatch Organization when it is implemented to insure that resource orders are filled promptly and from the closest available sites. The LD reviews and updates the Agency Mobilization Plan each year and makes necessary changes in items such as phone numbers, qualifications, equipment operators, vendors and mobilization procedures. Policy changes are the responsibility of the FMO.

The Lead Dispatcher represents the Colville Reservation Fire Management Program at various meetings such as the Dispatchers Workshop, Fire Management planning process etc.

### ***Dispatcher***

In the absence of the lead dispatcher, the Dispatcher assumes the following duties: supervision for the lookout relief's and lookouts operators, inputs RAWS data and received the indices. The dispatcher conducts the Initial Attack dispatching and all necessary documentation for tracking of the resources. The Dispatcher attends various meetings with the Lead Dispatcher to keep updated on local, regional and national changes in fire organizational management.

### ***Warehouse Manager***

The Warehouse Manager (WM) maintain inventory for the 200-person fire cache. The WM responsibilities include maintenance and refurbishment of tools and equipment. The WM performs basic repairs and refurbishment on site whereas items requiring extensive repairs or

annual maintenance such as chainsaws and pumps are referred to the maintenance mechanic or local vendors as necessary to meet programs needs.

The WM maintains an inventory of tools, equipment, radios and other items used by the Fire Management Program. In addition, the WM fills resource orders from initial attack incidents and extended attack incidents as required by the current situation as well as orders replacement equipment, tools and supplies as necessary to maintain adequate resources. The WM delivers tools and supplies to incidents or utilizes local runners to make these deliveries as necessary to meet the fire order load. Orders placed to the Wenatchee Fire Cache may be delivered by truck in which case, the WM is responsible to accepting delivery and insuring that all invoices are transferred to the procurement officer for proper processing. Smaller orders may be picked up by the WM or his staff and transported to the fire warehouse by AOV.

In addition to the 200 person fire cache, the WM maintains equipment and tools necessary to equip nine engine crews, and various forestry staff who support the fire organization.

The WM ensures that all fire support warehouses are kept clean and serviceable at all times, proper safety procedures are followed with regards to Right to Know stations, bulletin boards, barricades and other safety related items. The WM supervises one seasonal employee who performs duties as assigned.

### **Fire Prevention Officer**

The Fire Prevention Officer (FPO) is responsible for the supervision of (1) Prevention Technician. Through this staff, the FPO provides a basic fire prevention program for the Colville Reservation. This action includes a burn permit program, fire prevention activities at local schools, and special prevention activities at rodeos, fairs, and other events. These events usually occur on weekends in the spring and fall and require a flexible schedule. The FPO utilizes the NFDR system to implement and manage the Reservation fire danger and IFPL signs. The FPO conducts structure wildfire hazard assessments for those structures occurring in the wildland urban interface. The FPO works with the Fuels Specialist in establishing projects to manage fuels in the wildland urban interface. The FPO provides defensible space information to the residents of the Colville Reservation.

The FPO works with local law enforcement in investigating wildfires whose cause is unknown or of suspicious origin. The FPO utilizes accepted techniques in fire cause investigations, and presents evidence and testifies in both civil and criminal court cases. The FPO works with Parks and Recreation personnel and Fish and Wildlife staff during periods of high fire danger in providing patrols to inaccessible areas along Lake Roosevelt.

The FPO represents the Colville Reservation Fire Management Organization at regional fire prevention meetings, fire prevention coops, and meetings with local cooperators. The FMO works with neighboring agencies in presenting various inter-agency fire prevention events such as the Omak Stampede. In addition, the FMP fills overhead positions on wildland fires to the current level of his/her qualifications. The FPO supervises one permanent staff member who ~~that~~ performs duties as assigned.

***Fire Prevention Technicians ( 1 Permanent)***

Assist in carrying out the Wildfire Prevention Plan by performing a variety of fire prevention activities. Duties include assisting in various presentations including Smoky Bear, creating and posting public safety announcements, performing vehicle and equipment inspections, wildland fire fighting and fire investigations, public interaction, and assisting with field trips and school presentations. The Fire Prevention Technician may also be required to inspect burn permit locations, and conduct wildfire hazard assessments for those structures occurring in the wildland urban interface.

***Heavy Equipment Mechanic***

The Heavy Equipment Mechanic performs all maintenance and repair of heavy equipment, dozers, trucks, trailers, and pumper slip on units used by the Fire Management Program. He/She also acts as a tender operator or dozer operator if necessary.

***Fire Lookouts (7 Seasonal)***

Fire Lookouts are located at Omak Mt., Whitmore Mt., Keller Butte, Cody Butte, Gold Mt., Whitestone Ridge, and Johnny George Mt. Staff at these lookouts provides detection services during the summer months, usually mid June through September. These lookouts work five eight-hour days on and two day off. During periods of high fire danger these personnel may be on a 6 day per week schedule.

***Relief Lookouts (2 Seasonal)***

On the regular lookouts day off, they serve as relief, deliver water, pick up garbage, and bring necessary supplies to the lookouts. The relief lookouts assist with opening the lookouts up in the spring and closing down the lookouts in the fall. The relief lookout also does light maintenance on the lookouts.

***Fuels/Operations******Assistant Fire Management Officer – Fuels/Fire***

The Assistant Fire Management Officer -Fuels/Fire (AFMOF/F) is responsible for the supervision of (1) Prescribed Fire/Fuels Specialist, (1) Operations Specialist and (2) Supervisory Forestry/Fuels Technicians. Through this staff, the AFMOF/F directs, plans and manages all Activity, Wildland Urban Interface and Hazard Fuels projects. In addition, the AFMOFF manages a fire behavior prediction system to monitor fire behavior throughout the year to provide input in a wide range of management decisions such as suppression response, fire permits, and industrial fire precaution, etc. The AFMOF/F also acts as a duty officer on assigned days and an Incident commander type VI or III, or Division Supervisor, or Task Force Leader, or Burn Boss II or I. Initial Attack Incident Commander on incidents as required.

***Prescribed Fire/Fuels Specialist***

The Fuels Specialist (PF/FS) is responsible for coordinating the collection of information for the documentation, analysis and prediction of fire behavior and effects on moderate to highly complex projects. The PF/FS develops proposals for prescribed fire and mechanical fuel treatments that are NEPA compliant and have gone through the Reservation PPP process. The PF/FS directs moderate to highly complex fuels projects that deal with fuel reduction in wildland/urban interface areas, planned ignition and mechanical fuels treatments in both developed and wildland areas. The PF/FS may act as an Incident commander type VI or III, or Division Supervisor, or Task Force Leader, or Burn Boss II or I.

***Supervisory Fuels Technician*** (2 permanent)

The Supervisory Fuels Technician (SFT) is responsible for coordinating the collection of information for the documentation, analysis and prediction of fire behavior and effects on low complexity projects. The SFT develops proposals for prescribed fire and mechanical fuel treatments that are NEPA compliant and have gone through the Reservation PPP process. The SFT manages low or moderately complex fuels projects that deal with fuel reduction in wildland/urban interface areas, planned ignition and mechanical fuels treatments in both developed and wildland areas. The SFT is the Contracting Officers Representative (COR) on contracted work on both HFR and WUI projects. The SFT also assists in providing training for Initial Attack Forces, Emergency Firefighters, local contractors, Natural Resources Department Staff, and other Agency staff. The SFT may act as an Incident Commander Type IV or V, or Task Force Leader, or Single Resource Boss (crew, engine, or helicopter manager), or Ignition Specialist, or Burn Boss III or II.

***Operations Specialist***

The Operations Specialist (OS) is responsible for supervision of (3) District Fire/Fuels Technicians, (1) Supervisory Equipment Operator, and Aviation Manager. Through this staff, the OS directs plans and manages the initial and extended attack wildland fire suppression efforts. In addition, the OS through this staff plans, manages fuels and prescribed fire work on Activity Fuels projects in conjunction with the districts Forestry Staff. In addition, the OS assigns projects and preparedness duties to meet current wildfire and prescribed fire conditions. The OS also assists in providing training for Initial Attack Forces, Emergency Firefighters, local contractors, Natural Resources Department Staff, and other Agency staff. The OS may act as an Incident commander type VI or III, or Division Supervisor, or Task Force Leader, or Burn Boss II or I.

***Aviation Manager***

The Aviation Manager (AM) is responsible for managing an exclusive use helicopter contract as COR, and all helicopter operations in support of wildland fire, emergencies and resource management. In addition, the AM supervises the S.E.A.T. Base Manager(s). In addition, the AM

supervises (3) Heli-tack crew personnel in wildland fire suppression and prescribed burning activities. During emergency or project situations involving more than one helicopter, the AM coordinates the activities of these aircraft and the assigned Helicopter Managers. The AM is responsible for all equipment used in helicopter operations including heli-torches, batch plants, cargo nets, aerial ignition dispensers, flight helmets, and other safety equipment. The DF/FT also assists in providing training for Initial Attack Forces, Emergency Firefighters, local contractors, Natural Resources Department Staff, and other Agency staff. The DF/FT may act as an Incident commander type VI or V, or Task Force Leader, or Single Resource Boss (crew, engine, or helicopter manager).

### ***Heli-tack Crew*** (3 Seasonal)

The Heli-tack Crew provides an initial attack force for incidents within the Colville Reservation. Under the direction of the Helicopter Manager this crew completed all assigned tasks in accordance with Agency and Department standards.

### ***Supervisory Equipment Operator***

The Supervisory Equipment Operator (SEO) is a field supervisor. In addition to operating assigned equipment as necessary to meet the programs needs, SEO provides supervision to four seasonal equipment operators. The SEO provides training in the safe operation of equipment and vehicles assigned to the Fire Management Program.

### ***Equipment Operators*** (4 Seasonal)

Seasonal equipment operators provide skilled operation of heavy equipment, water tenders, and Type 4 and larger engines during initial and extended attack operations. They assist in the maintenance and repairs of all equipment assigned.

### ***District Fire/Fuels Technicians*** (3 Permanent)

The District Fire/Fuels Technician (DF/FT) is responsible for supervising (3-4) Engine Crews as well as working with an Equipment Operator and occasionally Brush Disposal Crews. Through this staff, the DF/FT directs, and manages the initial attack wildland fire suppression efforts on the District. In addition, the DF/FT plans, and coordinates fuels management and prescribed fire work on Activity Fuels projects in conjunction with the districts Forestry Staff. In addition, the DF/FT assigns projects and preparedness duties to meet current wildfire and prescribed fire conditions coordinating through the Operations Specialist and the Dispatcher. Management responsibilities include attending District staff meetings, ensuring that time books are correct and turned in to the Mt. Tolman, making certain that all burn boss reports are completed in a timely manner and turned in to Mt. Tolman. The DF/FT also assists in providing training for Initial Attack Forces, Emergency Firefighters, local contractors, Natural Resources Department Staff, and other Agency staff. The DF/FT may act as an Incident commander type VI or V, or Task Force Leader, or Single Resource Boss (crew, engine, or helicopter manager), or Ignition Specialist (I or II), or Burn Boss II.

***Engine Operators*** (27 Seasonal)

Seasonal engine crews operate nine 3-person engines, providing a workforce for initial attack wildland fires and also a prescribed fire work force to construct fire line, act as ignition and holding crew as needed to complete projects assigned. The crews are composed of a Foreman and (2) crew persons. The crews are also responsible for the equipment maintenance.

**Support Facilities*****Equipment***

A current inventory of available fire suppression and support equipment, services and maintenance sources are contained in directories and mobilization plan maintained annually by the Fire Management Staff and located in the fire Dispatch Office.

***Facilities***

The fire support program is primarily based at the Mt. Tolman Fire Center located approximately 20 miles northeast of Coulee Dam Washington. Facilities located at the fire center are a 3,600 square foot Fire Office Complex, a 3,000 square foot Fire Training Center, a 7,750 square foot Fire Warehouse, a XXXX square foot helitack building and a 2,250 square foot Heavy Equipment Shop. In addition, the Fire Management Office also staffs seven lookout towers located throughout the Reservation (Omak Mountain, Whitmore Mountain, Keller Butte, Cody Butte, Gold Mountain, Whitestone, and Johnny George).

***Mt. Tolman Fire Center Offices***

Housed within the main fire office are the Fire Dispatch Center, Fire Manager's Office, Assistant (Logistics) Fire Manager's Office, Assistant (Fuels/Fire) Fire Manager's Office, Operations Specialist Office, Prescribed Fire/Fuels Specialist Office, Supervisory Fuels Technicians Office, Tribal Cooperative Agreement Office, Fire Prevention Office, Fire Training Office, Aviation Manager Office, and San Poil District Fire/Fuels Technician Office.

***Fire Training Center***

The fire-training center at Mt. Tolman has a 1,200 square foot training room, men's and women's lavatories with (3) showers each, a kitchen, a utility room with clothes washing machine and dryer and two 144 square foot offices. The training center can also be converted into an expanded dispatch center when the need arises.

***Fire Warehouse***

The fire warehouse is a 7,750 square foot building equipped as a 200-person fire cache that services all wildland fire and prescribed fire projects. In addition, a locked storage room and a small tool maintenance room are also located within the building.

### ***Heavy Equipment Shop***

The heavy equipment shop is a 2,250 square foot building that has three service bays, an office, and small parts storage room. The service shop maintains and services light duty equipment (chainsaws, water pumps, ATV's, etc.) and heavy rolling stock (dozers, fire engines, tractor-trailer trucks, front end loaders, etc.).

## **DETECTION**

### **Fire Lookouts**

Currently, the Mt. Tolman Fire Center staffs 7 lookout towers (Omak Mt., Whitmore Mt., Keller Butte, Cody Butte, Gold Mt., Whitestone Mt., and Johnny George Mt.) spread across 1.4 million acres. Five of the towers (Whitestone Mt., Omak Mt., Keller Butte, Gold Mt., and Whitmore Mt.) provide "live in" accommodations. The remaining two towers (Cody Butte, Johnny George) have live-in cabins located below each lookout tower. These lookouts are manned as outlined in the Specific Manning and Action Guide, Section VI. The objective is to have trained personnel in place that can discover and accurately locate a fire before it is one acre in size.

### **Aerial**

Dependent on the Class of Day and Action Class, fixed wing aircraft will also be used for detection. Aircraft use will be in accordance with the Aviation Management Plan filed in the Fire Management Office. The objective is to train and have in place aerial observers that can discover and accurately locate a fire before it is one acre in size.

## **COORDINATION AGREEMENTS**

In order to facilitate coordination of all pre-suppression, and suppression activities on the Colville Reservation the Bureau of Indian Affairs Fire Management has entered into agreements with five fire districts (Fire Districts 2, 3, 5,7,8) to provide logistical and operational support during a Wildland Fire.

There is a "Master Cooperative Fire Protection Agreement" between United States Department of Interior, Bureau of Land Management, Oregon and Washington; National Park Service, Pacific Northwest Region; United States Department of Agriculture, Forest Service, Pacific Northwest and Northern Regions; State of Oregon, Department of Forestry; and State of Washington, Department of Natural Resources that expands cooperative fire suppression capabilities. This agreement requires a local operating plan to be developed and updated between all cooperators annually. A copy of the complete agreement is available for review and reference at the Fire Dispatch Office. It is recommended that the Fire Management Staff annually review their cooperative Agreements and annual operating plans to make sure they are adequately covering areas of potential joint responsibility and cooperation.

## **COOPERATORS**

By virtue of their contract/permit with the Colville Tribes, all range permittees and timber contractors are cooperators. A current listing of cooperators is established each year prior to the fire season and maintained in the Fire Dispatch Office.

## **NON-FIRE SUPPORT OVERHEAD**

A current up-to-date Red Card directory of personnel is maintained at the Fire Dispatch Office. This listing can change daily based on availability, changes in qualifications, transfers to and from, and physical fitness.

## **TRAINING AND QUALIFICATIONS**

### **Training Program**

In order to maintain a viable and competent staff of firefighters and support staff the ensuing guidelines will be followed:

- A Fire Training Plan will be developed for all Fire Management and Forestry staff members or any other Natural Resource Employee interested in participating in fire management activities.
- A Fire Training Specialist will be located in each Reservation District to assist the Fire Management Office with training plan implementation and coordination.
- All Employee Fire Assignment Availability forms will be completed and turned in and kept on file in the dispatch office by the first Monday of June each year.
- The Training Officer or his designee will represent the Fire Program at all Eastern Washington Training Group Meeting to coordinate.
- Assist local Fire Districts with Fire training.
- At a minimum will train 300 individuals at various levels of fire course work each year.
- Re-certification coursework will be completed within each district by May 1, of each year.
- All program firefighters will be issued a Red Card upon completion of the firefighter fitness test (Pack Test). Emergency Firefighters red cards will be maintained at Mt Tolman Fire Center. Emergency Firefighter qualifications are tracked in a central database within the IQCS system.
- A physical fitness test (Pack Test) will be conducted at least twice a month, from March through June of each year.

### **Physical Fitness Program**

The Colville Agency Fire Management Office recognizes and supports the concept that, fitness reduces the risk of injury. In order to incorporate this belief into a policy, the following guidelines will be followed:

- Fitness trails will be maintained in each district.
- All fire qualified employees will participate and adhere to the National Wildland Firefighter Medical Policy.
- All arduous qualified employees will hike and exercise.
- All arduous qualified firefighters will hike and exercise at the beginning of each day. The only events that would preempt this training program would be injury, imminent lightning, a wildfire event, or a conflicting work assignment.

List of Unit Personnel and Their Qualifications (current and target qualifications)

Due to the many changes that take place in qualifications and personnel a complete current listing is prepared annually and maintained in the Fire Dispatch Office.

### **AIR OPERATIONS**

Contract aircraft are involved in nearly all aspects of management on the Colville Reservation. Primary aviation projects are fire detection and suppression, emergency medical evacuation, retardant delivery, aerial reconnaissance, transport of fire personnel, search and rescue operations and directing smoke jumpers. Other possible work includes timber surveys, insect and disease surveys, game counts, tracking and aerial photography. All aviation activities are conducted in accordance with the Aviation Management Plan, Colville Indian Reservation. All activities are cleared through the Agency Aviation Manager (AAM), or his/her authorized designee.

Annually the following air operations items will be reviewed and updated.

- Fire qualifications
- On-call lists
- Rental agreements
- Delegation of authority
- Contract lists.

## **CHAPTER VI – MOBILIZATION STRATEGY**

### **DISPATCH HIERARCHY**

The three-tier system consists of unit/local Zone and Geographical Area Coordination Center (GACC), and the National Interagency Fire Coordination center (NIFCC). The unit/local dispatch center can move any local fire suppression resources from areas adjacent to the unit in need. GAOCC supplies fire suppression resources from the defined geographic area and place orders to NIFCC at Boise, Idaho.

The Colville Reservation dispatch center is housed in the Mt. Tolman Fire Center Office. The dispatch office is equipped with radio/telephone voice communications and computer for electronic communications. The Fire Dispatch Office will be operational 7 days a week during normal fire season as defined in the Manning and Specific Action Guide.

It is absolutely necessary that the proper equipment and training be provided that allows dispatchers to recognize the fire potential and dispatch necessary resources to meet the suppression objectives. Equipment should include some means of recording requests and action on requests.

On large or complex incidents Expanded Dispatch will be activated. Expanded Dispatch functions are overhead/crews, aircraft, equipment/supplies, and intelligence. The volume of orders and complexity of the incident(s) determine the staffing levels and the degree of expertise required. A qualified/certified Supervisory Dispatcher will fill the Expanded Dispatch supervisor position. This position is responsible for filling and supervising the necessary positions based on the complexity of the situation.

A list of trainees for expanded dispatch is up-dated annually and maintained in the Fire Dispatch Office.

### **WEATHER FORECASTS**

Regular Forecasts: Weather observations will be entered into the computer system and a normal forecast retrieved about 1600 PDT during the low level service. During normal level service, one forecast will be pulled at 0830 PDT and the afternoon forecast at 1630 PDT. The Dispatch office will make these forecasts available to all fire management personnel via the established communications system.

Special Forecasts: Requests for spot forecasts will be handled at any time. Call forecasters at their home phones, outside of normal office hours. The Special Forecast Request Form, WA D-1 or (653-1) can be used to indicate the information required by the forecaster, particularly Items 1-12.

Mobile Unit Service: The Air Transportation Module Unit (ATMU) is available for dispatch to an actual or potential project fire. The Dispatch Office can make requests directly to the Fire Weather Office or one of the forecasters.

## **LOCAL WEATHER STATIONS FOR DETERMINING FIRE DANGER INDICES**

The Colville Reservation utilizes three forecast zones to determine fire danger and the Industrial Fire Precaution Levels.

Fire Danger on the Colville Reservation is based on the three Remote Automatic Weather Stations (RAWS) located on the Reservation. These stations include 452009 located at Nespelem, 452040 located at Kramer Ranch and 452510 located at Gold Mountain Lookout.

Industrial Fire Precaution Levels are provided for by part of two zones located on the Colville Reservation. They are Zone 684, basically the non-timbered area of the Reservation, and Zone 678 that encompasses all of the Reservation's timbered area. Zone 684 has two RAWS stations, 542009 located at Nespelem and 452030 located at the North Cascades smoke Jumper Base located off-Reservation at Twisp, Washington. In Zone 768, there are two on-Reservation RAWS stations at Gold Mountain Lookout (452510) and Kramer Ranch (452040) and five off-Reservation RAWS stations at Aeneas, Lookout (452001), First Butte (452006), Leecher Mountain (452020), Lost Lake (452029) and Douglas Ingram Ridge (452035).

## **CRITERIA AND ACTION GUIDELINES**

### **Pre-suppression**

Manning and specific fire management pre-suppression action guides for the Colville Reservation are shown in Table VI -1.

### **Closure Plan**

Closure of the Colville Indian Reservation is a rare occurrence. A Closure Plan will only be implemented as a part of a general area shutdown, in cooperation with adjoining agencies or as a result of a combination of occurrences such as extended periods of drought and abnormal man caused fire or extended periods of drought and visibility less than three miles at our lookouts. Action to be taken is shown in Table VI – 2.

Table VI - 1. Manning and Specific Action Guides for the Colville Reservation. Severity funding will be requested for additional work hours. Additional hours will be approved based on funding (either Severity or Fire).

Action number	action	fire incident level					
		1	2	3	3H	4	5
1	Normal Operating Procedures	X	X				
2	Fire Management office will be open 7 days per week, from 0730 to 1800 during normal fire season.			X	X	X	X
3	At least one of the following officers will work normal days off or remain on duty if the class occurs in the afternoon: FMO, AFMO Logistics, AFMO Operations, Lead Dispatcher, Dispatcher, Prevention Officer, and Safety Officer.	H	H	H/L	O	X	X
4	All of the following will work on normal days off or remain on duty in the evenings if the class occurs in the afternoon: FMO, AFMO Logistics, AFMO Operations, Lead Dispatcher, Dispatcher, Prevention Officer, Safety Officer, all lookouts.	H	H	H	L/M	X	X
5	All of the following will work on normal days off or remain on duty in the evenings if the class occurs in the afternoon: a) Engine Crews, Equipment Operators. b) Qualified Natural Resources Department Personnel.	H	H	H/L	L/M	X	X
					L/M	X	X
6	Fire Management Staff will be maintained at full strength; leave will be limited only to sick or emergency leave. Other Natural Resources Department Personnel may be used to fill vacancies of normal Fire Management Staff.					O	X
7	The Fire Management Office will remain open 24 hours per day and staffed at the required level to meet situational needs.				L	O	X
8	Emergency Firefighters may be hired in an amount that the situation requires and stationed at strategic locations.				L	O	X
9	Agency Branch Chiefs may be alerted to possible immediate call for assistance.				L	O	X
10	All Fire Management Staff will be at designated						

Action number	action	fire incident level					
		1	2	3	3H	4	5
	locations and on continuous communications.				L	O	X
11	Qualified Natural Resources Department staff will be at designated locations and on continuous communications.				L	O	X
12	Fire Management Dozers will be loaded on transport vehicles.			L	X	X	X
13	Fire Management Dozers will be stationed at designated locations.				L	O	X
14	Air patrol may be carried out on per-determined flight plans.			Y/L	Y/L	Y/L	X
15	Alert Branch of Forestry, Portland Area Office, neighbors, and air tanker bases of current conditions.					X	X
16	All contractors and cooperators will be informed of pending lightning storms and red flag warnings through communications with District Supervisors.					L	X
17	News media will be informed of current fire conditions.			L	L	O	X
18	During periods of extended drought, other measures that may be deemed by the FMO, Forest Manager and Superintendent to be advisable, needed or necessary to meet protection responsibilities may be implemented.					O	X
19	Determine the availability of Call when needed helicopters to supplement the contract helicopter.					O	X
20	Implement the Colville Reservation Closure Plan					O	X
X = Action without qualifications; O = Action to consider; V = Visibility 5 to 8 miles; Y = Visibility less than 5 miles. L = Lightning occurring, predicted or has occurred in the past 2 days; M = Abnormal man caused; H = Holiday.							

Table VI - 2. Closure Plan Action Guidelines for the Colville Reservation.

Action number	action	fire incident level					
		1	2	3	3H	4	5
1	Fire Management, Natural Resources Department and Tribal Enforcement personnel will implement closure, post signs and perform daily patrols.					O	O
2	Fire Management Office will be operated 24 hours per day and night patrols will be utilized to insure compliance with closure.					M	O
3*	Place contractor equipment and personnel on stand-by at designated locations, with necessary overhead available to provide a fast efficient initial attack force. These forces will be stationed at designated locations within the reservation.					Y	O
Action 3 can only be implemented after notifying the BIA Portland Area Office of current conditions. It may be necessary to request severity funding to justify the expenditure of funds.							

## **Incident Mobilization Guide**

The Colville Agency Incident Mobilization Guide is intended to provide dispatching procedures and organization: a Directory, and Catalog of personnel, equipment, aircraft and supplies to assist in the management of wildland fires. The Guide will be updated annually by June 1. A delegation of authority from the Superintendent to the Fire Management Officer will be included in the Guide.

### ***Mission Statement***

Commensurate with the values at risk, wildfire losses will be held to a minimum through timely and appropriate suppression responses, the planned use of prescribed fire, cooperation with other protection agencies, and timely rehabilitation of burned-over land. Fire management activities including fire prevention, pre-suppression, suppression and rehabilitation will be planned, trained for, organized and executed to meet the tribes overall resource management objectives.

Fire management activities covered in 53 BIAM 8.1, past and future supplements to this chapter pertain to forest and range wildfire and prescribed fire activities only. Structural fire protection and responsibility can be found in 25 BIAM Supplement 19.

### ***Policy***

Each wildfire ignition requires an appropriate suppression response. The determination of this response shall be based upon fire management direction resulting from land and resource management objectives and cost efficiency.

Depending upon fire management direction, suppression response may range from direct control, minimizing acreage burned, to indirect methods. Monitoring may be appropriate when the fire will be self-contained within a defined perimeter.

### ***Objectives***

The objective of fire suppression is to suppress wildfires at minimum cost consistent with land and resource management objectives and fire management direction.

The Colville Agency's Dispatch Objectives are as follows:

- Provide immediate, effective and complete initial attack action on all fires within the Reservation protection boundaries and agreement areas.
- Provide a central point from which to monitor and deploy personnel, equipment and aircraft for the Reservation and adjacent agencies and the region.
- To monitor daily fire danger rating levels and staffing levels and to recommend extra precautions as necessary.
- The Colville Reservations normal fire season is based upon the 10-day occurrence level and begins on March 22 and ends on October 27. The Mt. Tolman Fire Center

will be staffed seven days a week from June 1<sup>st</sup> through September 30 between the hours of 0730 and 1800. Staffing will be per the included schedule and the Specific Action and Preparedness Plan.

### ***Administrative Procedures***

#### **Safety**

To assure a minimum level of safety, the following safety standards will be incorporated into all phases of pre-suppression, suppression, and prescribed fire operations.

- Firefighter and public safety is the first priority in every fire management activity.
- All personnel who are dispatched to a fire and will perform fireline duty must have personnel protective equipment including flame resistant clothing, hardhat, 8” or taller leather boots, gloves, fire shelter, etc. (Refer to Wildland Fire Incident Management Field Guide PMS 210 Chapter 1 page 15). This includes fire rehabilitation team members.
- All red carded fireline personnel must attend an annual Fire Refresher session prior to a fireline assignment. This may consist of Standards for Survival, Look Up, Look Down, Look Around, or other approved training session designated by NWCG.
- All red carded personnel must complete the prescribed Work Capacity Test (Pack Test) at a level required in PMS 310-1 of Arduous, Moderate, or Light, depending on the position to be filled.
- Knowledge of the Ten Standard Orders and the Eighteen Situations that Shout Watch-out will be a requirement for all personnel, and each employee will become familiar with safe practices.
- Non-red carded personnel who initial attack a fire will be relieved at the earliest opportunity.
- Personnel who have been required to work extended shifts will not be permitted to drive home without first having adequate rest (2 to 1 work/rest ratio, provide 1 hour of sleep/rest for every two hours of work/travel). The Colville Agency will provide/arrange for a driver to transport them. Resources returning home should be scheduled to arrive at their final destination NO LATER THAN 2200 HRS (refer to Northwest Mobilization Guide 22.2.1).

## Dispatching

### GENERAL PROCEDURES

- The Mt. Tolman Fire Center Dispatch will provide dispatch services for all incidents 24 hours a day during fire season. A Dispatch Duty Officer will be available outside normal office hours as designated in the Northwest Mobilization Guide.
- All requests for resources will be made through Mt. Tolman Fire Center Dispatch and documented on a resource order form utilizing the Resource Ordering Status System (ROSS). This includes initial attack resources and orders from neighboring forests and agencies, Northwest Coordination Center, and cooperators.
- The Mt. Tolman Fire Center Dispatch will be staffed while fire-fighting personnel are actively working on fire (s), including mop-up. While personnel are bedded down, or traveling from the incident, communications must be maintained by dispatch, a duty officer, or by cell phone (if an emergency arises, there is communications to obtain assistance).

### ORDERING CHANNELS

- The Mt. Tolman Fire Center Dispatch will utilize the closest available forces dispatch procedures. Requests for resources not available on the Reservation will be placed with neighboring units as follows: OKF, COF, SPA, YAA, NIA, CWICC, NES, TBR, and SPD. If resource orders are not filled at this time, then resources will be requested through Northwest Coordination Center and forwarded from there.

### DETECTION

- All incidents/smoke reports will be reported to Mt. Tolman Fire Center Dispatch. Incidents or smoke reported after hours to qualified district personnel may be managed by these personnel. Mt. Tolman Fire Center Dispatch will be informed of the action taken as soon as possible.

Units should be prepared to report the following items when turning in a smoke report:

- Station/Unit reporting.
- Township, Range, Section of smoke.
- Location by landmark.
- Their present location and azimuth to smoke.
- Estimated size.
- Observed Fire Behavior or smoke characteristics.

## PRIMARY LOOKOUTS

Omak Mountain	KOD 575
Whitmore Mountain	KOD 576
Keller Butte	KOD 577
Johnny George Mountain	KOD 578
Gold Mountain	KOD 579
Cody Butte	KOD 580
Whitestone Mountain	KOD 585

### Initial Attack Dispatch Procedures

Mt. Tolman Fire Center Dispatch will dispatch those initial attack resources that are to respond to the incident. Give the location of the incident by legal description, geographical landmark; give the incident number, and the initial attack resource number, and any other known information about the incident. The Dispatcher and Duty Officer will determine Numbers and mixes of responding forces.

Each responding unit will give ETA to the incident. The Mt. Tolman Fire Center Dispatch will record the arrival times of all responding units. The first unit arriving at the fire will give a brief status of the situation, confirm the legal location, and notify dispatch if additional resources will be needed or if the resources at the fire and/or en route will be adequate.

The first unit on the incident will perform the duties of ICT4 until notified otherwise. If the number of resources or the potential threat of this fire to escape is high, an ICT3 may be dispatched and designated at the time of dispatch and he/she will relieve the ICT4 upon arrival. In the event the incident can be managed by the first arriving forces, the IC will notify dispatch and pass this information to all other units.

A qualified Fire Investigator will investigate all unknown caused fires and all human caused fires.

**Contain/Control Fires:** Some fires may be candidates for contain or confine fires, depending on location, fuel types, current and predicted weather, time of year and other factors. The determination for this type of action will be made by the IC in charge and concurred by the Fire Management Officer. Fires in contain/control status will be monitored daily, with weather observations taken between 1300 and 1600 hours each day until the fire is declared out. A specific containment area will be identified, as well as maximum weather conditions. If the fire exceeds those parameters, aggressive suppression action will be taken immediately.

### *Multiple Fire Situations*

The Mt. Tolman Fire Center Dispatch will follow the closest and most adequate forces concept. Pre-positioning of crews and equipment may be necessary so that problem fire areas can be met with immediate and effective deployment of personnel and equipment.

The Fire Management Officer will gather all available information on multiple starts, and if priority determinations are necessary, they will be made by the FMO utilizing the following: (1) Threat to human life, (2) Threat to resources/property.

### ***Reciprocal Areas***

Northeast Department of Natural Resources, Colville National Forest, and Okanogan National Forest.

Each agency will dispatch its own forces with communication coordination between agencies through the Dispatch offices. Reciprocal fire protection agreements will be followed.

### ***Extended Attack Mobilization Strategy***

When an incident has exceeded initial attack capabilities, the designated IC, FMO or AFMO, will prepare a Wildland Fire Decisional Support System (WFDSS). The WFDSS is a management tool to aid line officers, FMOs and Incident Management Teams in analyzing the complexity of a given fire situation. The WFDSS is used to develop alternative strategies for suppression of escaped fires and the evaluation of the net effect (cost plus damage) of each of those alternatives. The Superintendent or his designated official will be the approving authority for the document.

### ***Off-Reservation Dispatch Procedures***

All requests for overhead, crews, equipment, supplies and aircraft from the Colville Indian Reservation will be received by Mt. Tolman Fire Center Dispatch. Resource order forms will be completed on each request.

Mt. Tolman Fire Center Dispatch will attempt to fill all orders while considering the Reservations initial attack capability. The Dispatcher will assure that all employees' supervisors have been contacted and are agreeable to the dispatch.

### ***Overhead Crews***

#### **Type II Crews**

The Colville Indian Reservation will provide one Type II Crew when requested and if available. This crew will be trained, qualified and equipped for firefighting. The crew will consist of 18 to 20 people. This will include 1 – Crew Boss, 3 – Squad Bosses, two Class B fallers and two chainsaws unless traveling by aircraft. The total weight of the crew, including gear will not exceed 5200 lbs. (maximum of 45-lbs. Personal gear, 20 pounds of web gear, for a total not to

exceed 65 lbs.) Each crew will be listed on a Passenger and Cargo Manifest (SF-245) and accurate personal and gear weights will be provided.

Each firefighter should have at a minimum:

- 1 Fire Shelter
- 2 Pairs of Nomex Pants
- 2 Nomex Shirts
- 1 Hard Hat
- 1 Headlight
- 2 Canteens
- Boots (leather lace up with a minimum of 8-inch top)
- Gloves
- First aid kit
- Spending Money
- Prescription or any necessary medication

Personnel should not be sent to an incident if they are not available for a minimum of 14 days (21 days to Alaska).

Crews will be assigned a number in sequential order of dispatch:

COA #1  
COA #2

### Incident Management Team

An Incident Management Team will be ordered when the size or complexity of a fire exceeds the capabilities of Mt Tolman Fire Center. All orders for an Incident Management Team is done through the ROSS system, with the order being placed up to the NW GACC. NWCC should be notified by telephone that an order is being placed. The Host Dispatcher will notify the other agency dispatchers with the resource order information when the team is ordered (Reference the Washington Incident Management Team Operation Plan).

### Smokejumpers

All requests for Smokejumpers will be made through Mt. Tolman Fire Center Dispatch. Requests will be placed on the Resource Order Form in ROSS and placed with the Smokejumpers host dispatch unit. Pick up and delivery back to the home unit will be coordinated through dispatch.

## ***Equipment and Supplies***

### Ordering Cache Equipment

Regional Cache: The Regional Cache at Redmond, Oregon, is intended to serve the satellite caches at Wenatchee and LaGrande in addition to serving the local needs of the Central and Western Oregon Forests directly. The Colville Agency will not order equipment and supplies directly from the Redmond Cache.

The Wenatchee Cache serves the Colville Agency. All orders for NFES cache items will be placed with Wenatchee Cache through Mt. Tolman Fire Center Dispatch. Orders that Wenatchee Cache cannot fill will be forwarded by Wenatchee Cache to Redmond Cache to be filled.

The Mt. Tolman Fire Center will manage and maintain a 200-person initial attack cache. This cache will be used to supply the Reservations initial attack forces. At the beginning of the season the Mt. Tolman Fire Cache should be stocked at the levels shown in Chapter 70 of the mobilization plan.

**Return of Cache Items:** All fire cache equipment, other than Mt. Tolman Fire Center cache items shall be returned to the Redmond Fire Cache for reconditioning. Shipment shall be by common carrier or Agency service truck which ever is most convenient. Mt. Tolman Fire Center Dispatch will arrange transportation.

#### Mobile Cache Support Van

Requests for the Mobile Cache Support Van located at the Omak Tanker Base will be placed with Okanogan Dispatch through Mt. Tolman Fire Center Dispatch on the resource order form.

Vans dispatched to fires will be unloaded at fire camps and the empty vans returned to the nearest cache. The Incident Commander may request to keep the Units at fire camp with approval from the Regional Cache Manager at the Redmond Cache.

### ***Aircraft***

#### Aerial Detection

All aerial detection will be scheduled by the Mt. Tolman Fire Center Dispatch.

All detection aircraft will check in with Mt. Tolman Fire Center Dispatch every 15 minutes.

Any deviation from the flight plan will be communicated to Mt. Tolman Fire Center Dispatch.

#### Helicopters

All helicopter activities will be coordinated through Mt. Tolman Fire Center Dispatch.

Helicopters will flight follow with Mt. Tolman Fire Center Dispatch and will check in every 15 minutes.

During wildland and prescribed fire operations where operations personnel will have visibility of the helicopter at all times, flight following can be performed on site.

A Helicopter Module consisting of 1 HEMG and 2 HECM will be available and used during any helicopter operations.

## Other

All other fire related flights will be coordinated through Mt. Tolman Fire Center Dispatch. Only fully qualified and carded aircraft and pilots will be used and the HEMG or SEMG will be responsible for checking pilot and aircraft cards. The HEMG will complete a load calculation prior to each flight.

All aircraft passengers will wear the personnel protective clothing required for the aircraft or flight.

All air tanker requests will be made through Mt. Tolman Fire Center Dispatch.

Mt. Tolman Fire Center Dispatch will receive daily, during fire season, from Whidbey Island, through Okanogan Dispatch a military usage schedule of the MOA's and Routes in the north central and northeast Washington area.

## ***Reports***

### Daily Situation Reports

Daily, during fire season, the Mt. Tolman Fire Center Dispatch will report fire and resource status to the Northwest Coordination Center by 1700.

### Smoke Management Report

The Mt. Tolman Fire Center will notify Olympia, Smoke Management of all burns completed and the estimated tonnage burned at the completion of each burn day.

### Individual Fire Reports

Individual Fire Reports (DI-1202) for all statistical wildfires will be finalized by Mt. Tolman Fire Center Dispatch and entered into WFMI system within 20 days of the fire's out date. All Field Fire reports should be in the Dispatch office within 4 days after the fire has been declared out.

### Mapping of Incident Locations

Every effort will be made to utilize the Global Positioning System to provide accurate maps of fire locations and points of origin.

## ***Precaution Levels***

### Daily Determination

Mt. Tolman Fire Center Dispatch will utilize WIMS/NFDRS and in cooperation with Northeast DNR, Okanogan National Forest and Colville National Forest will decide the appropriate Industrial Fire Precaution Level for each day.

#### Staffing Class

The daily Staffing Class will be directly from previous day's afternoon WIMS/NFSRS forecasts.

#### Adjective Class

The daily Adjective Class will be directly from previous day's afternoon WIMS/NFDRS forecasts.

#### *Preparedness Levels*

##### **PREPAREDNESS LEVEL 1:** Normal Operating Procedure

Office Hours - 0730 to 1600 Monday through Friday.

Normal staffing, Initial Attack response is provided by Fire Management and Prescribed Fire Personnel.

Normal period of operation - October 1 through May 31 of each year.

##### **PREPAREDNESS LEVEL 2:** Fire Season Operations

Office Hours - 0730 to 1800 7 days per week.

Additional seasonal staffing provided to man engines, lookouts and heavy equipment as specified in the FMPA.

Normal period of operation - June 1 through September 30 of each year.

##### **PREPAREDNESS LEVEL 3:** Extended Operations

Office Hours - 24 hours per day, 7 days per week.

All full time and seasonal staff will work 6 day, 12 hour per day schedule, forestry and other department staff will be brought on to assist in maintaining required staffing levels.

This level is only implemented during incidents or periods of extreme fire danger or abnormal occurrence such as arson or red flag warnings for lightning.

Dependent on the approval of Severity funding.

##### **PREPAREDNESS LEVEL 4:** Reservation Closure

Implement Reservation Closure Plan

#### **Burned Area Emergency Stabilization and Rehabilitation (BAER) Mobilization Strategy**

An interdisciplinary approach based on the Integrated Resources Management Plan will be utilized when developing the Burned Area Emergency Rehabilitation (BAER) Plan. It is the primary responsibility of the Agency Administrator or Wildland Fire Resource Advisor to determine the best method of preparing a BAER plan. There are three methods to be considered:

1. **Wildland Fire Resource Advisor:** If the fire is small and/or lacks complexity, the plan can be developed by the Wildland Fire Resource Advisor, with documented consultation from sources within or outside the agency.
2. **Local BAER Team:** If the affected unit supports a staff that is of sufficient size and has a majority of the disciplines required for developing the plan, a team of qualified BAER specialists can be pre-identified and mobilized within the unit or from adjacent units/agencies. This could involve several Tribal specialists.
3. **DOI National BAER Team:** Anytime a fire exceeds 500 acres in size and is otherwise complex in terms of resource damage or requires a Type II or Type I Incident Management Team (IMT), the Wildland Fire Resource Advisor and/or Agency Administrator should **consider** a resource order for a DOI BAER team. Orders for a team are placed through normal dispatch channels and as specified in the National Mobilization Guide.

The staffing of a BAER team's technical expertise may vary according to the complexity of the burned area resources involved and the values at risk. Representation that may be required:

**Core Team Members**

- Team Leader
- Soil Scientist
- Hydrologist
- Wildlife Biologist
- Certified Silviculturist
- Vegetation Specialist
- Archeologist
- NEPA Environmental Specialist
- Computer/Documentation Specialist
- Operations Specialist
- Local Agency Wildland Fire Resource Advisor (WFRA)

**Optional Team Members**

- Geologist
- Contract Specialist
- Recreation Specialist
- Economist
- Trails Specialist
- Engineer
- Wilderness Management Specialist

- Range Conservationist
- Fisheries Specialist
- Infrared Photo Interpreter
- GIS Specialist

**Others**

- Agency Contracting Officer
- Agency Finance Officer
- Local Agency Office(s)
- Rehab Project Coordinator
- Rehab Project Leader

Individual team member responsibilities and operational procedures are further discussed in the Burned Area Emergency Rehabilitation Handbook.

The BAER Team will work within the Incident Command structure, as part of the Planning Section. The IC and his staff should facilitate the accomplishment of short-term rehabilitation measures identified by the BAER Team and whatever Emergency Fire Rehabilitation (ESR) treatments that can be accomplished prior to demobilization. It is usually possible for the Team to direct and complete all short-term rehabilitation while assigned to the incident. Long-term ESR rehabilitation may be initiated by the Team and completed by resource specialists on the affected unit.

## CHAPTER VII – PREVENTION STRATEGY

The Fire Prevention Strategy for the Colville Reservation is to reduce the number of person-caused fires and to reduce the damage caused by all fires.

The Wildfire Prevention Analysis and Plan identifies the Risks, Hazards and Values on the Colville Reservation. The Plan also identifies priority areas, specific action and responsibilities consistent with the Colville Reservation Integrated Resources Management Planning Goals.

Wildfire prevention activities generally fall within one of the four broad categories.

1. Education

Education is aimed at changing people's behavior by awareness and knowledge. This can be done through printed materials, mass media, one-on-one contacts or group presentations. Information can also be delivered through signs, displays, fairs, parades, etc.

2. Engineering

Engineering is an activity designed to shield an ignition source or remove the fuel that could ignite from a spark or firebrand. Fuel management and hazard reduction addressed in another section of this plan will also assist in attaining the objective of reduction of resource loss.

3. Enforcement

Enforcement is used to gain compliance with fire regulations and ordinances.

4. Administration

Administration includes those activities such as planning, budgeting, training, etc.

### SPECIFIC ITEMS THAT WARRANT SPECIAL MENTION

#### Fire (Burning) Permit System

The burning permit system is outlined in the Prevention Specific Manning and Action Guide Shown in Table VII – 1. Burning permits are required from March 1 through November 30.

#### Public Information and Education

As mentioned above Public Information and Education is accomplished using a variety of methods. This is the area of emphasis that can establish and maintain support for the Fire Management Program as a whole. By keeping the public informed of what and why you are doing something gains support for the entire program. Don't forget to say THANK YOU at the end of the season for the help provided in reducing the number of fires. For detailed tasks and assigned responsibility for accomplishment see "Wildfire Prevention Analysis & Plan."

Table VII - 1. Fire Prevention Specific Manning and Action Guide for the Colville Reservation.

Action number	action	fire incident level					
		1	2	3	3H	4	5
1	All general actions that are listed in the current Wildfire Prevention and Analysis Plan will be implemented.	X	X	X	X	X	X
2	<p>The Colville Agency Burning Permit Policy will follow these guidelines (3/1 – 12/1):</p> <p><b>DEBRIS BURNING PERMITS</b></p> <p>Issued for a 30-Day Period</p> <p>Issued for a 14-Day Period</p> <p>Not Issued</p> <p><b>BURN BARREL PERMITS</b></p> <p>Issued on an annual basis</p> <p><b>RANDOM CAMPFIRE PERMITS</b></p> <p>Issued for a 30-Day Period</p> <p>Issued for a 14-Day Period</p> <p>Issued for a 5-Day Period</p> <p>Not Issued/Permits Cancelled</p> <p><b>TRADITIONAL BURNING PERMITS</b></p> <p>Issued on an annual basis</p> <p>Notify Tribal council of current conditions and request permission to cancel permits until condition abates.</p>	X	X	X	X	X	X
3	All sites for industrial operations will be inspected prior to issuing permits for debris disposal. This includes orchards, road and housing construction projects, farms, and ranches.			I	I	C	C
X = Action without qualification; O = Action to consider; I = Inspect site; and C = Cancel permits.							

**Closures/Restrictions**

The Colville Reservation and woods closure restrictions will be in compliance with the Industrial Fire Precaution levels compiled from fire weather data gathered by the State of Washington, Department of Natural Resources Fire Weather Office.

The Mt. Tolman Fire Center will coordinate closure or control logging operations or other activities pertaining to weather zones within the Reservation boundaries. This coordination will be direct agency-district headquarters to assure maximum coordination of the effort.

At such time the fire precaution levels are activated, the requirements affect ALL Reservation programs. The fire dispatch will keep all personnel informed of the current precaution level in effect by two-way radio, signs, public information releases, and direct communications with program managers.

During periods of extreme fire danger, the public will be made aware of the situation through news release, by posting and distributing fire danger notices and some access road closures into high-hazard areas. At these times all unnecessary wood's activity should be curtailed. Closures/Restrictions are never desired, however, there are times when the fire danger warrants restricting the general public and members of the Colville Confederated Tribes.

For description of the Fire Precaution Levels see the Colville Reservation Forest and Range Fire Operations Plan 2000 (BIA 2000), and "Chapter VI – Mobilization Strategy" within this document.

**Trespass/Arson Investigation**

Current fire investigation is done by fire management personnel or qualified enforcement officers employed by the Tribe. This investigation determines cause.

**Enforcement**

Enforcement of laws and regulation is done through the Tribal Police.

**Hazard Abatement**

Hazard abatement relating to fuels management is a fire management task and is identified with responsibility assigned in the "Wildfire Prevention Analysis & Plan". The task is accomplished through cooperation with Timber, Range, Wildlife, Lands and other resource managers in accordance with the Plan for Integrated Resources Management Plan standards and guidelines. Also see Chapter IX "Fuel Management/Hazard Reduction Strategy" of this document for further discussion on this topic.

Timber sales can be planned in areas of high fuel hazard accomplishing the target for lumber and revenue while reducing the fuels. Range and Wildlife projects can be planned for those areas

that have a high fire occurrence, reducing the fire hazard and improving the range conditions and wildlife habitat. Fuels in and around developed areas can be treated to reduce the risk to both the developments and also the surrounding lands.

### **Prevention Workload Analysis (PWA)**

There is no need to develop a Prevention Workload Analysis within this plan as a detailed PWA was included in the “Wildfire Prevention Analysis & Plan”. Based on the PWA there is a need for additional funds to accomplish the fire prevention tasks as outlined. The cost of prevention may need to be reviewed and increased in order to reduce the hazard in and around the increasing wildland/urban interface.

During the analysis period of 1991 - 2000 the Reservation had a total of 1,202 fires that burned 62,191 acres (ten year average of 120 fires burning 6,219 acres annually). Total fires per year were highly variable ranging from 196 (1991) to 112 (1997).

An analysis of fire occurrence determined that the fire season (based on having a ten year average of one fire in a ten day period) runs from March 22 through October 27. Lightning is the predominant cause for the majority of fires (504) on the Reservation with 79.8% of the fires occurring between May and October. Table VII – 2 summarizes the causes of fire during the past ten-year period.

Table VII - 2. Fire Problem Identification – Colville Reservation

CAUSE	NUMBER OF FIRES IN TEN YEARS	PERCENT OF TOTAL	AVERAGE FIRES PER YEAR
Lightning	504	41.9%	50.4
Campfires	61	5.1%	6.1
Smoking	13	1.1%	1.3
Debris Burning	245	20.4%	24.5
Incendiary	36	3.0%	3.6
Equipment	93	7.7%	9.3
Children	79	6.6%	7.9
Miscellaneous	171	14.2%	17.1

### **Firework Policy**

Currently there is no firework policy developed on the Reservation.

## **PUBLIC INFORMATION AND EDUCATION**

### **Information**

It is beneficial to the fire management program to keep the public well informed on the current events. Prior to fire season provide information regarding fire prevention, burning permits,

potential fire danger, training, cooperators involvement, etc. During the fire season it may be necessary to inform the local residents of the current fire danger, current fire activity, any fire restrictions, road/trail closures, etc.

Prior to prescribed fire activity it is helpful to conduct public meetings to let the local residents know what is planned and why. On the day of ignition anyone within the immediate area should be contacted to make sure they are aware of the burn and that you are concerned for their safety.

At the end of each fire season a “Thank You” message to the public should be prepared for their assistance. Include the statistics on what did occur for that fire season including: how many fires on the Colville Reservation, number of firefighters brought in, number of firefighters sent off Reservation to help others, amount of acres prescribed burned and for what reasons.

## **Education**

It is necessary to include an education effort as a part of the fire prevention program. Education may also be necessary if there is a planned fire prevention of fuel project that may have outspoken critics.

An integral part of public education is the dispersion of current fire danger information through signs illustrating current fire danger, press releases, and other public announcements. It is important that the residents are made aware of current fire danger levels, and if signs are utilized they should be updated on a regular basis. Signing during prescribed fires can be both a useful safety tool as well as an aid in educating the public on fire. Raising the public awareness on both the subjects of fire management and fire suppression may provide benefits in reducing arson caused fires and increased public cooperation with fire related law enforcement.

## **PUBLIC SAFETY MEASURES**

Public safety concerns will be specifically addressed in each Wildland Fire Decisional Support System (WFDSS) and each prescribed fire plan. The following public safety measures will be taken:

- Public safety messages should be developed as required and incorporated into the process of fire information dissemination.
- Trail and unimproved roads in the vicinity of wildfires and prescribed fires will be closed if potentially hazardous conditions are present.
- Traffic control measures, including smoke warning signs, flashing signal lights, traffic cones, and either fire or law enforcement personnel should be situated on roads where smoke intrusion incidents are anticipated to occur.
- Patrols will be assigned to keep spectators at a safe distance from prescribed fires.

## **FIRE CRITIQUE**

A fire critique should be accomplished and documented after each major wildland fire and after a multiple wildland fire event. The critique should identify what went right and what didn't. The

critique should not fix blame but identify areas that can be improved upon through training, change in procedure, improved communication, etc. Special recognition should be given to those that put forward extra effort to accomplish their duties. Also any cooperators should be recognized. Any changes in procedure should be made immediately and broadcast to all those that may be involved. Training deficiency should be corrected as soon as required training is available.

### **ANNUAL SUMMARY REPORT**

The FMO will be responsible for completing an annual Wildland Fire Summary Report. The report will contain the number of fires by type, acres burned by fuel type, cost summary, personnel utilized, hours of aircraft use, and fire effects.

Fire causes should be reviewed annually and appropriate revisions made to the Fire Prevention Plan directing action toward reducing the top three causes of unwanted wildfire.

### **ANNUAL FIRE MANAGEMENT PLAN REVIEW**

The Fire Management Plan (WFMP) will be reviewed annually by the FMO and the AFMO. Necessary updates or changes will be accomplished prior to the next fire season. Any additions, deletions, or changes will be reviewed by the Natural Resources Director to determine if such alterations warrant revalidation of the plan by the Superintendent and the Regional FMO.

## **CHAPTER VIII – APPROPRIATE MANAGEMENT RESPONSE STRATEGY**

The appropriate management response (AMR) is defined as the specific actions taken in response to a wildland fire to implement protection and/or fire use objectives. It allows managers to utilize a full range of responses. It does not lock tactical options to fire type designations. As conditions change, the particular response can change to accomplish the same objectives.

The concept of appropriate management response is integral to the new wildland fire management policy. Additional information and details can be found in the *Wildland and Prescribed Fire Management Policy, Implementation Procedures, Reference Guide*. The relationships between wildland fire and prescribed fire and the various assessment and decision stages are shown in Figure VIII - 1. This guide is incorporated by reference into this (WFMP).

Management responses are programmed to accept resource management needs and constraints as described in the Record of Decision and Plan for Integrated Resource Management 2000-2014, reflects a commitment to safety, is cost effective and accomplish desired objectives while maintaining the versatility to vary in intensity as conditions change.

Wildland fire originating on, trespassing on or threatening Colville Reservation lands will be evaluated for potential fire use and an AMR determined with adequate forces to suppress the wildland fire according to management objectives for that Fire Management Zone (FMZ). Suppression action must be planned and executed to minimize costs, property damage and resource losses. Protection of life and firefighter safety is the number one priority. Secondary protection priorities are cultural resources and natural resources.

Selection of the most Appropriate Management Response (AMR) will be based on threats to life and property, values at risk, other fire activity, and fire suppression resource availability. The FMO has the authority to assign initial attack resources as needed. If initial attack fails a Wildland Fire Decisional Support System (WFDSS) will be completed and approved by the Superintendent prior to going into extended attack. An Incident Commander (IC) will be assigned and given the authority to accomplish the objectives identified within the WFDSS. These objectives will include the desired end result, providing specific instruction as to the type of suppression action, e.g., equipment restrictions, PFIRM land management restrictions, etc., that can be used to gain control of the fire.

### **FIRE MANAGEMENT ZONES**

For the evaluation of fuels and expected fire behavior, the Reservation has been divided into four Fire Management Zones (FMZ's). The FMZ's are based primarily on fuels, weather and topography (elevation). FMZ 1 is dominated by grass and brush fuels types at lower elevations receiving low amounts of annual precipitation. FMZ 2 is dominated by dry timber conditions with considerable grass. FMZ 3 is dominated by moderate severity fire regime timber types (mixed conifers) with higher annual precipitation or winter snows. FMZ 4 is dominated by high

severity timber types (lodgepole pine, subalpine fir spruce) at higher elevations and annual precipitation. The FMZ's were further divided using Representative Locations (RL) after analysis of values at risk, fire frequencies and travel times. The distribution of Fire Management Zones and Representative Locations on the Colville Reservation are shown in Figure VIII – 2.

Figure VIII - 1. National Wildfire Coordinating Group Policy Framework and Flowchart.

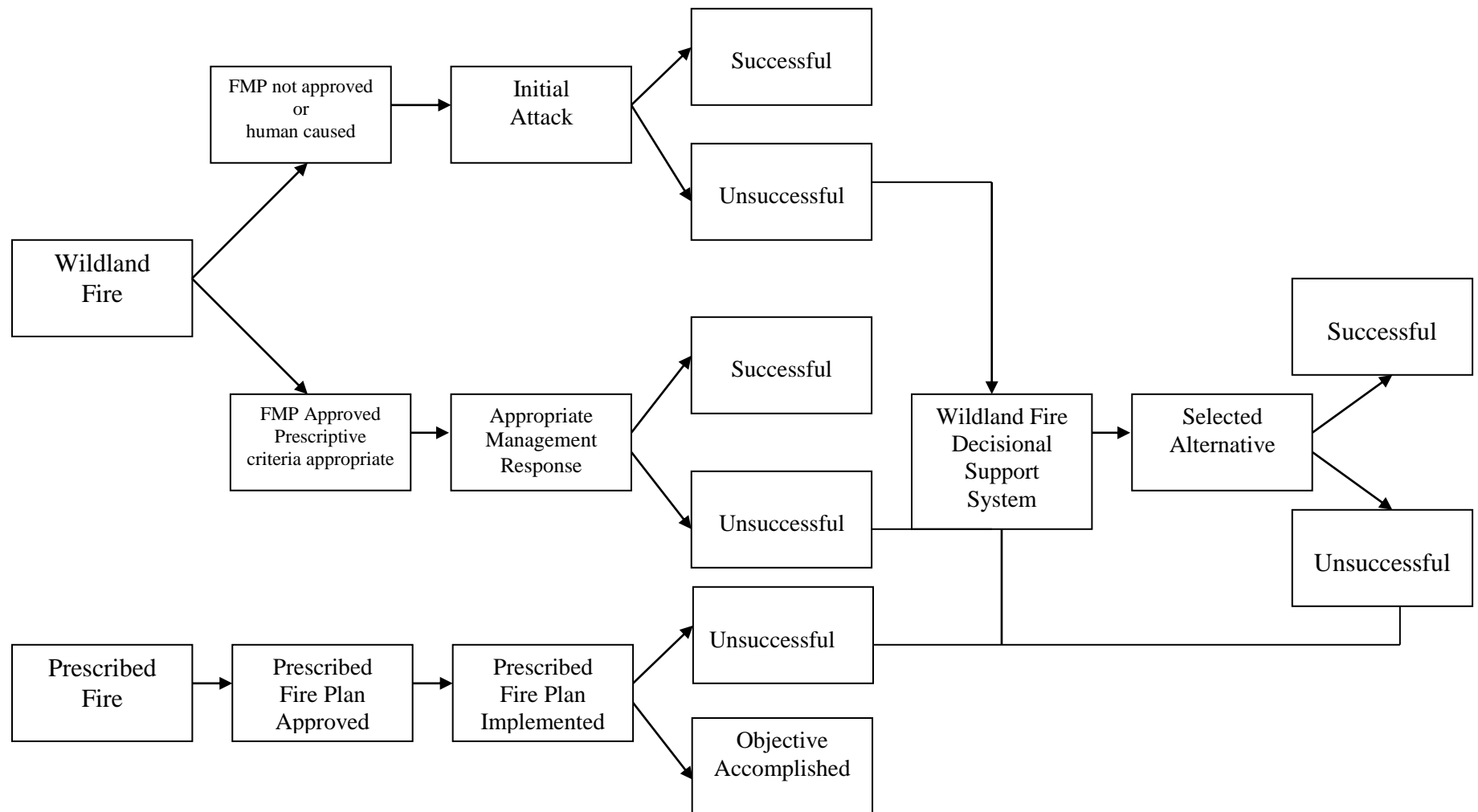
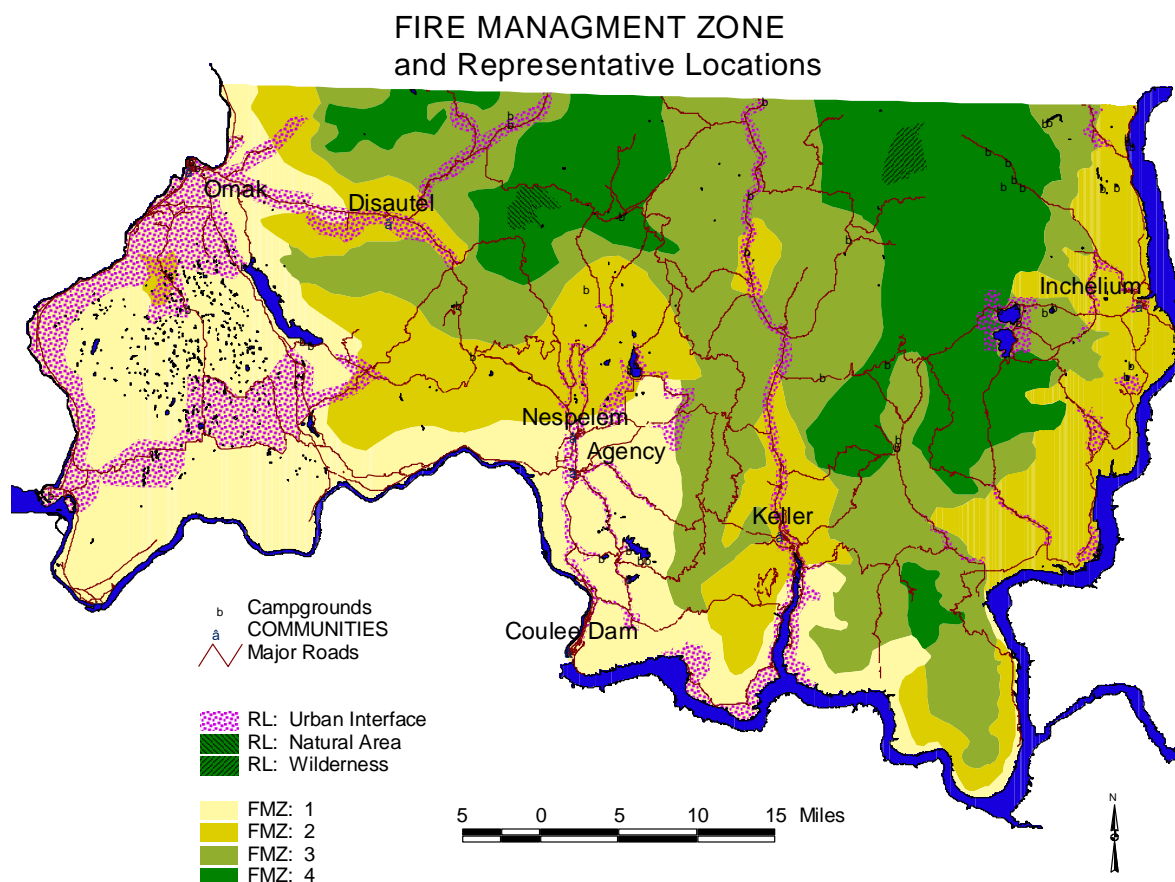


Figure VIII - 2. Fire Management Zones and Representative Locations on the Colville Reservation.



The Forest Manager depends upon the Environmental Impact Statement and Record of Decision of the *Colville Indian Reservation, Integrated Resources Management Plan, 2000-2014, Colville Confederated Tribes, July 2001*, to address Colville Tribes concerns about wildland fire preparedness/operations activities.

To establish a local fire danger rating, weather information for computing wildland fire danger is gathered from the appropriate fire weather station. The following information is collected:

- Temperature
- Relative Humidity
- Wind (direction and speed)
- Number of days since last rain and amount
- Condition of vegetation
- Local fuel model

Using the above information and a standardized fuel bed, an Energy Release Component (ERC) Index is computed. As a reflection of composite fuel moisture, the ERC becomes a relatively stable evaluation tool for planning decisions that might need to be made 24 to 72 hours ahead of an expected fire decision. Utilizing this index will assist the Fire Management Officer determine whether to consider Stage II of the Risk Analysis discussed below. The greater the ERC for a given fuel bed, the greater the resistance to control.

In addition to ERC, other prescription criteria will be examined before determining an AMR on a wildland fire incident.

- **1000 hour time lag fuel moisture** is a good predictive index in the amount of dead and live fuel consumption that can take place during a fire. When less than 18 percent, the fire will consume duff and litter fuel on the forest floor as well as some of the larger fuels. Above 18, percent, restrictive consumption of forest duff and litter will occur and above 22 percent very little burning of this fuel layer should occur. This information will be derived from WIMS as computed for the RAWs stations, or directly sampled at representative locations.
- **Wind speed** can be obtained in a general manner from local weather stations. More specific wind speed information will be needed on an individual fire incident and should be obtained on-site. This can best be accomplished using the Belt Weather Kit provided to all Initial Attack Crews.
- **1-Hour Fuel Moisture Content (1HRFMC)** can be obtained from a variety of sources. On a wildland fire it is best to collect on-site measurements from a Belt Weather Kit using the ambient air temperature and relative humidity to estimate the 1HRFMC from the appropriate table, or a suitable moisture meter. As a “general rule of thumb” 1HRFMC in grassland fuel will start to present control problems when it reaches 6 percent, and the moisture of extinction is typically 12-13 to 20 percent for conifer fuels.
- **10-Hour Fuel Moisture Content (10HRFMC)** measurements are either obtained from fuel moisture sticks or measurements from a weather station, extrapolated to represent approximate on-site conditions. Burning at very low fuel moisture will greatly increase the spot-fire potential and the probability of wildland fire escape. 10HRFMC in conifer fuel of 7 percent will begin to experience control problems, 20% is the moist end of the spectrum that still allows low fire behavior.
- **FBO Fuel Model** will be determined both where the fire is at present and ahead of the direction of spread. This can be done from existing maps, but should be field verified as soon as possible.

### Decision Responsibilities and Risk Analysis

Fires not classified as prescribed fires are wildland fires and receive prompt, safe and cost effective action. The PFIRM recognizes the role of fire as a natural disturbance process on the Reservation and calls for reintroduction of fire into the ecosystem. The procedures for implementing this direction and the conditions where it can safely be accomplished have not yet been developed. In the future some natural fires may be managed for resource benefits but only after completion of the analysis and amendment to this (WFMP).

Table VIII - 1. WFIP Implementation Stages for the Colville Reservation.

WFIP STAGE	PLANNING AND ASSESSMENT ELEMENT	REQUIREMENT STATUS <sup>1</sup>			MAXIMUM COMPLETION TIMEFRAME
		Initial Attack	Other Suppression Oriented AMR <sup>1</sup>	Fire Use Action	
WFIP Stage I: Initial Fire Assessment	Fire Situation	1	1	1	As soon as possible
	Decision Criteria Checklist Initial G./No-Go Decision	3	1	2	2 hours after first fire detection.
WFIP Stage II: Short-Term Implementation Actions	Short-Term Fire Behavior Predictions and Risk-Assessment	3	3	1	24 hours after Stage I completion
	Short-Term Implementation Actions	2	3	2	
	Complexity Analysis	3	3	1	
	Stage III Need Assessment Chart	N/A	3	1	
WFIP Stage III: Long-Term Implementation Actions	MMA Definition	3	4	4	Within 24 hours after Stage II or Periodic Fire Assessment indicates need.
	Fire Behavior Predictions	3	4	4	
	Long-Term Risk Assessment	3	4	4	
	Long-Term Implementation Actions	3	4	4	
Periodic Fire Assessment	Part I: Revalidation	N/A	1	1	On assigned frequency
	Part II: Stage III Need Assessment Chart	N/A	1	1	
WFDSS		5	5	6	Before implementing new strategy
<sup>1</sup> Requirement Status Key: 1 = Mandatory; 2 = Mandatory, but can be preplanned; 3 = Optional; 4 = Completed if Stage II or Periodic Fire Assessment, Part 2 indicate need (can be preplanned in WFMP); 5 = Completed if fire exceeds management capabilities; and 6 = Completed if Periodic Fire Assessment, Part 1 indicates need.					

A Wildland Fire Implementation Plan (WFIP) will be initiated for all wildland fires. However, only the most complex fires and those being managed for resource benefits will require completion of all parts of a WFIP. The full WFIP consists of three distinct stages, plus periodic review and contingency planning. Figure VIII – 1 shows the critical components of WFIP completion, requirement status, and completion timeframes. Additional details regarding the WFIP stages and the associated forms are found in *Wildland and Prescribed Fire Management Policy, Implementation Guide*.

### ***Stage I – Initial Fire Assessment***

#### **Purpose**

This is the preliminary stage of the WFIP and establishes documentation groundwork for further stages. It is both an information gathering stage and decision-making stage. This information provides location, fire cause, administrative information, fuel conditions, weather, and fire behavior situation. It consists of the Fire Situation, Initial Go/No Go Decision Criteria checklist, and Recommended Response Action. It aids agency administrators in making the initial decision to manage a fire for resource benefits or to suppress by providing location of fire (FMP suppression or fire use unit), cause of fire (human or natural caused), and validation of fire use decision (Go/NO Go decision).

#### **Information Source**

The source will be initial fire size-up information, staff completion of Decision Criteria Checklist, and staff development of Recommended Response Action.

#### **Estimated Completion Time**

Fire Situation: <0.25 hours

Initial Go/No Go Decision: <0.5 hours

### ***Stage II – Short –Term Implementation Actions***

#### **Purpose**

This stage will provide managers, and staff with information to initiate and continue management of the wildland fire for resource benefits. It includes validation of short-term implementation actions as a decision. This stage will provide predictions of where the fire may go, how intense it may burn, how fast it may spread, what the necessary short-term management actions are, what the full complexity is, and if long-term management actions need to be addressed immediately.

### Information Sources

**Fire Behavior Prediction:** Generated through the Fire Behavior Prediction system (FBPS) using BEHAVE system to obtain predictions of fire intensity and rate of spread based on fuel model, wind, topography, and fuel moisture conditions.

**Risk Assessment:** A variety of techniques can provide specific estimates of degree of risk. Example products may include: probability of fire reaching Maximum Management Area (MMA) (if MMA location is known), probability of a season-ending event, description or map of predicted fire perimeters. The minimum risk assessment required is a relative risk chart output.

**Short-Term Implementation Actions:** Developed from staff input, predicted fire behavior, risk assessment, fuel types, fuel continuity, and overall objectives. This represents tactical implementation actions.

**Complexity Analysis:** Developed from staff input and review of standard complexity elements.

**Stage III Need Assessment Chart:** Determined from completion of relative risk, complexity rating, fire behavior predictions, and Fire Situation (Stage I).

### Estimated Completion Time

Fire Behavior Prediction: <2 hours

Risk Assessment: <24 hours

Short-Term Implementation Actions: <24 hours

Complexity Analysis: <0.5 hour

Stage III Need Assessment Chart: <0.5 hour

## ***Stage III – Long-Term Assessment and Implementation Actions***

### Purpose

To supplement the FMP by providing the full long-term implementation actions necessary to manage the wildland fire to accomplish the desired objectives. This stage will provide a definition of the ultimate acceptable geographic size of the fire (represented by the MMA). It will consider long-term fire behavior predictions and long-term risk assessment. It will assess the likelihood of the fire reaching the MMA perimeter, and will document those operational management actions necessary to manage long duration fires that will need mitigating measures to strengthen and defend the MMA.

### Information Source

Staff development using local expertise, experience, knowledge, maps, monitoring data, fire behavior predictions, risk assessment, and operational evaluation and identification of tactics and resources.

Maximum Management Area (MMA): Staff negotiated and developed from objectives, maps, on-the-ground evaluation, aerial observation, monitoring, etc.

Risk Assessment can be obtained from RERAP, FARSITE, or BEHAVE, or a combination of some or all of these techniques.

*Estimated Completion Time*

MMA Determination: <24 hours

Long-Term Risk Assessment: <24 hours (unless FARSITE or other assessment process requires more time).

Long-Term Implementation Actions: <24 hours

***Periodic Fire Assessment***

*Purpose*

This step provides a process to evaluate the continued capability of the local unit to manage the fire for resource benefits, and to determine if the fire is escalating in complexity and operational needs. If the assessment shows inadequate capability to continue to manage the fire, an indication is given to proceed to development of a Wildland Fire Decisional Support System (WFDSS). If complexity and operational needs are escalating, the assessment indicates the need to fully determine a MMA, develop long-term fire behavior predictions, conduct long-term risk assessment procedures, and define detailed long-term implementation actions (WFIP – Stage III). This assessment is completed as frequently as specified by the local unit (within maximum assessment frequency guidelines provided below).

*Information Source*

Fire monitoring information, risk assessment results, current fire activity, fire location, fire size, fire danger indicators, time period of fire season, fire behavior and weather forecasts, and staff input.

*Estimated Completion Time*

Part 1 – Revalidation: <0.5 hour

Part 2 – Stage III Need: <0.5 hour

***Wildland Fire Decision Support System (WFDSS)***

The Wildland Fire Decisional Support System (WFDSS) is vital when fire spread and behavior exceed suppression efforts, when management capability is inadequate to accomplish wildland fire use objectives, or when prescribed fires can no longer be implemented in accordance with the approved plan. The WDFSS document can be used to compare alternatives reflecting the full

range of appropriate management responses and can assess alternatives for realizing protection and/or resource benefits opportunities.

Use of the WFDSS is integral to successful management of both wildland and prescribed fires. It serves as a contingency to undesirable outcomes by providing a mechanism to quickly and thoroughly analyze new strategic alternatives for any type of fire management activity. If the alternative selected through the WFDSS does not accomplish the objectives, the WFDSS can be amended or a new WFDSS can be completed to develop new alternatives.

Type 4 and 5 fires that are contained/controlled/out within the first operational period (i.e., initial attack) no longer need to be entered into WFDSS (per memo dated April 16, 2013). The exception to the rule is for multiple fires combined into a complex. Fires in a complex must be identified separately in WFDSS.

All Agency/Tribes will continue to use WFDSS to document incident decisions and long term plans for Type 3, 2, and 1 fire (i. e., extended attack and large fires)

- A preplanned response is to catch the fire during the first burn period of Initial Attack (IA). The IA resources are successful to halt the fires growth, but have 3 to 5 days pf mop-up until the fire is declared out. No data entry in WFDSS is required.
- Same preplanned response as above. A fire continues, uncontained/uncontrolled, into the second day (Extended Attack). The fire becomes a Type 3 incident and must be entered into WFDSS and a Decision Document developed.

A complete discussion of the WFDSS process, documents, and instructions can be found in *Wildland and Prescribed Fire Management Policy – Implementation Procedures and Reference Guide*. Components of a WFDSS include:

- WFDSS initiation section (specific fire information and date/time initiated)
- WFDSS completion/final review (information concerning when the selected alternative was achieved or when a new WFDSS was prepared. This provides closure to this particular WFDSS. Also includes agency administrator signature).
- Wildland Fire Decisional Support System (WFDSS Information Page).
- Objectives and Constraints.
- Alternatives.
- Evaluation of Alternatives.
- Decision.
- Daily Review.
- Guide for Assessing Fire Complexity (evaluates fire conditions and provides recommendations concerning management level of fire, e.g., Type 1, Type 2, Type 3.

## **AMR PRESCRIPTION DETERMINATION**

### **Prescription Parameters**

The Appropriate Management Response (AMR) for each of the Fire Management Units (FMU) and their Representative Locations (RL) is based upon the forecasted Energy Release Component (ERC) for the date of the incident established by the fuel and weather conditions. The ERC is the computed total heat released per unit (btu/sq. ft.) foot within the flaming front at the head of a moving fire. On-site weather and fuel moisture conditions will further determine the AMR. The Maximum Management Area (MMA) is the size of the fire that can be managed with available fire control resources.

Table VIII – 2 through VIII - 6 shows the appropriate management plan that will guide all wildland fire suppression responses by Fire Management Units and Representative Locations on the Colville Indian Reservation:

Table VIII - 2. Guide for Wildland Fire Suppression Response in the FMU1 (Low Elevation Shrub /Grassland-Dry)/RL Non-Urban Trust Areas on the Colville Reservation.

PRESCRIPTIVE CRITERIA	MMA	AMR <sup>1</sup>
Prior to June 15 with an ERC <15 (calculated for Nespelem, or Kramer RAWS station, use NFDRS FM-T to calculate the ERC for FM1), and Annual/Perennial Grasses pre green up or Live Annual/Perennial Grasses Fuel Moisture >30% and Predicted 20' winds less than 10 mph, and >2 miles from Urban Interface and in Fuel Model 1 or 2 dominated area (i.e., >200 acres of available fuels).	200 Acres	Contain: use light hands on the land tactics with machine firelines as needed to protect high value resources
Prior to June 15 with an ERC <15 (calculated for Nespelem, or Kramer RAWS station, use NFDRS FM-T to calculate the ERC for FM1), and Annual/Perennial Grasses pre green up or Live Fuel Moisture >30% and Predicted 20' winds less than 10 mph, and >1 miles from Urban Interface and in Fuel Model 5, 8 or 9 dominated area (i.e., >20 acres of available fuels).	20 Acres	Contain: use light hands on the land tactics with machine firelines as needed to protect high value resources
Prior to June 15 with conditions not as stated above.	0.01 Acres	Aggressive IA: control fire using necessary resources and appropriate tactics.
June 15-Oct 10	0.01 Acres	Aggressive IA: control fire using necessary resources and appropriate tactics.
Oct 10 to season end with ERC <15 (calculated for Nespelem, or Kramer RAWS station, use NFDRS FM-T to calculate the ERC for FM1), and Predicted 20' winds less than 10 mph, and >2 miles from Urban Interface and in Fuel Model 1 or 2 dominated area (i.e., >50 acres of available fuels).	50 Acres	Contain: use light hands on the land tactics with machine firelines as needed to protect high value resources.
Oct 10 to season end with ERC <15 (calculated for Nespelem, or Kramer RAWS station, use NFDRS FM-T to calculate the ERC for FM1), and predicted 20' winds less than 10 mph, and >1 miles from Urban Interface and in Fuel Model 5, 8 or 9 dominated area (i.e., >5 acres of available fuels).	5 Acres	Contain: use light hands on the land tactics with machine firelines as needed to protect high value resources.
Oct 10 to season end and conditions not as stated above.	0.01 Acres	Aggressive IA: control fire using necessary resources and appropriate tactics.
<sup>1</sup> Benefits to be derived: Allowing historical ecological processes to operate under prescribed conditions while preventing catastrophic events such as large wild fires within or threatening resources beyond the boundaries of the area.		

Figure VIII - 2. Energy Release Component (ERC) Calculated for Nespelem and Kramer, both in FMU1/RL Non-Urban Trust Areas (See Table VIII – 2)

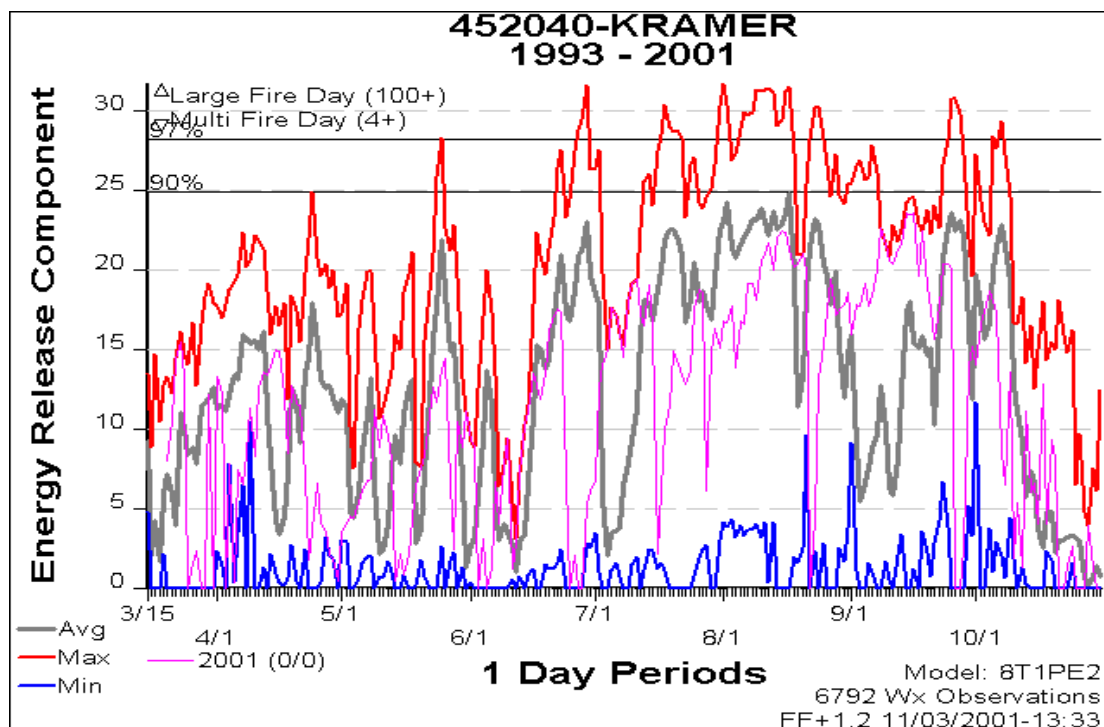
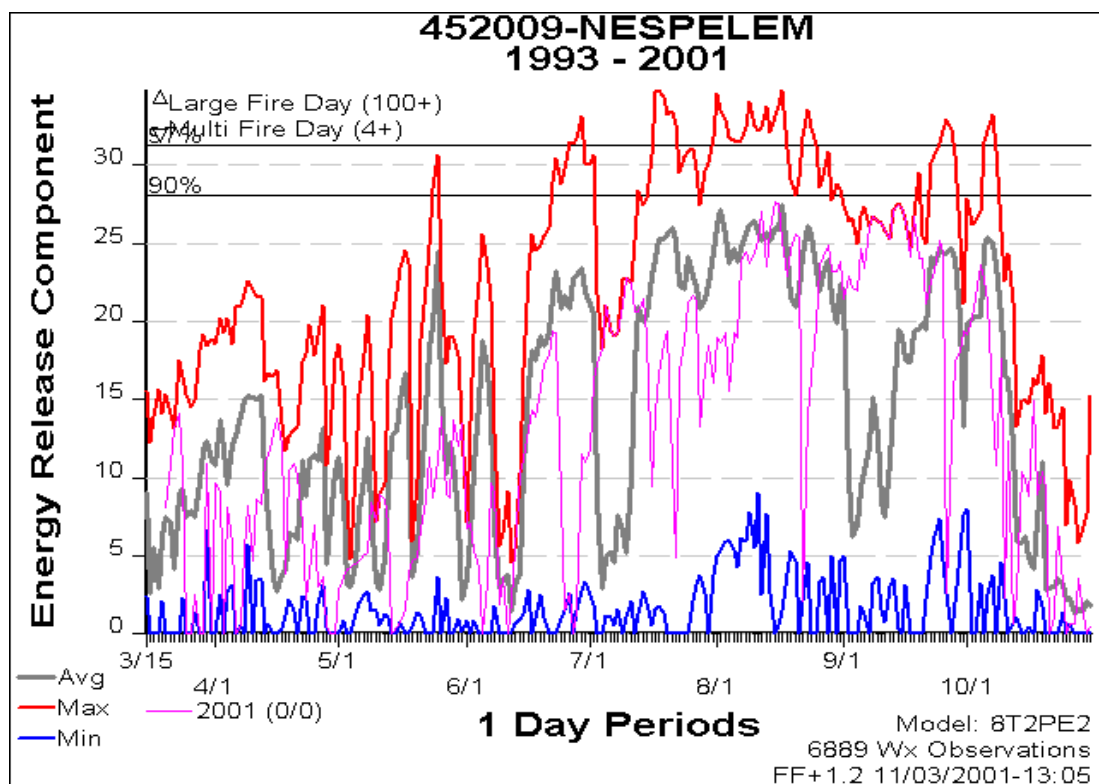


Table VIII - 3. Guide for Wildland Fire Suppression Response in the FMU2 (Low Elevation Timber/Shrub - Dry)/RL Non-Urban Trust Areas on the Colville Reservation.

PRESCRIPTIVE CRITERIA	MMA	AMR
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Prior to June 15 and ERC <30 (calculated for Kramer RAWS station, using NFDRS FM-F&U) and ERC <24 (calculated for Gold RAWS station using NFDRS FM-F&U), and Annual/Perennial Grasses pre green up or Live Annual/Perennial Grasses Fuel Moisture >30% and 1000 hrs >20% and Predicted 20' winds less than 10 mph, and >2 miles from Urban Interface and in Fuel Model 1 or 2 (natural meadow) dominated area (i.e., >200 acres of available fuels).	200 Acres	Contain: use light hands on the land tactics with machine firelines as needed to protect high value resources
Prior to June 15 and ERC <30 (calculated for Kramer RAWS station, using NFDRS FM-F&U) and ERC <24 (calculated for Gold RAWS station using NFDRS FM-F&U), and Annual/Perennial Grasses pre green up or Live Fuel Moisture >30% and 1000 hrs >20% and Predicted 20' winds less than 10 mph, and >1 miles from Urban Interface and in Fuel Model 5, 8 or 9 dominated area (i.e., >20 acres of available fuels).	20 Acres	Contain: use light hands on the land tactics with machine firelines as needed to protect high value resources
Prior to June 15 and conditions not as stated above.	0.01 Acres	Aggressive IA: control fire using necessary resources and appropriate tactics
June 15-Oct 10.	0.01 Acres	Aggressive IA: control fire using necessary resources and appropriate tactics
Oct 10 to season end and ERC <30 (calculated for Kramer RAWS station, using NFDRS FM-F&U) and ERC <24 (calculated for Gold RAWS station using NFDRS FM-F&U), and Predicted 20' winds less than 10 mph, and >2 miles from Urban Interface and in Fuel Model 1 or 2 dominated area (i.e., >50 acres of available fuels).	50 Acres	Contain: use light hands on the land tactics with machine firelines as needed to protect high value resources
Oct 10 to season end ERC <30 (calculated for Kramer RAWS station, using NFDRS FM-F&U) and ERC <24 (calculated for Gold RAWS station using NFDRS FM-F&U), and Predicted 20' winds less than 10 mph, and >1 miles from Urban Interface and in Fuel Model 5, 8 or 9 dominated area (i.e., >5 acres of available fuels).	5 Acres	Contain: use light hands on the land tactics with machine firelines as needed to protect high value resources
Oct 10 to season end and conditions not as stated above.	0.01 Acres	Aggressive IA: control fire using necessary resources and appropriate tactics
<sup>1</sup> Benefits to be derived: Allowing historical ecological processes to operate under prescribed conditions while preventing catastrophic events such as large wild fires within or threatening resources beyond the boundaries of the area.		

**452040-KRAMER  
1993 - 2001**

Energy Release Component

Δ Large Fire Day (100+)  
▽ Multi Fire Day (4+)

97%  
90%

100  
80  
60  
40  
20  
0

3/15 4/1 5/1 6/1 7/1 8/1 9/1 10/1

1 Day Periods

Model: 8F1PE2  
6792 Wx Observations  
FF+1.2 11/04/2001-11:02

— Avg  
— Max  
— Min  
— 2001 (0/0)

**452040-KRAMER  
1993 - 2001**

Energy Release Component

Δ Large Fire Day (100+)  
▽ Multi Fire Day (4+)

97%  
90%

70  
60  
50  
40  
30  
20  
10  
0

3/15 4/1 5/1 6/1 7/1 8/1 9/1 10/1

1 Day Periods

Model: 8U1PE2  
6792 Wx Observations  
FF+1.2 11/04/2001-11:02

— Avg  
— Max  
— Min  
— 2001 (0/0)

Table VIII - 4. Guide for Wildland Fire Suppression Response in the FMU3 (Mid-Elevation Mixed Conifer Timber/Shrub)/RL Non-Urban Trust Areas on the Colville Reservation.

PRESCRIPTIVE CRITERIA	MMA	AMR
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Prior to June 15 and ERC <30 (calculated for Kramer RAWS station, using NFDRS FM-F&U) and ERC <24 (calculated for Gold RAWS station using NFDRS FM-F&U), and Annual/Perennial Grasses pre green up or Live Annual/Perennial Grasses Fuel Moisture >30% and 1000 hrs >20% and Predicted 20' winds less than 10 mph, and >2 miles from Urban Interface and in Fuel Model 1 or 2 (natural meadow) dominated area (i.e., >200 acres of available fuels).	200 Acres	Contain: use light hands on the land tactics with machine firelines as needed to protect high value resources
Prior to June 15 and ERC <30 (calculated for Kramer RAWS station, using NFDRS FM-F&U) and ERC <24 (calculated for Gold RAWS station using NFDRS FM-F&U), and Annual/Perennial Grasses pre green up or Live Fuel Moisture >30% and 1000 hrs >20% and Predicted 20' winds less than 10 mph, and >1 miles from Urban Interface and in Fuel Model 5, 8 or 9 dominated area (i.e., >20 acres of available fuels).	20 Acres	Contain: use light hands on the land tactics with machine firelines as needed to protect high value resources
Prior to June 15 and conditions not as stated above.	0.01 Acres	Aggressive IA: control fire using necessary resources and appropriate tactics
June 15-Oct 10.	0.01 Acres	Aggressive IA: control fire using necessary resources and appropriate tactics
Oct 10 to season end and ERC <30 (calculated for Kramer RAWS station, using NFDRS FM-F&U) and ERC <24 (calculated for Gold RAWS station using NFDRS FM-F&U), and Predicted 20' winds less than 10 mph, and >2 miles from Urban Interface and in Fuel Model 1 or 2 dominated area (i.e., >50 acres of available fuels).	50 Acres	Contain: use light hands on the land tactics with machine firelines as needed to protect high value resources
Oct 10 to season end ERC <30 (calculated for Kramer RAWS station, using NFDRS FM-F&U) and ERC <24 (calculated for Gold RAWS station using NFDRS FM-F&U), and Predicted 20' winds less than 10 mph, and >1 miles from Urban Interface and in Fuel Model 5, 8 or 9 dominated area (i.e., >5 acres of available fuels).	5 Acres	Contain: use light hands on the land tactics with machine firelines as needed to protect high value resources
Oct 10 to season end and conditions not as stated above.	0.01 Acres	Aggressive IA: control fire using necessary resources and appropriate tactics
<sup>1</sup> Benefits to be derived: Allowing historical ecological processes to operate under prescribed conditions while preventing catastrophic events such as large wild fires within or threatening resources beyond the boundaries of the area.		

Figure VIII - 4. Energy Release Component (ERC) Calculated for Gold Mountain in a FMU2/RL Non-Urban Trust and FMU3#/RL. (See Table VIII – 3)

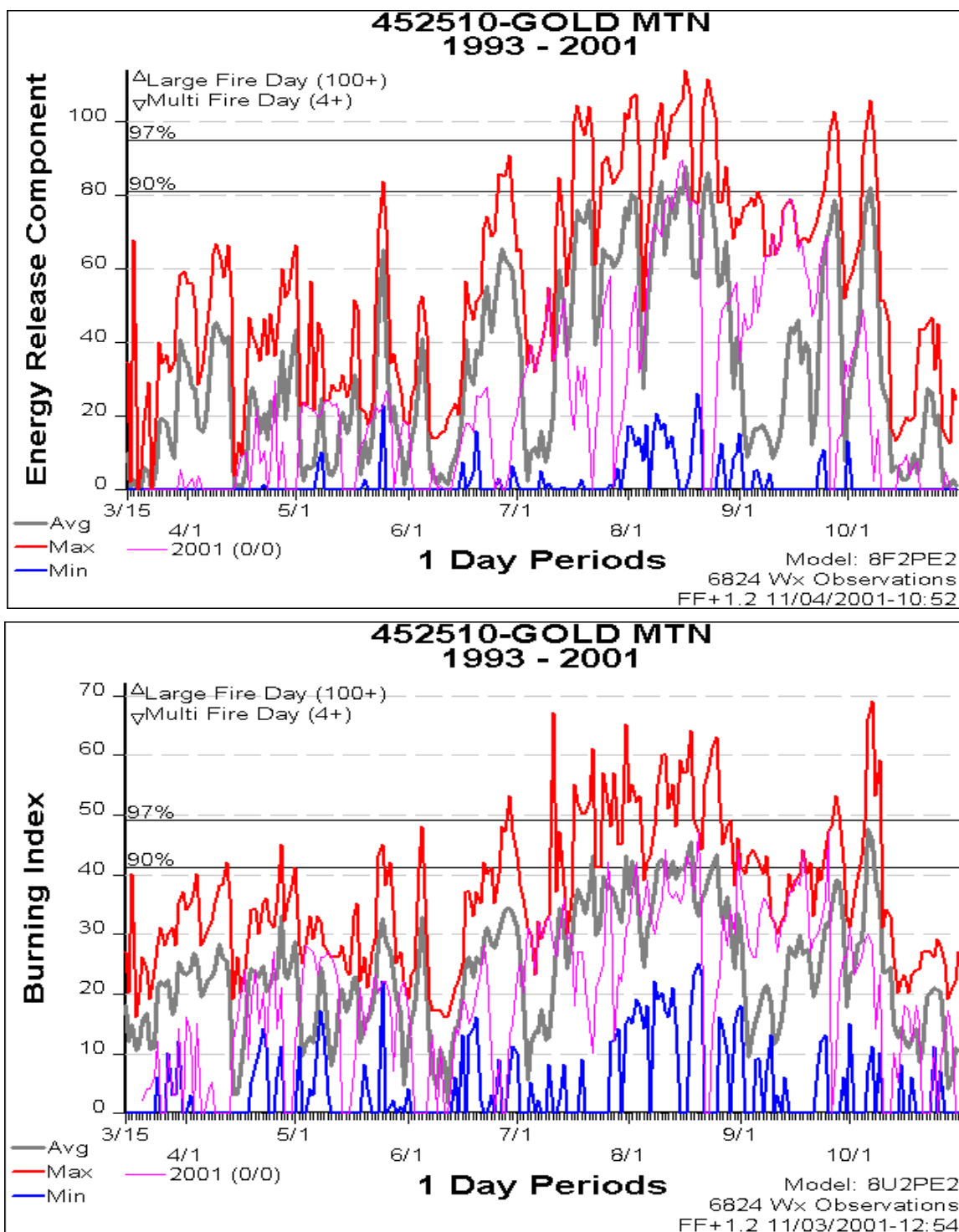


Table VIII - 4. Guide for Wildland Fire Suppression Response in the FMU4 (Mid-High Elevation Timber/Shrub - Moist)/RL Non-Urban Trust Areas on the Colville Reservation.

PREScriptive CRITERIA	MMA	AMR
Prior to June 15 and ERC <30 (calculated for Gold RAWS station with NFRDS FM-H) and Annual/Perennial Grasses pre green up or Live Annual/Perennial Grasses Fuel Moisture >30% and 1000 hrs >20% and Predicted 20' winds less than 10 mph, and >2 miles from Urban Interface and in Fuel Model 1 or 2 (natural meadow) dominated area (i.e., >50 acres of available fuels).	50 Acres	Contain: Use light hands on the land tactics with machine firelines as needed to protect high value resources.
Prior to June 15 and ERC <30 (calculated for Gold RAWS station with NFRDS FM-H) and Annual/Perennial Grasses pre green up or Live Fuel Moisture >30% and 1000 hrs >20% and Predicted 20' winds less than 10 mph, and >1 miles from Urban Interface and in Fuel Model 5, 8, 9 or 10 dominated area (i.e., >5 acres of available fuels).	5 Acres	Contain: Use light hands on the land tactics with machine firelines as needed to protect high value resources
Prior to June 15 and conditions not as stated above	0.01 Acres	Aggressive IA: Control fire using necessary resources and appropriate tactics
June 15-Oct 10	0.01 Acres	Aggressive IA: control fire using necessary resources and appropriate tactics.
Oct 10 to season end and ERC <30 (calculated for Gold RAWS station with NFRDS FM-H), and Predicted 20' winds less than 10 mph, and >2 miles from Urban Interface and in Fuel Model 1 or 2 dominated area (i.e., >12.5 acres of available fuels).	12.5 Acres	Contain: Use light hands on the land tactics with machine firelines as needed to protect high value resources.
Oct 10 to season end and ERC <30 (calculated for Gold RAWS station with NFRDS FM-H), and Predicted 20' winds less than 10 mph, and >1 miles from Urban Interface and in Fuel Model 5, 8, 9 or 10 dominated area (i.e., >1.25 acres of available fuels).	1.25 Acres	Contain: Use light hands on the land tactics with machine firelines as needed to protect high value resources.
Oct 10 to season end and conditions not as stated above.	0.01 Acres	Aggressive IA: Control fire using necessary resources and appropriate tactics.
<sup>1</sup> Benefits to be derived:: Allowing historical ecological processes to operate under prescribed conditions while preventing catastrophic events such as large wild fires within or threatening resources beyond the boundaries of the area		

Figure VIII - 5. Energy Release Component (ERC) Calculated for Gold Mountain in a FMZ4/RL Non-Urban Trust and FMZ4/RL Natural/Wilderness areas (See Table VIII – 5 and VIII - 6).

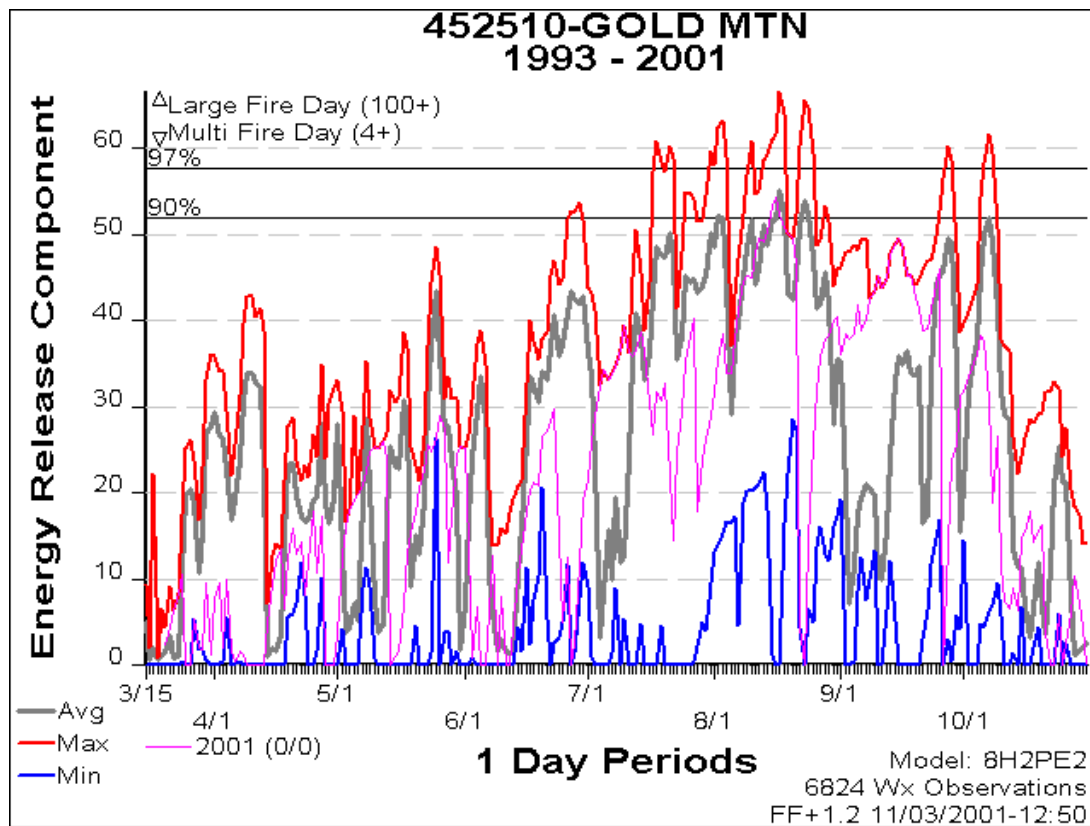


Table VIII – 6. Guide for Wildland Fire Suppression Response in all FMUs with Wildland Urban Interface Trust Areas on the Colville Reservation FMU 5.

PRESCRIPTIVE CRITERIA	MMA	AMR <sup>1</sup>
FMU1 - All Burning Conditions	N/A	Aggressive Initial Attack
FMU2 - All Burning Conditions	N/A	Aggressive Initial Attack
FMU3 - All Burning Conditions	N/A	Aggressive Initial Attack
FMU4 - All Burning Conditions	N/A	Aggressive Initial Attack
<sup>1</sup> Benefits to be derived: Protection of urban resources and the prevention of catastrophic events such as large wild fires within or threatening resources beyond the boundaries of the area.		

Table VIII - 5. Guide for Wildland Fire Suppression Response in the FMU6 (Subalpine Forest)/RL Grizzly Mountain/FMU7 Moses Mountain Areas on the Colville Reservation.

PRESCRIPTIVE CRITERIA	MMA	AMR
Prior to June 16 and ERC <30 (calculated for Gold RAWS station, using NFDRS FM-H) and 1000-hr fuel moisture >20% and Predicted (20') winds less than 12 mph.	200 Acres	Monitor.
June 16-June 30 and ERC <30 (calculated for Gold RAWS station, using NFDRS FM-H) and 1000-hr fuel moisture >20% and Predicted winds (20') less than 12 mph.	100 Acres	Contain: Light hands on the land tactics will be preferred or Obtain authorization from the Land & Property director, to use appropriate tactics.
July 1-Oct. 1 and ERC <30 calculated for Gold RAWS station, using NFDRS FM-H) and 1000-hr fuel moisture >15-19% and Predicted winds (20') less than 12 mph.	0.01 Acres	Aggressive IA. Light hands on the land tactics will be preferred or Obtain authorization from the Land & Property director, to use appropriate tactics.
July 1-Oct 1.	0.01 Acres	Aggressive IA: Obtain authorization from the Land & Property director, to use appropriate tactics.
Oct 1 to season end and ERC <25 and Predicted winds (20') less than 10 mph and fire in Fuel Model 8 dominated area (i.e., >50 acres of available fuels.	50 Acres	Contain: Light hands on the land tactics will be preferred or obtain from the Land & Property director, authorization to use appropriate tactics.
Oct 1 to season end and ERC <25 and Predicted winds (20') less than 10 mph and fire in Fuel Model 10 or 5 dominated area (i.e., >10 acres of available fuels.	10 Acres	Contain: Light hands on the land tactics will be preferred or obtain authorization from the Land & Property director, to use appropriate tactics.
<sup>1</sup> Benefits to be derived: Allowing historical ecological processes to operate under prescribed conditions while preventing catastrophic events such as large wild fires within or threatening resources beyond the boundaries of the area.		

## CHAPTER IX – FUEL MANAGEMENT/HAZARD REDUCTION

This plan will guide fuels management on the Colville Indian Reservation. It will help categorize activity and natural fuel fire hazards and prioritize fuel treatment methods. It will outline fuel treatment methods for silvicultural, wildlife, and range management objectives. Management guidance and objectives for this plan are included in the Colville Indian Reservation Record of Decision and Plan for Integrated Resource Management 2000-2014.

Fuels Management is “manipulating vegetation and organic matter (fuels) to enhance the role of fire management and other groups in meeting land management objectives” (Martin, et. al., 1978). Fuels management goals for the Colville Indian Reservation are:

- Reduce the potential of resource damage from destructive wildland fires.
- Assist land managers by protecting, maintaining or enhancing other resources through treatment of forest fuels.
- Maintenance of fire dependent ecosystems.
- Develop, maintain, and/or enhance a program of fuels management and prescribed fire that will effectively reduce the fire hazard of accumulated fuels, achieve multiple resource objectives, and provide for a natural role of fire in the ecosystem.
- Provide opportunities for wildland fire to be used for resource benefits and implement when conditions permit.

Fire and fuels management is a BIA program requiring all natural resource departments to participate in a Project Proposal Process (PPP). From the interaction of all these departments, quantifiable results or objectives for individual projects can be established. Biological, economic and social factors will be considered before prescribing a fuels treatment method. Individual project objectives must be clearly identified to determine how fuel treatment will meet these objectives.

Priority Assessment (Needs)

### **Risk - Hazard Assessment**

A wildland fire loss reduction program can be pursued on one or both of two strategies: eliminate or reduce the source of ignition (risk management); or remove or modify the fuel to reduce its flammability (hazard management). The former strategy is covered in Chapter VII.

Risk and hazard are important terms to understand in the context of wildland fire prevention. *Risk* is a wildland fire causative agent. *Hazard* is a rating assigned a fuel complex (defined by kind, arrangement, volume, condition and location) that reflects its susceptibility to ignition, the wildland fire behavior and severity it would support, and/or the suppression difficulty it represents.

It is well known that forest residue and fuel management practices can be effective at lowering fire hazard on particular sites. Effective fuel management treatments range from removing light surface fuel with prescribed fire to thinning crown fuel by mechanical means. While these treatments are temporarily effective, the overwhelming extent of the hazardous fuel buildup problem makes it unlikely that even emergency action can produce a broad remedy in the short term (i.e., 5 to 10 years). The constraints on project development, smoke and air quality impacts, personnel time for environmental assessments, and local political/economic concerns, probably prohibit treating vast blocks of land and huge annual acreage on a short rotation basis. Thus, a more measured approach is required if we are to see "significant" effects on fire spread, fire effects, and fire economics at a landscape scale. The ultimate objective and challenge is to design a fuel management planning process that will identify, analyze, evaluate and compare a range of fuel management strategies and treatment alternatives at a local scale so that it contributes to a collective benefit at a larger landscape scale. To that end, the intent is to utilize the Risk Assessment and Mitigation Strategies (RAMS) planning process.

The RAMS planning process is developed for fire managers to be a holistic approach to analyzing wildland fuel Hazard, Ignition risk, Value and Protection Capability across the wildland landscape. It considers the effects of fire on unit ecosystems by taking a coordinated approach to planning at a landscape or compartment level. This approach recognizes that all facets of the Fire Management organization (prevention, suppression and fuel) are interdependent and must work toward a common purpose and complement one another toward sustaining healthy and productive ecosystems and protecting human life and property.

The evaluation process will be used to identify priority areas where fire management actions, resources and budget should be focused to reduce costs and losses. Losses include undesirable changes in ecosystems as well as resource and property damage and injury to loss of life. The schedule for implementation of RAMS is in fiscal year 2003. This will be utilized to initiate actions within Wildland Urban Interface, and Landscape Projects areas (including timber sales).

## **NON-URBAN INTERFACE HAZARD REDUCTION WORKLOAD**

A summarization of the level of average annual fuels hazard reduction activity as proposed in the PFIRM is shown in Table IX – 1. The primary goal is to manage natural and activity fuels at levels consistent with wildland fire protection abilities and resource management objectives identified in the PFIRM.

Table IX - 1. Proposed Average Annual Fuels Treatment Activity, PFIRM Colville Reservation.

FUEL TREATMENT TYPE	ACRES
Activity Fuel Treatment	
Regeneration Harvest	5,525
Intermediate Harvest	3,120
Total	8,645
Natural Fuel Management	
Stocking Control	13,100
Prescribed Burn – Restoration	1,100
Prescribed Burn – Maintenance	5,290
Prescribed Burn – Rangeland	1,000
Total	20,500
Total Fuel Treatments	29,145

## WILDLAND URBAN INTERFACE HAZARD REDUCTION WORKLOAD

The workload for the WUI areas has tentatively been identified at the following levels. Treat 200 structures, within 150' of the structures. Treat communities, with treatments up to 1.5 miles from the community, on approximately 400 acres per year. The primary goal is to develop and maintain defensible space by reducing hazardous fuels within/around WUI areas where extreme hazards exist.

## EXAMPLE STRATEGIES

### Indirect

Indirect strategies are those that leave the bulk of fuels intact, while providing protection for specific areas. These would include fuel and/or fire breaks.

### Direct

Direct strategies are those that reduce the amount of fuel on the site. These would include broadcast burning, underburning, jackpot burning, pile and burn, and yarding un-merchantable material (YUM).

### Rearrangement

Rearrangement strategies alter the fuel bed without removing material from the site. These would include lopping, chopping, chipping, crushing, scattering and piling without burning.

## TREATMENT PLAN DEVELOPMENT STRATEGY

This WFMP is tiered under the PFIRM, the EIS and Record of Decision, dated July 2000. The PFIRM is a programmatic analysis, the first level of planning, that provides direction for all natural resource management programs, practices, uses and protection measures.

This plan is developed to implement the direction of the PFIRM and the direction from the National Fire Plan. It defines implementing direction for fire prevention, pre-suppression, suppression, fuels treatment and prescribed fires.

Prescribed burn/mechanical fuels treatment proposals for Tribal trust and allotted lands will be initiated by the benefiting program (e.g., Forestry, Fire Management, Range, Fish and Wildlife, etc.). They will include the quantifiable objectives of the action. They will be evaluated through the NEPA/PPP process as to whether they can be granted a Categorical Exclusion or require an EA or EIS

- 30 BIAM provides direction for Categorical Exclusions for prescribed fire or forest stand improvement projects less than 2,000 acres when in compliance with policies and guidelines established by a current management plan addressed in an earlier NEPA analysis.
- 30 BIAM Release No. 9303 Supplement 1 Illustration 8 will be used to determine when Categorical Exclusions are applicable to any fuels treatment proposals.

If the request for a prescribed burn is from a Tribal allotment owner(s), then a power of attorney will be signed by the owner(s) freeing Fire Management of any liabilities incurred as long as the prescribed burn is conducted within prescription parameters.

### **Fuel Bed Conditions**

Fuel inventories are a means of quantifying the amount of available fuel (that which will be consumed by fire) on an area. Fuel analysis can help guide site preparation and/or hazard reduction alternatives. Some type of fuel analysis is necessary to set project objectives, i.e. amount of fuel reduction, to assess potential fire behavior, and to analyze air quality impacts if prescribed burning is used. Methods of inventorying fuels using the following guidelines will include: 1) Estimating, 2) Comparing to known quantities or photo guides, 3) direct field measurement.

### ***Guidelines***

All hazard reduction projects and all prescribed burning projects will have at minimum a photo guide fuel assessment. The Fuels Management Specialist will determine whether a downed woody fuel inventory or live fuel inventory is required by project. Also, those areas without silvicultural and/or range prescriptions quantifying vegetation characteristics will have an area exam done to gather this information.

Unless arrangements are made, Burn Bosses are responsible for completing pre and post burn fuel inventories. Fire management will complete fuel inventories for all special projects, e.g., hazard rating, subsidiary inventories or training assignments.

Appropriate photo guides include: Gen. Tech Rep. PNW-52, Gen. Tech. Rep. INT-97, and Gen. Tech. Rep. INT-98. Sampling of downed woody fuels will follow procedures detailed in Gen.

Tech. Rep. INT-16. Total biomass (live and dead) sampling will follow procedure in Gen. Tech. Rep. INT-129.

## **TREATMENT PLAN IMPLEMENTATION STRATEGY**

### **IMPLEMENTATION TEAM**

The Fire Management Officer, Assistant Fire Management Officer - Logistics (AFMOL), and the Assistant Fire Management Officer Fire/Fuels (AFMOF/F) oversee an organization that plans and implements prescribed burn/mechanical fuels treatment proposals. Together they implement projects for natural fuels hazard reduction (HFR), wildland urban interface (WUI) and activity fuels generated from silvicultural prescriptions.

#### **Duties**

##### **1. Operations Specialist**

- Sets work assignments to achieve tactics, daily and long term.
- Works with AFMOF/F in scheduling blocks for treatments including mechanical and burning; daily and weekly.
- Assigns burn bosses with assistance from the AFMOF/F.
- Monitors entire operation and addresses problems.
- Provides operational assistance to Agency burn bosses.
- Monitors field progress and communicate with burn bosses about potential problems.
- Act as Burn Boss when needed.
- Act as Incident Commander – Multi-Resource if slop over fire escapes initial attack.
- Determines intelligence needs and is responsible for gathering field information (from burn bosses, etc.).
- Maintains records of progress, including mop-up and monitoring.

##### **2. Assistant Fire Management Officer - Logistics**

- Works with dispatcher and FMO to assure patrol coverage and initial attack availability.
- Works with warehouse personnel to maintain check-out procedures and documentation is adequate.
- Attends strategy sessions.
- Schedules use of hand held infrared camera with Operations Supervisor and FMO.

##### **3. Fire Management Officer**

- Assists Operations Supervisor and AFMOF/F by providing a work force to support team needs.
- Conducts team meetings and strategy sessions.
- Coordinates with AFMOF/F all Fire Management activities to assure initial attack capabilities remain effective.

- Functions as Air Support Group Supervisor.
  - Attends safety meetings.
  - Assists AFMOF/F in providing monitoring schedules when burn boss responsibilities are relieved.
4. Assistant Fire Management Officer - Planning (AFMOF/F)
- Sets project goals, daily and long term.
  - Works with Operations Specialist in scheduling blocks for treatments including mechanical and burning, daily and weekly.
  - Maintains project budgets.
  - Act as Burn Boss when needed.
  - Act as Incident Commander – Multi-Resource if slop over fire escapes initial attack.
  - Determines intelligence needs and is responsible for gathering field information (from burn bosses, project supervisors, etc.).
  - Maintains records of progress, including mop-up and monitoring.
5. Burn Boss(s) Supervisory Fuels Technicians/Prescribed Fire Technicians
- Review basic documentation prior to completing their projects including burn plans, and/or mechanical fuels project plans objectives, and resource specialist concerns.
  - Full responsibility for all actions needed and taken on burn unit until it is turned over to the monitoring team/crew.
  - Conducts the Pre-burn briefing and safety session with personnel assigned to that burn or sale.
  - Assigns ignition and holding specialists with assistance of the Operations Specialist.
  - Other burn boss tasks are best outlined in Chapter VI of the Fire Use Handbook (March 2001).

## **PRESCRIBED BURNING PARAMETERS**

### **Scheduling**

A fuels management technician will evaluate scheduling of prescribed burns. On activity fuels, the burn will be done at the earliest, the following spring if the slash has been on the ground prior to July 1 of the previous year to allow the fuels to cure. On activity fuels, the priority will be for burning units that require site preparation for the planting of seedlings and then site preparation for natural regeneration. Most of the activity fuels will be done in the spring to reduce the amount of mortality of standing timber and other flora within a unit, although there are instances where a fall burn will be initiated but will depend on the silvicultural/rangeland vegetation prescription.

Natural fuels will mainly be burned in the spring to take advantage of the higher fuel moistures to reduce the amount of mortality of flora and to reduce the amount of exposure of soils. There

will be instances where fall burning will be utilized depending on the silvicultural/rangeland vegetation prescription.

### **Authorization to Burn**

All prescribed fire actions require a written Prescribed Fire Plan. An off-unit independent review is required and the plan must be approved by the appropriate line officer (Superintendent or his/her designate). Any significant changes to the Plan must be approved by writing by the Line Officer and are described below.

Ignition on all prescribed burns may occur only when:

- All prescription elements have been met. The Burn Boss does not have the authority to change the following without the approval of the Line Officer.
  - Objectives of the burn.
  - Reduce the number of planned resources identified in the plan
  - Prescription elements
  - Switching from ground ignition to unapproved aerial ignition and vice versa.
  - Other changes that would modify the original intent of the plan.
- All prescription elements have been met. A deviation from the approved plan may be requested through the Operations Supervisor and Fire Management Officer, but all site-specific approvals must, at the earliest convenience, be in writing and signed by the appropriate line officer (i.e., Superintendent or Forest Manager).
- A complete on-site briefing has been conducted that includes all burning personnel.
- The burn boss has notified Fire Management that all conditions have been met and when ignition will begin.
- The Operations Supervisor has scheduled all broadcast burns.

Should conditions change to the extent that the burn is no longer within prescription, the burn boss may have to discontinue ignition and establish control lines within the burn unit.

Burn bosses will prepare field reports and crew time sheets for all government and tribal personnel, and turn them into the dispatcher as soon as possible following each burn. Resource orders should be reviewed by the FMO, Operations Supervisor or the Logistics Supervisor and assigned a resource number by the dispatcher before having the warehouse fill orders.

### **Mop Up**

The Operations Supervisor Specialist or designated burn boss will assess the risk of fire escaping into reserve stands and recommend a category of mop-up. Burn bosses will prepare for the operations supervisor a written statement covering the completeness of burn, potential problems, re-burn possibilities, and other concerns. This report will be given to the district technician who will be directly responsible for patrol and mop-up.

Mop-up is a very expensive and time-consuming operation. Consequently, different categories of mop-up will be prescribed consistent with values at risk, and the potential for resource

damage. Other indirect considerations, e.g., overall conditions on the Reservation including resources available and other wildland fires on and off the Reservation, will be analyzed and may supersede the unit specific considerations listed below. Mop-up categories pertain to holdover fire within firelines of all burn units.

Category 1: 100% mop-up within 1-4 chains of control lines.

- a. Outside Burn Unit
  - High value, or improvements threatened by an escaped fire.
  - An escaped fire would have rates of spread >5 chains per hour.
  - An escaped fire would have flame lengths of >3 feet.
- b. Within Burn Unit
  - Has concentration of fuel burning within 1-3 chains of fireline.
  - High winds predicted with little or no moisture.
  - There are islands of unburned fuel along firelines.

Category 2: Mop-up hotspots

- a. Outside Burn Unit
  - Is of moderate to low value or high value but;
  - An escaped fire would have rates of spread of <5 chains per hour.
  - An escaped fire would have flame lengths <3 feet.
- b. Within Burn Unit
  - Unit is 70% black with minor opportunity for re-burn or flare-ups.
  - Few slash concentrations or stump holes smoldering within 1 chain of control lines.
  - High winds predicted with little or no moisture.
  - Most fuel concentrations have burned out.

Category 3: Patrol (Post-burn Monitoring)

- a. Outside Burn Unit
  - Fuels present minor hazard, low rate of predicted fire spread, low predicted fire intensity (e.g., early spring burns).
- b. Within Burn Unit
  - Fuel concentrations within burn unit have nearly burned out.
  - Minor fire activity within burn unit.
  - No fuel concentrations within 1 chain of fireline.
  - Unit at least 80% black with minor opportunity for re-burn.

It is important during patrol of multiple prescribed burns to record where work has been done and conditions of other blocks on a daily basis. This is valuable information if hold over fires begins to accelerate and pose a threat for an escaped fire.

## **Financing**

The benefiting program should pay for burning unless subsidiary funding has been authorized.

Forestry: For treatment of activity fuels not covered in the timber sale contract, the following will apply: Base salary and overtime for federal employees is provided by Forestry monies. Base salary and overtime for tribal employees will be from forest management deductions or forest development monies. Purchase or rental of specialized equipment (e.g. helicopter) and supplies will be funded from forest management deductions. Rolling stock and basic fire equipment will be provided by fire management. Pre-suppression Subsidiary Account may be used if it has been authorized through a subsidiary plan.

Wildlife, Recreation, Range: Base salary and overtime for federal employees is provided by the benefiting program. Tribal employees' base salary and overtime will be from the benefiting program. Purchase or rental of specialized equipment (e.g. helicopter) and supplies will be funded from the benefiting program. Rolling stock and basic fire equipment may be provided by fire management. Pre-suppression Subsidiary Account may be used if it has been authorized through a subsidiary plan.

## **Burn Complexity**

Burn complexity considers three fire complexity factors including (1) Risk (the probability or likelihood that an event will occur), (2) Potential Consequences (some measure of the cost or result of an event or situation occurring) and (3) Technical Difficulty (which indicates the skills needed to deal with the event and the consequences). Risk, Potential Consequences and Technical Difficulty are determined by assigning a Low, Medium, or High complexity rating to each of 14 elements. The prescribed fire analysis method incorporated in the BIA Fire Use Handbook (March 2001) will be utilized on all burns to determine the appropriate burning organization. The appropriate positions will then be filled based upon complexity.

## **Smoke Management Strategy**

The Environmental Protection Agency has authority to regulate air quality through the Clean Air Act. Presently the Colville Agency is participating voluntarily in the Washington State Implementation Plan (SIP). It is recognized that the SIP is not binding to Trust Lands within the Reservation. The Tribe may eventually produce its own Implementation Plan (TIP).

The SIP currently requires that intention to burn be reported to the Department of Natural Resources (DNR). This includes, but is not limited to, acres to be burned and what the Fuel Model is. The Fire Management Officer or the Burn Boss will take into consideration the following factors: Wind direction, wind speed, fuel type, fuel loading, current visibility, and the location of the burn project.

## Monitoring Strategy

The Wildland and Prescribed Fire Management Policy Implementation Procedures Reference Guide (August 1998) and 90 IAM state that fire use through the use of wildland fire and prescribed fire will be monitored for environmental and fire behavior characteristics. Monitoring can be applied at both the project and programmatic scale. There are four monitoring levels mandated by the BIA Fire Use Handbook (March 2001). These are:

- Level 1: Environmental
- Level 2: Fire Observation
- Level 3: Short-Term Change
- Level 4: Long-Term change (Level 4 is required for all Category 1-3 reservations where Continuous Forest Inventory (CFI) currently exists.)

## WFDSS Strategy

Type 4 and 5 fires that are contained/controlled/out within the first operational period (i.e., initial attack) no longer need to be entered into WFDSS (per memo dated April 16, 2013). The exception to the rule is for multiple fires combined into a complex. Fires in a complex must be identified separately in WFDSS.

All Agency/Tribes will continue to use WFDSS to document incident decisions and long term plans for Type 3, 2, and 1 fire (i. e., extended attack and large fires)

Fires that are entered into the online WFDSS Web site include date, time of discovery, cause, size of fire, and latitude and longitude. Date of containment, control and out are required of all fires.

When a slop-over occurs on a prescribed burn unit and it surpasses the on site resource's ability for initial attack within the first burning period, then a WFDSS will be done.

A complete discussion of the WFDSS process, documents, and instructions can be found in *Wildland and Prescribed Fire Management Policy – Implementation Procedures and Reference Guide*. Components of a WFDSS include:

- WFDSS Intelligence section (specific fire information and date/time initiated)
- WFDSS periodic review, completion/final review (information concerning when the selected alternative was achieved or when a new WFDSS was prepared. This provides closure to this particular WFDSS. Also includes agency administrator signature).
- Wildland Fire Decisional Support System (WFDSS Information Page).
- Objectives and Constraints.
- Alternatives.
- Analysis of Alternatives/
- Decision Approval.
- Periodic Review.

- Guide for Assessing Fire Complexity (evaluates fire conditions and provides recommendations concerning management level of fire, e.g., Type 1, Type 2, Type 3).

## CHAPTER X – BURNED AREA EMERGENCY STABILIZATION AND RESPONSE (BAER)

Site-specific Burned Area Emergency Response (BAER) plan will be developed for a burned area if emergency stabilization and or rehabilitation treatment is required. The objective of the Burned Area Emergency Response program is to promptly mitigate the adverse effects of fire and/or its suppression on soil, water and critically threatened natural and cultural resources, including but not limited to:

- **Threats to Life and Property On-site and Off-site:** High water, sediment, and debris flows are a common source of damage, which may be attributed to watersheds damaged by wildfire. Landslides may be triggered on steep slopes where the equilibrium is upset. Debris and torrents of mud or rock may be set in motion. A combination of floatable debris, temporary jams, and rising water conditions may create a path of destruction that may result in a loss of life or property.
- **Loss of Soil and On-site Productivity:** The removal of the soil's protective cover by fire exposes it to displacement from the effect of raindrop impact, running water, and wind. The loss of surface layers and soil horizons also means loss of nutrients essential to plant growth and the destruction of microorganisms that convert elements to compounds usable by plants.
- **Loss of Water Control and Deterioration of Water Quality:** Increased runoff, resulting from destruction of the vegetative cover, may cause channels to be damaged by higher water flow velocities and volume with the attendant degradation of water quality.
- **Threats to Critical Resources:** The following direct effects will be addressed:
  - **Irreversible Loss of Vegetation** – Fires typically result in a net, short-term loss of vegetation, however this program is intended to address only irreversible losses that may result without mitigation. An example, that would be addressed, is a native stand of vegetation that may be permanently displaced by a more aggressive non-native species.
  - **Threats to Threatened or Endangered Species (Flora/Fauna)**
  - **Threats to Federal Register properties and/or Archeological Resource**
- **Fire Suppression Impacts:** including but not limited to:
  - **Line Construction** – hand lines, dozer lines
  - **Incident Support** – staging areas, safety zones, spike camps
  - **Incident Base** – buildings and grounds

Only those activities identified as **emergency** in nature will be funded with Emergency Stabilization funds (ES) and Rehabilitation Funds (BAR). In general, short-term rehabilitation (suppression related damage) is charged to the fire suppression account. Short range (12

months) stabilization will be funded with ES funds while Long-term (5 years) rehabilitation (fire effects damage) is funded by BAR.

### **Specifications, Treatment and Funding Conditions**

Treatment specifications are divided into four subgroups: Watershed, Natural Resources (other than watershed), Cultural Resources, and Infrastructure/Safety. The following text provides guidance as to when and where treatments can be funded via ES and or BAR vs. fire suppression accounts.

#### ***Watershed Treatments***

Watershed treatments include those measures necessary to protect life, property and watershed values. The following watershed treatments may be funded with ES program funds:

##### *Reseeding:*

Reseeding will be funded by ES funds only for purposes of protecting life and property or for **preventing** the loss of irreplaceable resources (including T&E species, candidate species, and cultural/historic resources). ES funds will not be used for the purpose of site conversion or to stabilize fireline or sites disturbed by fire suppression actions. Since trees planted as seedlings can rarely be considered as soil stabilizers, commercial reforestation of burned over areas is also prohibited with ES funding.

##### *Mulch (straw and chips):*

Mulch is used to retard overland flow and increase soil moisture holding capacity. Only certified noxious weed-free straw or tree bark is permitted.

##### *Soil Netting*

Biodegradable soil netting is permitted on moderate to high severity burn areas on slopes 30-60%. Soil netting on firelines will be charged to fire suppression accounts.

##### *Check Dams (in-channel structures) and Debris Basins*

The primary objective for the installation of check dams is to temporarily trap sediment that could be mobilized, thus causing landslides and flash floods in developed zones. In natural areas, check dams may be installed to protect listed species or to prevent debris (sediment bulking) flows from leaving natural areas and causing subsequent damage downstream or down slope in developed areas and associated watersheds. Generally check dams will be installed only in areas mapped as high intensity burn areas with slopes in excess of 30%. Engineering design specifications and long-term maintenance plans will be included for debris basins, flood-water impoundments, release tanks, and levees where increased debris flow could impact human life or property.

##### *Stream Stabilization*

Streams may be restored using ES funds, primarily to excavate soil and vegetation material that have been deposited into channels due to erosion of stream banks and as a result of fire impacts.

Debris placed into stream courses as the result of suppression actions may be removed using suppression funding.

#### *Debris Rack and Culvert Protection*

Debris racks and modifications or repairs to culverts may be funded with ES to prevent additional damage to all weather roads, trails, or to protect downstream life and property from potential flood events. The following road/culvert treatments may be prescribed and financed via ESR:

- Increasing ditch capacity.
- Installation of debris racks.
- Installation of bypasses around culverts.
- Installation of riser pipes or culverts.
- Installation of larger culverts.

#### *Road/Fireline and Disturbed Site Rehabilitation*

Even though fire lines, hand line, dozer line, fire roads, helispots, staging areas, etc., placed in once undisturbed wildland areas, may have the most notable suppression impacts, they must be rehabilitated using fire suppression funding.

#### ***Natural Resource Specifications (Other than Watersheds):***

Natural resource specifications will include treatments required to comply with applicable agency mandates, Federal laws and regulations.

#### ***Protection of Threatened and Endangered Species (Flora and Fauna)***

ES funds will be used within the fire perimeter to document immediate post-fire effects of the fire and suppression actions on previously documented listed “Threatened and Endangered (T&E) Species”, but will not be used to determine the pre-fire occurrences. ES funds will not be utilized to fund development and implementation of long-term recovery plans but may be utilized for immediate consultation with recovery team members and also monitoring and documentation of post-fire occurrence of documented species. ES funds may be used also to provide immediate protection measures to species and “critical habitat” (road closures, fencing, etc.) as directed by USFWS during consultation.

#### ***Weed Control***

ES funds may be used to control noxious weeds on control lines and within burned areas when it can be determined that noxious weeds will immediately invade or hamper reestablishment of native vegetation. This work is typically conducted after the closure of the suppression account. The use of integrated pest management methods is preferred.

#### ***Timber Resource Values***

Fire damaged timber will deteriorate due to blue stain and infestation by bark beetles and fire salvage sales need to be prepared, sold and administered immediately. At this time, these costs cannot be charged to the ES account but a change to this current policy is pending.

### ***Cultural Resource Treatments***

The goals are to protect archeological sites, cultural landscapes, traditional cultural properties and historic structures from adverse effects related to wildland fire, suppression actions and rehabilitation projects required to meet legal requirements. The following may be paid for with ES funds:

*Cultural Resources Damage Assessment, compliance and Rehabilitation* (including archeology, cultural landscapes and traditional cultural properties)

#### *Cultural Resource Damage Assessments*

Damage assessments are required for previously documented archeological sites, cultural landscapes and traditional cultural properties impacted by suppression actions. These assessments are defined as the systematic location and documentation of sites and artifacts in areas disturbed by suppression activity or with the potential to be impacted by rehabilitation activities. Funds cannot be used to find new sites other than in areas disturbed by suppression activities. These assessments must be implemented as part of the suppression effort and completed within 60 days after the fire is declared controlled unless a specific waiver is approved.

#### *Fire Specific Cultural Resources Compliance*

Compliance with the National Historical Preservation Act (NHPA) is necessary if historic properties have been or will be impacted. Guidelines are included in Section 4.7 of the BAER Handbook.

#### *General Rehabilitation/Preservation Techniques for Sites (pending NHPA Compliance)*

A wide range of rehabilitation options and site stabilization procedures are available but they must be based on damage caused by the fire or suppression of the fire. If excavation is recommended, the cultural resource assessment must demonstrate that subsurface damage has occurred and that it is impossible to stabilize or preserve the site without further action or data recovery. The following site stabilization procedures may be appropriate:

1. **Physical manipulation of fuels.** Allow cultural sites to blend with the landscape. Brush left stacked on unburned sites will be removed. Fuel will be reduced on sites left specifically as vegetation “mosaics”.
2. **Cultural resource site stabilization through erosion control** (as specified in trail-road rehabilitation). Site stabilization includes removal or protection of surface artifacts that may be lost or damaged by erosion or lost through vandalism or illegal removal.
3. **Short-term archeological site protection and surveillance.** These techniques may involve remote instrument surveillance and/or increased law enforcement. However, these activities will not be funded from ESR. Development of the most appropriate

strategies, practices and costs associated with the protection of sites from poaching or vandalism should be coordinated and funded by agency/tribal law enforcement.

4. **Monitoring Rehabilitation.** Considerable cultural resources and archeological coordination must occur throughout all phases of both the rehabilitation planning phase and plan implementation. This is particularly important to the rehabilitation of disturbed sites but may also apply to other rehabilitation activities including fencing, construction of check dams, revegetation, etc.

### ***Historic Structure Condition, Assessment, Compliance and Rehabilitation***

The condition of significant historic structures within the fire perimeter must be documented. The following assessment, compliance and rehabilitation activities may be funded by ES funds:

#### ***Historic Structure Condition Assessment***

Each affected, or damaged, historic, or potentially significant structure, will be assessed by a specialist to survey the damages. A historic architect will be required to prepare a detailed report on recommendations for preservation treatments for impacted structures.

#### **Fire Specific Historic Structure Compliance**

Compliance the NHPA, Section 106, is necessary if historic structures have been or will be impacted.

#### **General Rehabilitation/Preservation Techniques for Structures (pending historic structure compliance)**

The bracing, waterproofing and removal of water may be carried out with ES funds. It may also be necessary to protect structures from further disturbance by the public including increased security by law enforcement personnel.

### ***Infrastructure & Safety Specifications***

The following measures relating to stabilization of structures, utilities and closures may be necessary to protect human health and property:

#### **Fence**

Range fences damaged by fire suppression may be required using the suppression account. Temporary fencing may be built using ES funds necessary to deter livestock from reseeded areas for a minimum of three years. ES funds may be supplemented with Agency funds to build a fence to a higher specification. Culturally significant, aesthetic or drift fencing will not be replaced with ESR funding.

#### **Trail Stabilization**

Trails may be rehabilitated to satisfy requirements for visitor safety along trails but rehabilitation of any trail to a standard above its pre-fire standard is prohibited. ES funds may be used for trail rehabilitation.

#### ***Trail Slopes***

Rehabilitation of burned slopes in the range of 30%-60% in immediate proximity above and below the trail.

#### Hazard Trees

Removal of downed trees that create obstructions and pose a threat to trail users, and the felling of hazard trees with a rating of five or higher (BAER Field Reference Book).

#### **Water Bars (Breaks)**

Rehabilitation of the soil, rock or log water bars is appropriate. Suppression funding will be used for those damaged or destroyed as a result of suppression efforts.

#### Hand Line

Remove newly constructed fire access to trails by suppression crews.

#### Road, Trail and Safety Signs (post and construction included)

General interpretive and location signs destroyed or damaged by fire will be replaced with ES funds. Signs necessary to close trails promote public safety or otherwise assist with rehabilitation actions may also use ESR funds.

#### ***Resource Protection and Public Safety Actions***

Law enforcement activities relating to resource protection and public safety should be considered, and if appropriate, funded from agency base funding (non-ES funds).

#### **Facility Replacement**

Replacement or maintenance of facilities with ES/BAR funds is prohibited unless replacement is for safety and/or required for access to an area (e.g., fire hydrants, bridges, utilities, etc.). With the following criteria ES funds may be used:

#### Roads and Bridges

Make emergence repairs to existing roads and bridges. Suppression damage will be charged to suppression accounts unless done after the suppression account is closed.

#### **Surface Grading**

Restore surface, grade, drainage and condition of permanent roads to meet minimum safety standards.

#### Water Bars

Rebuild existing or add new rolling dips on fire roads where increased runoff is expected.

#### ***Facility Construction/Structural Stabilization and Clean-up***

A visual inspection for hazardous conditions/materials and structural integrity of structures affected by fire is required prior to the structure being reopened or made accessible to the public. ES funds may be used if the inspection is conducted after the suppression account is closed. ES funds will not be used to develop reconstruction or repair plans or to carry out these plans. No temporary support or bracing or waterproofing will be paid from ES funds unless a historical structure is involved. For safety purposes, security measures required to block public access to damaged structures may be funded with ES funds.

### Slash Mitigation

Fire suppression activities can result in the unnatural accumulation of slash. The mitigation of slash, as a direct result of suppression actions, must be paid for using suppression funds. Generally fuel or slash mitigation purely for the purposes of promoting “naturalness”, restoring visual quality, perpetuating a non-threatened or endangered species habitat is not an acceptable ES expense. Examples of circumstances that warrant mitigation action include:

#### Firelines

Slash accumulation along dozer fire lines needs to be scattered in order to facilitate runoff and to expose unburned pockets of vegetation or burning stumps.

#### Structures

The removal of vegetation in proximity to facilities or structures during wildfire suppression may be necessary, but may create a fuel accumulation susceptible to future ignition.

#### Hazard Tree

Timber salvage currently is not authorized with ES funding. Hazard tree mitigation can be funded in developed zones, including road corridors, and officially designated trails. Trees to be felled must have been killed or damaged by the fire and must display an overall hazard rating of 5 (BAER Field Reference Book).

#### Landscaping

Landscaping, including rehabilitation or rejuvenation of campgrounds and visitor facilities, is prohibited with ES funds unless this activity occurs within a developed zone specified in the General Management Plan.

### ***Other Rehabilitation Measures***

#### Sanitation

The removal of all trash and human-caused debris within the fire perimeter and resulting from suppression activities must be accomplished with the suppression account.

#### Fire-related Monitoring

Monitoring, short or long-term will be funded by the ES/BAR program only when approved in the BAER plan and when necessary to assess the following objectives:

- Treatments or rehabilitation measures are properly functioning.
- Rehabilitation measures have been effective.
- That immediate post-fire invasion of non-native plants and/or animals has not occurred.

### ***BAER Measures for Protecting Investments***

The following practices may be prescribed and financed by ES in order to protect other treatments:

- Installation of temporary range fence to exclude livestock from areas for a maximum of three years.
- Gates and interpretive signs.
- Rodent control.
- Increased road and culvert maintenance.

### ***Dust Abatement***

Dust abatement during and immediately following fire suppression actions will be charged to the suppression account.

### ***Research and Continuous Forest Inventory (CFI) Plots***

The ES account can be used to remeasure and monitor fire damage to specialized plots which are part of the resource management plan.

### ***Other***

Includes any treatment not specifically discussed above but approved by the appropriate NIFC program coordinator.

Practices and procedures are outlined in the USDI, Bureau of Indian Affairs “Burned Area Emergency Rehabilitation (BAER) Handbook”. Mobilization Strategy is included in Section VI.

## **MINIMUM IMPACT FIRE SUPPRESSION**

Fire management activities within the Grizzly Mt. Wilderness and the Moses Mt. Natural Area will be carried out in a manner that minimizes adverse impacts on natural and cultural resources. Fire camp facilities, when practical, will be located outside these areas. Of primary importance is the need to impart upon suppression forces a minimum impact suppression philosophy.

Suppression forces will choose methods and equipment commensurate with suppression needs and chosen tactics of confine, contain, control, or a combination which least alters the landscape or disturbs the natural or cultural resources. This policy is an attempt to take the “light-on-the-land” ethic into account in firefighting practices. Some examples of minimal impact firefighting include:

- Use water instead of fire retardant chemicals in bombers.
- Cold-trail the fire edge when practical. Wet lines, or environmental lines, will be used whenever possible in lieu of hand line construction if water and pumps are available.
- Utilize soaker hose or foggers in mop-up. Avoid “boring” and hydraulic action on shallow soils.
- Firelines will be kept to a minimum width necessary to allow backfiring or safe black line to be created. Utilize natural barriers whenever possible.
- If a mineral soil line is needed, utilize fireline explosives whenever possible instead of a bulldozer.
- Decisions on suppression practices will be made by the IC to creatively meet all objectives.
- Minimize tree falling. If necessary to fall trees in visually sensitive areas, utilize “slant cut” technique to face away from view, or re-cut later during rehabilitation activities.
- Scatter and remove debris as prescribed by the IC.
- Archeological and cultural sites will be identified prior to a fire and protected wherever possible. Minimize ground disturbance to protect resources.
- All firelines, spike camps, or other disturbance in visually sensitive areas will be rehabilitated to maintain a natural appearance.

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## ACRONYMS AND GLOSSARY

ACHP	Advisory Council on Historic Preservation
AFFIRMS	Administrative & Forest Fire Information Retrieval & Management System
AMR	Appropriate Management Response
ATMU	Air Transport Module Unit
BEHAVE	Fire Simulator Software
BAER	Burned Area Emergency Rehabilitation
DNR	Washington State Department of Natural Resources
DOI	U.S. department of Interior
EFF	Emergency Firefighter
ESR	Emergency Stabilization and Rehabilitation
ERC	Energy Release Component
ESA	Endangered Species Act
ESU	Endangered Species Unit
FARSITE	Fire Simulator Software
FMO	Fire Management Officer
FMOL	Fire Management Office for Logistics
FMOO	Assistant Fire Management Officer for Operations
FMP	Wildland Fire Management Plan
FMPA	National BIA Fire Management Planning Analysis Handbook
FPO	Fire Prevention Officer
FMZ	Fire Management Zone
GACC	Geographical Area Coordination Center
GPS	Global Positioning System
HM	Helicopter Manager
IC	Incident Commander
ICO's	Issues, Concerns and Opportunities (in EIS)
ICT	Incident Command Team
IFPL	Industrial Fire Protection Level
IHOG	Interagency Helicopter Operations Guide
IMT	Incident Management Team
PFIRM	Colville Reservation Plan For Integrated Resources Management Plan 2000-2014, Final Environmental Statement and Record of Decision dated July 2001, and associated documents including the Phase I and Phase II IRMP documents and the Forest Management Plan
LD	Lead Dispatcher
MEL	Most Efficient Level (for fire suppression)
MMA	Maximum Management Area
MTFC	Mount Tolman Fire Center
NAAQS	National Ambient Air Quality Standard
NFRDS	National Fire Rating Danger System
NIFCC	National Interagency Fire Coordination Center
NIIMS	National Interagency Incident Management System

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NMFS	National Marine Fisheries Service
NRHP	National Register of Historic Places
NWCG	Northwest Coordination Center Guide
PAG	Plant Association guide
PFTI	Prescribed Fire Technician - Inchelium
PFTO	Prescribed Fire Technician - Omak/Nespelem
PFTS	Prescribed Fire Technician - San Poil
PMI	Program Manager I Coordinator
PPP	Project Proposal Process
PWA	Prevention Workload Analysis
RAWS	Remote Automatic Weather System
RERAP	Fire Simulator Software
RIA	CCT Resource Inventory and Analysis Department
RL	Representative Location
RXC	Prescription Fire Coordinator
SACS	Shared Applications Computer System
SAG	Specific Action Guide
SIP	Washington State Implementation Plan (air quality)
SEAT	Single Engine Air Tanker
SEO	Supervisory Equipment Operator
T&E	Threatened and Endangered Species
TEPS	Threatened, Endangered, Potential Species (?)
TIP	Tribal Implementation Plan (air quality)
USFWS	U.S. Fish & Wildlife Service
WFIP	Wildland Fire Implementation Plan
WFMP	Wildland Fire Management Plan
WFDSS	Wildland Fire Decisional Support System
WM	Warehouse Manager
WUI	Wildland Urban Interface

**Activity Fuel.** Forest fuel created by timber management practices; slash.

**Aerial Fuel.** All live and dead vegetation located in the forest canopy or above the surface fuel, including tree branches and crowns, snags, moss and high brush.

**AFFIRMS.** Administrative and Forest Fire Information Retrieval and Management System is a user-oriented, interactive computer program that permits entry of weather observations and forecasts, and which performs the computation of fire danger indices, both observed and predicted. Additional information and services are available, including data storage.

**Appropriate Management Action.** Specific actions taken to implement a management strategy.

**Appropriate Management Strategy.** A plan or direction selected by an agency administrator, which guide wildland fire management actions intended to meet protection and fire use objectives.

**Available Fuel.** Those fuels, which will burn during a passage of a flaming front under specific burning and fuel conditions.

**Broadcast Burning.** Applying fire to a designated unit of land where the activity fuel has not been piled or windrowed.

**Burning Area Emergency Stabilization and Rehabilitation (BAER).** Emergency actions taken during or after wildland fire to stabilize and prevent unacceptable resource degradation or to minimize threats to life or property resulting from the fire. The scope of BAER projects is unplanned and unpredictable requiring funding on short notice.

**Burning Index (BI).** A number relating to the contribution of fire behavior to the effort of containing the fire.

**Chipping.** The fragmentation of organic material into fine (i.e., less than ½”) particles. It is usually done by a stationary machine where the organic material is brought to the machine.

**Chopping.** The fragmentation of organic material into fine (i.e., greater than ½”) particles. It is usually done with a machine with some type of rotary head or flailing mechanism.

**Class I Air.** An area set aside under the Clean Air Act to receive the most stringent protection of air quality from degradation. Mandatory federal Class I Areas are (1) international parks, (2) national wilderness areas that exceed 5,000 acres in size, (3) national memorial parks that exceed 5,000 acres in size, and (4) national parks that exceed 6,000 acres and were in existence prior to the 1977 Clean Air Act Amendments.

**Climate.** The prevalent or characteristic meteorological conditions of any place or region, and its extremes.

**Combustion.** The rapid oxidation of combustible materials that produce heat energy.

**Compactness.** The spacing between fuel particles. This can be especially important in the surface layer of fuel, where the amount of air circulation affects rate of drying, rate of combustion, etc.

**Contingency Plan.** A back-up plan of action for implementation when actions described in the primary plan are no longer appropriate. On management-ignited fires, these are the action taken if the fire is declared out of prescription and designated a wildland fire.

**Continuity.** The proximity of fuel to each other that governs the fire’s capacity to sustain itself. This applies to aerial as well as surface fuel.

**Crown Fire.** A fire that advances from top to top of trees or shrubs more or less independently of the surface fire. Sometimes crown fires are classed as either running or dependent to distinguish the degree of independence from the surface fire.

**Cultural Resources** Archeological features, recent person-made features, and select natural resources important to the social activities or religious beliefs of tribal members.

**Direct Attack.** A method of suppression that treats the fire as a whole, or all its burning edge, by wetting, cooling, smothering, or by chemically quenching it or mechanically separating it from unburned fuel.

**Duff.** A matt of partially decomposed organic matter immediately above the mineral soil, consisting primarily of fallen foliage, herbaceous vegetation and decaying wood (twigs and small limbs).

**Escaped Fire.** A fire that has exceeded the first calculation of initial attack resources and reasonable reinforcements necessary for prompt control or that exceeds fire prescription.

**Extreme Fire Behavior.** Implies a level of wildland fire behavior characteristics that ordinarily precludes methods of direct control action. One or more of the following is usually involved: High rates of spread; prolific crowning and/or spotting; presence of fire whirls; a strong convection column. Predictability is difficult because such fires often exercise some degree of influence on their environment, behaving erratically and sometimes dangerously

**Fine Fuel.** Fuel such as grass, leaves, draped pine needles, fern, tree moss and some kinds of slash that, when dry, ignite readily and are consumed rapidly. Also called flash fuel.

**Fire Break.** A natural or artificial obstruction where all vegetation and combustible material is removed to stop uncontrolled fires.

**Fire Danger.** A general term used to express an assessment of fixed and variable factors such as fire risk, fuel, weather, and topography, which influence whether fires will start, spread, and do damage, and also the degree of control difficulty to be expected.

**Fire Danger Rating.** The process of evaluating fire danger by using a system of numerical scales.

**Fire Dependent Ecosystem.** A community of plants and animals that must experience recurring disturbance by fire, in order to sustain its natural plant succession, structure and composition of vegetation and maintain appropriate fuel loading and nutrient cycling to ensure proper ecosystem function.

**Fire Frequency** – The historical return interval of fire to a defined environment.

**Fire Intensity** – The rate of heat release for an entire fire at a specific point in time.

**Fire Management** – An extension of the concept of wildland fire decision making that takes into account resource values, role of fire in the environment, the level of protection required, opportunities for management-ignited prescribed use of fire, consideration of fire effects, and the efficiency of the fire control operation.

**Fire Management Preparedness Analysis (FMPA).** The BIA's mandatory preparedness analysis that identifies the Most Effective Level (MEL) of fire program funding.

**Fire Management Unit.** A term used to denote the division of an area for fire planning purposes based on common fire management objectives.

**Fire Management Zone (FMZ).** An area of land with similar vegetation, fuel, and fire history in which wildland fire is managed by a predetermined method defined in the Wildland Fire Management Plan. A subdivision of a Fire Management Unit.

**Fire Occurrence.** The number of wildland fires started in a given area over a given period of time.

**Fire Prevention.** Activities directed at reducing fire occurrence, includes public education, law enforcement, personal contact, and reduction of fire hazard risks.

**Fire Regime.** Systematic interaction of fire with the biotic and physical environment within a specified land area.

**Fire Risk.** The probability that a wildland fire will start as determined by the presence and activities or causative agents.

**Fire Season.** One or more wildland fires (types 11 and 15) in ten day period (10% occurrence rule), as recorded in the Shared Applications Computer System (SACS) for a statistically representative planning period (e.g. 10 years). Supported by fire danger indices such as designated weather observations and calculated NFDRS codes for the primary fuel model. The period or period of the year during which wildland fires are likely to occur, spread, and do sufficient damage to warrant organized fire control; a period of the year with beginning and ending dates as established by some fire control agencies.

**Fire Weather.** Weather conditions that influence fire ignition, behavior, and suppression.

**Fuel Break.** A wide strip or block of land on which the native or pre-existing vegetation has been permanently modified so that fires burning into it can be more readily extinguished. It may or may not have fire lines constructed in it prior to fire occurrence.

**Fuel Loading.** The weight of fuel in a given area, usually expressed in tons per acre. Fuel loading may be referenced to fuel size or time lag categories; and may include surface fuel or total fuel.

**Fuel Model.** A simulated fuel complex for which all fuel descriptors required by the mathematical fire spread model have been specified.

**Fuel Type.** An identifiable association of fuel elements of distinctive species, form, size, arrangement, or other characteristics. General fuel types are grass, brush, timber and slash.

**Ground Fire.** Fire that consumes the organic material beneath the surface litter of the forest floor.

**Ground Fuel.** All combustible materials lying beneath the ground surface including deep duff, roots, rotten buried logs, peat, and other woody fuel.

**Hazard.** A fuel complex defined by kind, arrangement, volume, condition, and location that forms a special threat of ignition or of suppression difficulty.

**Humidity.** The measure of water vapor in the air.

**Ignition.** The initiation of combustion.

**Indirect Attack.** A method of suppression in which the control line is mostly located along natural fire breaks, favorable breaks in topography, or at considerable distance from the fire, and all intervening fuel is backfired or burned out.

**Inversion.** A layer in the atmosphere where the temperature increases with altitude.

**Initial Actions.** Action taken by the first resources to arrive at a wildland fire to meet protection and fire use objectives.

**Initial Attack.** The prompt, pre-planned, aggressive suppression response consistent with firefighter, public safety, and values to be protected.

**Jackpot Burning.** Prescribed fire to dispose of fuel concentrations where discontinuous fuel conditions prevent broadcast or under burning.

**Ladder Fuel.** Fuel that provides vertical continuity between strata. Fire is able to carry from surface fuel by convection into the crowns with relative ease.

**Litter.** The uppermost layer of loose debris composed of freshly fallen or slightly decomposed organic materials such as dead sticks, branches, twigs, and leaves and needles.

**Lopping.** Branches and larger boles are bucked into short lengths from felled vegetation, pieces are left in place or scattered.

**Meteorology.** The science and art of dealing with the phenomena of the atmosphere, especially weather and weather conditions.

**Minimum Impact Suppression.** The application of strategy and tactics that effectively meet suppression and resource management objectives with the least cultural, environmental and social impacts.

**National Environmental Policy Act (NEPA).** Establishes procedures that Federal agencies must follow in making decisions on federal actions that impact the environment. Procedures include evaluation of environmental effects of proposed actions; alternatives to proposed actions, involvement of the public and cooperating agencies.

**Particulate Matter.** 1. Fine liquid or solid particles such as dust, smoke, mist, fumes, or smog found in air or emissions. 2. Very small solid suspended in water. They vary in size, shape, density and electric charge and can be gathered together by coagulation and flocculation.

**Pile and Burn.** Fuels are piled by mechanical or by hand and then burned.

**Prescription.** Measurable criteria that guide selection of appropriate management response and actions. Prescription criteria may include safety, public health, environmental, geographic, and administrative, social or legal considerations.

**Prescribed Fire.** Any fire ignited by management actions to meet specific resource management objectives and ignited in accordance with established prescription criteria in a predetermined area. A written, approved prescribed fire plan must exist and NEPA requirements must be met prior to ignition. NEPA requirements can be met at the land use or fire management planning level.

**Preparedness.** Activities that lead to a safe, efficient and cost effective fire management program in support of land and resource management objectives through appropriate planning coordination.

**Preparedness Analysis.** Required interagency analysis used to determine budget for initial attack resources and oversight requirements. The BIA's fire Management Preparedness Analysis (FMPPA) utilizes either the Alternative Analysis or the Interagency Initial Attack Analysis.

**Rate of Spread.** The relative activity of a fire extending its horizontal dimensions. It is expressed as rate of increase of the total perimeter of the fire; or as rate of forward spread of the fire front; or as rate of increase in area, depending on the intended use of the information. Usually its (forward) rate of spread is expressed in chains or acres per hour.

**Relative Humidity.** The ratio of the amount of moisture in the air to the amount that the air could hold at the same temperature and pressure if it were saturated, usually expressed in percent.

**Representative Locations.** Population centers with concentrations of people and/or developments, such as towns, villages and subdivisions. Corresponds to the Wildland/Urban Interface (WUI).

**Severity Funding.** Funds provided to increase wildland fire suppression response capability necessitated by abnormal weather patterns, extended drought, or other events causing abnormal increase in the fire potential and/or danger.

**Slash.** Debris left after logging, pruning, thinning, or brush cutting; also debris resulting from thinning, wind or fire. It may include logs, chunks, bark, branches, stumps and broken understory trees or brush.

**Smoke Management Program (SMP).** Establishes a basic framework of procedures and requirements for managing smoke from prescribed fire and fire use projects. The purposes of SMP's are to mitigate the nuisance and public safety hazards posed by smoke intrusions into populated areas; to avoid significant deterioration of air quality and potential NAAQS violations; and to mitigate visibility impacts in Class I Areas.

**Stand Replacing Fire.** Fire that kills all or most living overstory trees in a forest and initiates secondary succession or regrowth.

**State Implementation Plan (SIP).** A Clean Air Act required document in which States adopt emission measures necessary to attain and maintain National Ambient Air Quality Standards and meet other requirements of the Act.

**Suppression.** A management action intended to protect identified values from a fire, extinguish a fire or alter a fire's direction of spread.

**Surface Fire.** A fire that burns surface litter, debris, and small vegetation.

**Surface Fuel.** All materials lying on, or immediately above, the ground, including needles or leaves, duff, grass, small dead wood, downed logs, stumps, large limbs, low brush and reproduction.

**Time lag.** An indication of the rate a dead fuel gains or loses moisture due to changes in its environment. The time necessary for a fuel particle to lose approximately 63 percent of the difference between its initial moisture content and its equilibrium moisture content.

**Torching.** Fire burning principally as a surface fire that intermittently ignites the crowns of trees or shrubs as it advances.

**Tribal Implementation Plan (TIP).** A document authorized by the Clean Air Act in which tribes adopt emission reduction measures necessary to attain and maintain National Ambient Air Quality Standards, and meets other requirements of the Act.

**Underburning.** Prescribed burning with a low intensity fire under a forest canopy in natural fuels.

**Weather.** The short-term variations of the atmosphere in terms of temperature, pressure, wind, moisture, cloudiness, precipitation, and visibility.

**Wildland Fire.** 1. An unplanned wildland fire requiring suppression actions, or other action according to policy, as contrasted with a management-ignited prescribed fire burning within prepared lines enclosing a designated area, under prescribed conditions. 2. A free burning wildfire unaffected by suppression measures. 3. Any non-structure, free-burning and unwanted fire, other than prescribed fire that occurs in the wildland.

**Wildland.** Uncultivated lands where development is essentially nonexistent except for transportation facilities, structures and are widely scattered.

**Wildland Fire Agreements.** Agreements between agencies for wildland fire protection. Includes mutual aid agreements, cooperative fire protection agreements, direct protection agreements:

- **Mutual Aid Agreement.** Written agreement between agencies and/or jurisdictions in which they agree to assist one another upon request, by furnishing personnel and equipment.
- **Direct Protection Agreement.** Agreement with a single organization for attacking wildland fires and for directing suppression action.
- **Cooperative Agreement.** Agreements between agencies that share wildland fire resources and costs related to incidents.

**Wildland Fire Decision Support System (WFDSS).** A real time on line decision support system that evaluates alternative management strategies against selected safety, environmental, social, economic, political and resource management objectives as selection criteria.

**Wildland/Urban Interface.** The line, area, or zone where structures and other human development meet or intermingle with the wildland.

## Appendix 1 RMU Specific Considerations for WFDSS

**Wildland Fire Decision Support System (WFDSS)**  
**Resource Management Unit Objectives****FMUs 1-4 and 6 within each RMU**

- Minimize fire movement into unmanaged forest areas and managed areas with recent heavy fuel loading.
- Keep aerial delivered fire retardant, foam, and gels a minimum of 500-feet away from any type 1, 2, or 3 surface waters, nor within 50 feet of type 4 waters.
- If flame length is less than four feet do not use dozer lines within 150 feet of type 1, 2, and 3 surface waters. If flame length is greater than four feet dozer use is authorized. If possible coordinate dozer stream crossing locations with watershed specialist.
- Coordinate with Mt. Tolman for locating drop zones, staging areas, safety zones, and helispots.
- 100% of road grades in Riparian Management Zones previously abandoned, grown-in, or decommissioned that are opened during suppression or rehabilitation activities will be re-abandoned according to Tribal road abandonment standards including stabilization and drainage of the road prism, treatment of compacted soils, removal and stabilization of any water crossings, native grass seeding, closure to traffic by installation of berms and/or barriers, and noxious weed control and monitoring.

**Buffalo Lake Swawilla Basin RMU 01**

- Keep fire, retardant, and heavy equipment out of 78 culturally sensitive areas and two cemeteries by coordinating with Tribal archeologist to avoid locations.
- Keep fire 500 feet from repeater on mountain top behind Coulee Dam. Contact Larry Allen at the Information Technology Department, 634-2240 (work) or 978-8118 (cell), for questions regarding cell towers.
- Protect structures in the 1496.3 acres of WUI areas in the town of Coulee Dam, Elmer City, and Belvedere, and homes at Rebecca Lake, McGinnis Lake, Buffalo Lake, Lower Columbia River road, and along Peter Dan/Manila Creek road.
- Contact Land Operation representative at 634-2308 to coordinate notification of range unit lessees in range units 29, 39, a portion of 25, 26, and 42.
- As needed, evacuate campers from campgrounds and recreational areas Buffalo Lake Resort, Sandy Beach, and Sam's Place. Avoid heavy equipment use within campsites. Attempt to keep fire lines outside of campground view shed. Coordinate any extended use of recreation areas with Recreational Director, Mike Palmer, at 634-3145.

**Hall Creek RMU 02**

-Keep fire, retardant, and heavy equipment out of 14 culturally sensitive areas and one cemetery by coordinating with Tribal archeologist to avoid locations.

-Keep fire 500 feet from Colville Agency Lookout facility on Grizzly Mountain. Contact Arnold St.Pierre at the BIA Facility Management Department, 634-2520 (work) or 322-4076 (cell), for questions regarding lookout tower.

-Protect structures in the 485 acres of WUI areas along Hall Creek, Lynx Creek, Seylor Valley, Inchelium/Kettle Falls road, the town of Inchelium, and Bridge Creek road. There are no fire districts in this area.

-Contact Land Operation representative at 634-2308 to coordinate notification of range unit lessees in range units 1, 11, 69, and a portion of range unit 85.

-As needed, evacuate campers from 12 recreation areas, including Elbow Lake, Elbow Lake Shore, Buckskin Creek, CCC Campground, Hall Creek Camp, Sitdown Creek Camp, Hall Creek Park, La Fleur Lake Campground, Simpson Lake Campground, Barnaby Island Campground, Barnaby Creek Picnic, and Barnaby Isle Campground. Avoid heavy equipment use within campsites. Attempt to keep fire lines outside of campground view shed. Coordinate any extended use of recreation areas with Recreational Director, Mike Palmer, at 634-3145.

-Fires crossing North Half Reservation Boundary Line will be managed under unified command with affected agency.

**Hellgate RMU 03**

-Keep fire, retardant, and heavy equipment out of 12 culturally sensitive areas and one cemetery by coordinating with Tribal archeologist to avoid locations.

-Minimize damage to mitigation exclusion fences along 1842 acres of Kuehne unit, 1762 acres in the William's Flats unit, 3340 acres in Sand Hills, and 621 acres in the Simon's mitigation unit.

-Contact CCT Fire Management regarding isolated farms, cabins, and other structures that may need protection.

-Keep fire 1/4 mile from Johnny George Colville Agency Lookout facility. Contact Arnold St.Pierre at the BIA Facility Management Department, 634-2520 (work) or 322-4076 (cell), for questions regarding lookout tower.

-Keep fire 1/4 mile from repeater and Mark One for PD/EMS, Unicell/ATT, Lincoln County Mark One, Day Wireless, and Verizon cell tower locations. Contact Larry Allen at the Information Technology Department, 634-2240 (work) or 978-8118 (cell), for questions regarding cell towers.

-Contact Land Operation representative at 634-2308 to coordinate notification of range unit lessees in range units 1, 11, 69, and a portion of 85.

#### **Kartar Valley RMU 04**

-Keep fire, retardant, and heavy equipment out of 76 culturally sensitive areas and one cemetery by coordinating with Tribal archeologist to avoid locations.

-Keep fire 1/4 mile from Colville Agency Lookout facility on Whitmore Mountain. Contact Arnold St.Pierre at the BIA Facility Management Department, 634-2520 (work) or 322-4076 (cell), for questions regarding lookout tower.

-Protect structures at the scattered homes around the Omak Lake, along Cold Springs road, and Kartar road.

-Contact Land Operation representative at 634-2308 to coordinate notification of range unit lessees in range units 17, 22, and a portion of 5, 18, 36, 40, 66, and 81.

-Minimize damage to Mitigation exclusion fences along 8762 acres of Berg Ranch, 2795 acres of Graves, and 7583 acres of Boot Mountain mitigation units.

-As needed, evacuate campers from campgrounds and recreational areas Omak Lake, Baines Beach, Kartar Rock, and Big Goose Lake campgrounds. Avoid heavy equipment use within campsites. Attempt to keep fire lines outside of campground view shed. Coordinate any extended use of recreation areas with Recreational Director, Mike Palmer, at 634-3145.

#### **Little Nespelem RMU 05**

-Keep fire, retardant, and heavy equipment out of 17 culturally sensitive areas and four cemeteries by coordinating with Tribal archeologist to avoid locations.

-As needed, evacuate campers from campgrounds and recreational areas along Owhi Lake. Avoid heavy equipment use within campsites. Attempt to keep fire lines outside of campground view shed. Coordinate any extended use of recreation areas with Recreational Director, Mike Palmer, at 634-3145.

-Protect structures in the 214 acres of WUI areas include Gold Creek road, Cache Creek road, scattered homes along Owhi Lake Loop road, the Town of Keller, and scattered homes along Joe Moses road.

-There are two fire districts in this RMU the town of Nespelem and the Colville Agency.

-Keep fire 500 feet from CCT Mark One (PD and EMS) repeater on the Agency Butte. Contact Larry Allen at the Information Technology Department, 634-2240 (work) or 978-8118 (cell), for questions regarding cell towers and repeaters.

-Keep fire 500 feet from the dam at Owhi Lake. Contact Todd Thorn at the Environmental Trust Department, 634-2428 work, for questions regarding Owhi Lake dam.

-Contact Land Operation representative at 634-2308 to coordinate notification of range unit lessees in range units 30, 32, 39a, 43, and a portion of 25, 26, 33, 43a, 45, 67, 80, and 82

-Minimize damage to mitigation exclusion fences along 1846 acres of the Agency Butte mitigation unit.

### **Lost Creek RMU 06**

-Keep fire, retardant and heavy equipment out of 12 culturally sensitive areas by coordinating with Tribal archeologist to avoid locations.

-Keep fire 1000 feet from Colville Agency Lookout facility on Moses Mountain and Strawberry Mountain. Contact Arnold St.Pierre at the BIA Facility Management Department, 634-2520 (work) or 322-4076 (cell), for questions regarding lookout tower.

-Keep fire 1000 feet from CCT Mark One for PD and EMS and Day Wireless cell towers and repeater on Moses Mountain. Contact Larry Allen at the Information Technology Department, 634-2240 (work) or 978-8118 (cell), for questions regarding cell towers and repeaters.

-Protect structure in the 33 acres of WUI which is very scattered throughout along Moses Creek road and at Crawfish Lake.

-Contact Land Operation representative at 634-2308 to coordinate notification of range unit lessee in a portion of range unit 5.

-Fires crossing North Half Reservation Boundary Line will be managed under unified command with affected agency.

-As needed, evacuate campers from campgrounds and recreational areas along Lost Creek. Avoid heavy equipment use within campsites. Attempt to keep fire lines outside of campground view shed. Coordinate any extended use of recreation areas with Recreational Director, Mike Palmer, at 634-3145.

### **Lower Sanpoil RMU 07**

-Keep fire, retardant, and heavy equipment out of 65 culturally sensitive areas and five cemeteries by coordinating with Tribal archeologist to avoid locations.

-Protect structure in the 1230 acres of WUI areas include Sanpoil Hwy. (SR 21), the Town of Keller, Silver Creek road, Mt Tolman fire center, and Jack Creek road. There are no fire districts in this area.

-Keep fire 1000 feet from Colville Agency Lookout facility on Keller Butte. Contact Arnold St.Pierre at the BIA Facility Management Department, 634-2520 (work) or 322-4076 (cell), for questions regarding lookout tower.

-Keep fire ¼ mile from Mt. Tolman Fire Center and 500 feet from communication tower on Tolman Mountain. Contact Arnold St.Pierre at the BIA Facility Management Department, 634-2520 (work) or 322-4076 (cell), for questions regarding lookout tower.

-Keep fire 500 feet from the Mark One repeater for PD and EMS communication and the Unicell/ATT cell tower on Keller Butte. Contact Larry Allen at the Information Technology Department, 634-2240 (work) or 978-8118 (cell), for questions regarding cell towers.

-Keep fire 500 feet from rodeo grounds, baseball field, Keller Park. Keep fire 500 feet USGS monitoring station at Silver Creek Bridge. Contact Todd Thorn at Environmental Trust Department, 634-2428, for information regarding USGS monitoring station.

-Contact Land Operation representative at 634-2308 to coordinate notification of range unit lesses in range units portions of 19, 21, 42, and 80.

- Minimize damage to Mitigation exclusion fences along 2449.1 acres of mitigation units including Silver Creek 1 and 2 units, 83.9 acres of Silver Creek 3 mitigation unit and the northern portion of the Kuehne Ranch unit.

-As needed, evacuate campers from camp grounds and recreational area at Keller Park. Avoid heavy equipment use within campsites. Attempt to keep fire lines outside of campground view shed. Coordinate any extended use of recreation areas with Recreational Director, Mike Palmer, at 634-3145.

### **-Nespelem River RMU 08**

-Keep fire, retardant, and heavy equipment out of 28 culturally sensitive areas and five cemeteries by coordinating with Tribal archeologist to avoid locations.

-Keep fire 1000 feet the Colville Agency old Lookout facility on Armstrong Mountain. Contact Arnold St.Pierre at the BIA Facility Management Department, 634-2520 (work) or 322-4076 (cell), for questions regarding lookout tower.

-Keep fire 1000 feet from the water tower on hill west of the detention facility. Contact Larry Allen at the Information Technology Department, 634-2240 (work) or 978-8118 (cell), for questions regarding water tower.

-Protect structures in the 1140 acres of WUI areas include Agency Headquarters, Town of Nespelem, along the Nespelem River, North Star road, Tribal Greenhouse, and Agency Hill towers, homes along the Omak Lake River road and the Nespelem Elementary School, Tribal Detention Facility (Jail), and Fish & Wildlife Office along Schoolhouse Loop road; the Nespelem fire district is in this area.

-Contact Land Operation representative at 634-2308 to coordinate notification of range unit lessees in range units 8, 15 and a portion of 12, 16, 18, and 67.

-As needed, evacuate campers from campgrounds and recreational areas along little Nespelem Creek and frequently used sweat lodges along Little Nespelem Creek. Avoid heavy equipment use within campsites. Attempt to keep fire lines outside of campground view shed. Coordinate any extended use of recreation areas with Recreational Director, Mike Palmer, at 634-3145.

-Minimize damage to mitigation exclusion fences along 1318 acres of the Nespelem Sharp-tailed Grouse special management unit.

### **Nine Mile RMU 9**

-Keep fire, retardant, and heavy equipment out of 12 culturally sensitive areas and one cemetery by coordinating with Tribal archeologist to avoid locations.

-Keep fire 1000 feet from Colville Agency Lookout facility on Whitestone Mountain. Contact Arnold St.Pierre at the BIA Facility Management Department, 634-2520 (work) or 322-4076 (cell), for questions regarding lookout tower.

-Protect structures in the 4 acres of WUI areas along Lake Roosevelt, and off Silver Creek road in Sections, 3, of T29N, R35E.

-Contact Land Operation representative at 634-2308 to coordinate notification of range unit lessees in range units 19, 21, and 76.

-Minimize damage to mitigation exclusion fences along 1289 acres of mitigation units.

-As needed, evacuate campers from campgrounds and recreational areas along two camp grounds in Frosty Meadows, one at the Summit and one along Lake Roosevelt. Avoid heavy equipment use within campsites. Attempt to keep fire lines outside of campground view shed. Coordinate any extended use of recreation areas with Recreational Director, Mike Palmer, at 634-3145.

### **Omak Creek RMU 10**

-Keep fire, retardant, and heavy equipment out of 42 culturally sensitive areas and two cemeteries by coordinating with Tribal archeologist to avoid locations.

-Keep fire 1000 feet from Colville Agency Lookout facility on Omak Mountain. Contact Arnold St.Pierre at the BIA Facility Management Department, 634-2520 (work) or 322-4076 (cell), for questions regarding lookout tower.

-Keep fire 1000 feet from Unicell/ATT, and Day Wireless cell towers on Omak Mountain. Contact Larry Allen at the Information Technology Department, 634-2240 (work) or 978-8118 (cell), for questions regarding cell towers.

-Protect structures for the 3357 acres of WUI areas in the town of Omak, and along Omak Creek, Haley Creek, Camp Desautel, and along Hwy 155.

-Contact Land Operation representative at 634-2308 to coordinate notification of range unit lessees in range units 6, 10, 31, 36a, 50, 51, and a portion of 5, 16, 36, 66, and 81.

-As needed, evacuate campers from campgrounds and recreational areas Summit Lake campground, Disautel Camp and recreational and private camps on Moses Mountain. Avoid heavy equipment use within campsites. Attempt to keep fire lines outside of campground view shed. Coordinate any extended use of recreation areas with Recreational Director, Mike Palmer, at 634-3145.

### **Southwest Plateau RMU 11**

-Keep fire, retardant, and heavy equipment out of 24 culturally sensitive areas and 6 cemeteries by coordinating with Tribal archeologist to avoid locations.

-Minimize damage to mitigation exclusion fences along 4537 acre of White Lakes and 6848 acres of the Tumwater mitigation units.

-Protect structures in the 3177 acres of WUI areas including HWY 97 corridor, Cameron Lake Loop, and isolated farms and ranches. There are several fire districts in the area, including District 8, District 3, and District 5.

-Keep fire 1000 feet from CCT repeater, and radio facility on Jackass Butte. Contact Larry Allen at the Information Technology Department, 634-2240 (work) or 978-8118 (cell), for questions regarding cell towers. For BPA sub-station/power lines on Jackass Butte contact Larry Benzinger at BPA Spokane Regional Office, 509-465-1031 (work).

-As needed, evacuate campers from recreational areas and camp sites Cassimer Bar, Washburn Pond, and Little Goose Lake. Avoid heavy equipment use within campsites. Attempt to keep fire lines outside of campground view shed. Coordinate any extended use of recreation areas with Recreational Director, Mike Palmer, at 634-3145.

-Contact Land Operation representative at 634-2308 to coordinate notification of range unit lessees in range units 35 54, 55, 59, 59A and a portion of 56 and 66.

### **Twin Lakes RMU 12**

-Keep fire, retardant, and heavy equipment out of 14 culturally sensitive areas and one cemetery by coordinating with Tribal archeologist to avoid locations.

-Protect structures in the 1156 acres of WUI areas include Twin Lakes, Meteor road, and Tom White road, the town of Inchelium, and Bridge Creek road. There are no fire districts in this area.

-Keep fire 1000 feet from repeater on Moon Mountain. Contact Larry Allen at the Information Technology Department, 634-2240 (work) or 978-8118 (cell), for questions regarding cell towers.

-Keep fire 500 feet from the dam at North Twin Lake. Contact Todd Thorn at the Environmental Trust Department, 634-2428 work, for questions regarding Owhi Lake dam.

-Contact Land Operation representative at 634-2308 to coordinate notification of range unit lessees in range units 71, 73, 85, 86, and a portion of 84.

-As needed, evacuate campers from camp grounds and recreational areas on the north side of North Twin Lake. Avoid heavy equipment use within campsites. Attempt to keep fire lines outside of campground view shed. Coordinate any extended use of recreation areas with Recreational Director, Mike Palmer, at 634-3145.

### **Upper Sanpoil RMU 13**

-Keep fire, retardant, and heavy equipment out of 36 culturally sensitive areas and one cemetery by coordinating with Tribal archeologist to avoid locations.

-Keep fire 500 feet USGS monitoring station on Sanpoil River near Thirteen Mile Campground at the Reservation boundary line on State Route 21 (Sanpoil Hwy.). Contact Todd Thorn at Environmental Trust Department, 634-2428, for information regarding USGS monitoring station

-Protect structures in the 25 acres of WUI areas along the Sanpoil Hwy. (SR21), the Old State Hwy., and Gold Creek road along the West Fork of the Sanpoil River.

-Contact Land Operation representative at 634-2308 to coordinate notification of range unit lessees in range units 2, 3, 48, and a portion of 4, 9, 19, 76, and 80.

-Minimize damage to mitigation exclusion fences along 137 acres of the Bridge Creek mitigation unit.

-As needed, evacuate campers from campgrounds and recreational areas along 21-Mile, 23-Mile, and Bear Creeks. Avoid heavy equipment use within campsites. Attempt to keep fire lines outside of campground view shed. Coordinate any extended use of recreation areas with Recreational Director, Mike Palmer, at 634-3145.

### **West Fork RMU 14**

-Keep fire, retardant and heavy equipment out of 18 culturally sensitive areas by coordinating with Tribal archeologist to avoid locations.

-Protect structures at the isolated homes along Gold Creek road.

-Contact Land Operation representative at 634-2308 to coordinate notification of range unit lessee in range units, and a portion of 4, 5, 9, and 12

-Keep fire 500 feet from USGS monitoring station at the West Fork Bridge on State Route 21 (Sanpoil Hwy.). Contact Todd Thorn at Environmental Trust Department, 634-2428, for information regarding USGS monitoring station

-As needed, evacuate campers from campgrounds and recreational areas at Gold Lake, and Park City campgrounds. Avoid heavy equipment use within campsites. Attempt to keep fire lines

outside of campground view shed. Coordinate any extended use of recreation areas with Recreational Director, Mike Palmer, at 634-3145.

**Wilmont RMU 15**

-Keep fire, retardant, and heavy equipment out of 6 culturally sensitive areas and three cemeteries by coordinating with Tribal archeologist to avoid locations.

-Keep fire 1000 feet from the Colville Lookout facility on Gold Mountain. Contact Arnold St.Pierre at the BIA Facility Management Department, 634-2520 (work) or 322-4076 (cell), for questions regarding lookout tower.

-Keep fire 1000 feet from the weather station on Gold Mountain. Contact Larry Allen at the Information Technology Department, 634-2240 (work) or 978-8118 (cell), for questions regarding lookout.

-Protect structures in the 101 acres of WUI areas along Lake Roosevelt and Silver Creek road.

-Contact Land Operation representative at 634-2308 to coordinate notification of range unit lessees in range units 76 and 83, and a portion of 19, 21, 71, 73, and 83.

-As needed, evacuate campers from campgrounds and recreational areas Wilmont Creek and Rodger's Bar campgrounds. Avoid heavy equipment use within campsites. Attempt to keep fire lines outside of campground view shed. Coordinate any extended use of recreation areas with Recreational Director, Mike Palmer, at 634-314