Range Management Plan for the Colville Reservation



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1. INTRODUCTION

1.1 Purpose and Need

The purpose of this Range Management Plan (RMP) is to provide direction and guidance for the proper management of rangeland resources on the Confederated Tribes of the Colville Reservation (Reservation) by the Bureau of Indian Affairs (BIA) Land Operations / Range Program and the Tribes' natural resource departments. It is needed to update the 2000-2014 RMP and provide direction for 2015-2029. This RMP is tiered to the 2015 Draft Confederated Tribes of the Colville Reservation Integrated Resource Management Plan. This RMP will be reviewed annually and updated every fifteen years or as needed by the Land Operations / Range Program and is designed to provide basic guidance and bench-marks for maintaining and/or improving the condition and productivity of the various range units.

Proper management of rangeland resources promotes the long term resilience and sustainability of ecosystem conditions, which leads to improved water and nutrient cycles, improved plant community biodiversity and production, healthier native vegetation and vegetative cover, and adequate forage reserves to ensure rangeland health during drought periods. In addition, well-managed rangelands leads to healthier livestock, improved wildlife habitat and watershed conditions, better protection of critical cultural and natural resources, and sustainable management and operation of Tribal resources while providing a profitable operation for individual permittees.

1.2 Federal and Tribal Laws and Regulations

This RMP fulfills the resource management objectives of the Land Operations / Range Program and the Tribes' natural resource departments; promotes fulfillment of the overall trust obligations of the federal government as administered by the Superintendent, Colville Indian Agency; and preserves and promotes tribal authority and provides processes to implement such authority as recognized in federal law. All livestock management operations will be conducted in manner consistent with all pertinent federal and tribal laws and regulations including the Code of Federal Regulations (25 CFR 166) and the Tribal Rangeland Management Code (Chapter 4-11).

The Tribal Rangeland Management Code (Appendix A) provides management goals and objectives, policy and management direction, range unit designations, grazing authorizations, class of livestock designations, dispute resolution procedures, disease management requirements, trespass/unauthorized use provisions and enforcement guidelines, and tribal law enforcement provisions for the sound management of the forage resources within designated range units.

1.3 Relationship to Other Plans and Programs

There are a number of other plans and programs on the Colville Reservation that are part of the Tribes Natural Resource Codes and directly or indirectly intersect with rangeland management activities. All rangeland management activities on the Reservation have been developed to be in compliance with these other plans and programs, which are briefly described below, as part of the Tribes' Integrated Resource Management Plan.

Fish, Wildlife and Recreation (Tribal Code Chapter 4-1) – Rangelands are managed to provide forage and habitat for livestock as well as for wildlife, including fish, sage-grouse and other birds, small mammals, and big game. Rangeland managers ensure that livestock stocking rates are based on livestock using no more than quater of all forage availability. In addition, rangeland managers encourage the use of

wildlife friendly fencing, and livestock are excluded in lands designated as game reserves and mitigation lands, or where there are fisheries present in riparian areas.

Cultural Resources (Chapter 4-4) – Rangeland managers work with the cultural resource staff to protect cultural resources from livestock activities. This includes delaying release of livestock into range units that have cultural plant gathering sites, promoting grazing strategies that minimize impacts to traditional cultural plants, and requiring cultural clearances for all range improvement projects.

Forest Resources (Chapter 4-7) – Much of the designated grazing land on the Reservation lies in forested units that also have timber harvest practices. Timber harvest practices can cause animal disturbance and displacement as well as damage livestock fences. Rangeland managers work with the forestry department to minimize impacts to livestock permittees and range improvements while still enabling forest practices to occur.

Water Quality, Water Use, and Soils (Chapter 4-8) – Rangeland management includes best management practices (BMPs) to reduce impacts to water quality (see Appendix B). Rangeland managers coordinate all water quality projects related to spring development, hardened water crossings, and other water and riparian issues with the Environmental Trust to minimize soil compaction, sedimentation, and impacts that could affect water quality.

Wild Horses (Chapter 4-14) – There are a number of feral (wild) horses on the Reservation that share space with livestock. A recent (2012) Wild Horse Management Plan has been produced by the Land Operations / Range Program and Fish and Wildlife Department to address management strategies.

Shoreline Management (Chapter 4-15) – All rangeland management activities on the Reservation are in compliance with Tribal Code 4-15, Shoreline Use and Development Regulations. Tribal Code Sub-Section 4-15-19 provides shoreline management requirements specific to grazing uses on the Reservation.

Fire Management (Chapter 4-19) – The Land Operations / Range Program participates on a Burned Area Emergency Rehabilitation (BAER) team that is activated during wildfires. The Range Staff assess damages done to any range structures (i.e. fences, springs, cattle guards, etc.) and provide written assessments for the structures damaged. Rehabilitation activities including reseeding, weed control, and two years of grazing rest are coordinated with the BAER team members and their respective departments.

Weed Management – The control of noxious weeds and other invasive plant species is a priority of the Colville Reservation. Invasive non-native plant species pose one of the most serious threats to wildlife habitat, biodiversity, native population stability, economics, cultural resources, and scenic values on the Reservation. Invasive weeds cause large economic losses to agriculture, livestock ranching, recreational industries, and other activities on the Reservation. Noxious weed control on the Colville Reservation is a collaborative/cooperative effort led by the Land Operations / Range Program. A recent (2015) Integrated Weed Management Plan has been for the Colville Reservation.

Agriculture – The Colville Reservation does not have a formal Agriculture Program and current agricultural activities are led by the Land Operations / Range Program. The Realty Program issues and oversees leases on both agricultural and pasture lands, and while agricultural uses are typically excluded from range units that are available for livestock use, coordination and management of both of these activities is imperative, and may take the form of a Conservation Plan that would be signed off on by a number of different programs. A recent (2015) Agricultural Resource Management Plan has been produced for the Colville Reservation which may help guide the coordination of these activities.

1.4 Range Program Mission and Vision

The **mission** of the Land Operations / Range Program is to provide range management services for the Colville Indian Reservation in cooperation with Tribal programs and other Agency branches.

The **vision** of the Land Operations / Range Program is to provide sustainable desired plant communities for overall rangeland health and to enhance and maintain a diversity of rangeland conditions that benefit tribal members and natural resource programs.

1.5 Goals and Objectives

The following specific goals and objectives have been developed by the Land Operations / Range Program to achieve the overall mission and vision statements.

GOAL 1: Maintain Ecosystem Health on Rangelands

- Implement Best Management Practices (BMPs) to enhance and maintain a diversity of range conditions, maintain sustainable vegetation communities.
- Use BMPs such as grazing rotation and vegetation management to assure an abundance of available forage for livestock and wildlife.
- Retain rangeland in its natural state when the recreational, cultural, aesthetic, or traditional values of the rangeland represent the highest and best use of the land.
- Use grazing strategies to improve native plant and animal habitats, including threatened, endangered, special status, and culturally important species, for wildlife, fisheries, recreation, aesthetic, cultural and other traditional values.
- Consider wildlife habitat patch size and fragmentations when designing vegetation management projects.
- Consider wildlife friendly fencing to reduce the impacts in sensitive areas.

GOAL 2: Manage Rangelands to Protect Soils, Water, Riparian Areas, and Prevent Erosion

- Protect range resources by managing vegetation, improving ground cover, and vegetation vigor, protecting soils through native grass re-seeding, and regulating water run-off to minimize soil erosion.
- Re-establish and enhance native plants palatable to livestock and wildlife in disturbed areas.
- Implement deferred-rotation grazing system to increase the retention of soil moisture and increase the duration and magnitude of stream flow.
- Collaborate with Natural Resource Programs to develop and manage riparian grazing areas adjacent to a designated lakes and streams to protect fish, wildlife, water quality, recreation, and cultural resource.
- Minimize the overall impact of feral horses on the reservation. Monitor damage resulting from unmanaged horse herds. Implement Feral Horse Management Plan strategies to reduce impacts through herd management and/or removal in coordination with Fish & Wildlife department and tribal membership.

GOAL 3: Protect Natural Resources through Monitoring, Compliance, and Enforcement

- Assess ecological site trends and biotic integrity through the establishment and implementation of monitoring systems and protocols to assess or classify plant community composition, change in vegetation, forage utilization, soil and site stability, hydrologic function.
- Increase enforcement of grazing permit compliance to reduce the amount of heavy grazing, to improve forage for livestock, big game and other wildlife and also for the protection of desired plant species and riparian areas.
- Establish compliance procedures that will require permittees to monitor and document locations of livestock and forage utilization on their range units throughout the grazing season.
- Enhance range management education programs for livestock operators, tribal members, tribal and BIA employees.

Goal 4: Use Livestock Strategies to Promote Rangeland Health

- Estimate the carrying capacity of rangelands through monitoring to determine the amount available forage, and then adjusting stocking rates to accommodate wildlife.
- Prepare individual range unit Conservation Plans to promote rangeland health, encourage good grazing practices, and protect natural resources.
- Evaluate BMPs implemented on Range Units.
- Develop off-site water points, salting practices and more effective livestock rotation, to achieve more effective utilization of available forage through the distribution of livestock.
- Grazing capacity for livestock not allocated to tribal members will be advertised for non-members livestock owners who reside within the boundaries of the Reservation.
- Install cattle guards on key access routes as needed.
- Implement management practices to minimize impact of livestock and wildlife to tree seedlings and native grass re-planting areas.

GOAL 5: Control the Spread of Invasive Species on Rangelands

- Apply integrated weed management strategies to preserve and enhance native plant species and communities, threatened and endangered species, and traditional cultural plants.
- Monitor the presence, abundance and distribution of weeds annually to document populations and distributions and develop management plans for noxious weed species, with new invader species as the highest priority.
- Use BMPs as identified in the current Invasive Weed Management Plan to avoid damage to desirable plant species when using herbicides for control of noxious weeds.
- Where appropriate utilize approved biological control agents for management of invasive plant species.
- When treatment for control of terrestrial, riparian/aquatic weed species is proposed, all Washington State, federal and tribal laws will be followed.
- Use inventory and survey activities to detect new occurrences of invasive plant species and provide timely initiation of treatment programs.

- Utilize grazing strategies to reduce the occurrence and control invasive species, e.g. implementing earlier grazing to utilize cheatgrass prior to it going to seed.
- Sow appropriate areas with a grass seed mix to re-establish native species and to out compete invasives in the area.

GOAL 6: Manage Fire and Fire Impacts to Improve Rangeland Health

- Utilize prescribed fire as a tool to manage fuels, improve vegetation health and plant community resilience to meet natural resource objectives.
- In wildfire disturbed areas implement practices such as two growing seasons of grazing rest following a fire to promote recovery and to minimize further damage or destruction to soil, water, forest, wildlife, roads, fauna and flora.
- Use livestock to manage fuel loads to reduce potential for wildfires that result in severe resource damage.
- Provide effective fire suppression response.

1.6 Desired Future Conditions

The following desired future conditions (DFCs) were derived from the 2015 Draft Integrated Resource Management Plan (IRMP) and are specific to range management:

1. Reservation and boundary waters meet Tribal Water Quality Standards.
2. Reservation watersheds have healthy, resilient soil and hydrologic functions and characteristic.
3. Wetlands, riparian, and aquatic ecosystems continue to function as natural systems.
4. Culture, traditions and practices remain in the personal, social, economic, spiritual and political aspect of the lives of the Reservation's membership.
5. Suitable habitat conditions for desirable native and non-native species (flora and fauna) exist to maintain Reservation biodiversity that includes the diversity of natural genes, species and ecosystems, as well as the evolutionary processes that link them.
6. Managed landscapes more closely resemble those created by the activities of historic disturbance agents such as fire (natural and traditional activities), wind, insects, disease and animals.
7. Viable populations (numbers and distribution of reproductive individuals) of native and desired non-native species of wildlife, and their supporting habitats are maintained, while wildlife is provided in sufficient numbers to meet the cultural, subsistence and recreational needs of Colville tribal members.
8. An abundance of anadromous and non-anadromous fish and other aquatic species the Tribes desire continues in the waters of the Reservation.
9. Tribal member's values are clearly stated and reflected in the management of their resources.
10. Good air quality continues to exist on the Reservation.
11. A mosaic of desirable rangeland plant communities with diverse forbs, grasses and shrubs that optimize ecosystem processes exist across the Reservation.

12. The Reservation is in a clean, green, and healthy condition that is aesthetically pleasing and fulfills the spiritual, cultural, social and economic needs of the tribal membership.
13. The Reservations' resources provide economic stability for the tribal membership.
14. A variety of safe recreational opportunities are provided year-round for all age groups and ability levels with an emphasis on tribal member utilization as well as resource protection.
15. The Colville Reservation remains a sovereign nation, retaining jurisdiction over the Reservation, external tribal lands and tribal historical and cultural resources.
16. Cultural places and resources are protected and preserved allowing tribal members to understand their history and culture and perpetuate traditional practices.
17. There is an abundance of foods, medicines, and plant materials for the creation of tools and traditional objects used for gathering, fishing, hunting, weaving, ceremonial practice and the everyday activities of the membership.

2. PREFERRED ALTERNATIVE

2.1 Enhanced Range Management

The range management alternative that has been recommended by the IRMP Core Team as part of the 2015 Draft IRMP consists of the following elements. This alternative adjusts the current management strategy by placing a greater emphasis on education, range improvements, and monitoring. This alternative was developed to address the goals and objectives of the Land Operations / Range Program and to move toward achieving the DFCs described above.

- Permitted AUMs in trust and allotted lands shall not exceed 282,368 (does not includes 30,952 AUMs in three Range Units that have been permanently assigned to Fish and Wildlife as mitigation lands). This carrying capacity is based on plots established from 2012 to 2014 across the Reservation.
- Impose AUM fees based upon land status, ownership, and the fair market rate determined by the Office of Special Trust (OST), and approved by the Tribal Council where appropriate.
- Continue prescribed burning, removal of invasive species, fencing and spring developments, and improving livestock management.
- Reduce and monitor the amount of heavy grazing to improve forage for livestock, big game and other wildlife and to protect desired plant species and riparian zones.
- Develop off-site water points, salting practices, and more effective livestock rotation.
- Increase enforcement of grazing contract compliance to ensure proper livestock rotation and protection of riparian zones.
- Monitor game reserves to ensure that livestock are excluded.
- Decrease the amount of invasive and non-native plant species on the rangeland.
- Enhance range management education programs for livestock operators and tribal members.

- Utilize EQIP funding from NRCS to construct wildlife friendly fencing, create spring and water developments, reseed degraded rangeland, and undertake other range improvement projects.
- Manage the wild horse population in coordination with the Fish & Wildlife Department and seek funding to fully implement planning objectives.
- Seek funding for additional staff to increase noxious weed controls efforts.
- Seek funding to implement the Wild Horse Management Plan.

2.2 General Range Management and Best Management Practices

Rangeland managers and permittees employ a number of practices to ensure successful management of rangeland on the Colville Indian Reservation. For instance, climatic changes in the Pacific Northwest are affecting weather variability which will have a direct impact on the Reservation. Reduced snowmelt, increased fire frequency and drought conditions are all a result of this weather variability and can impact rangeland management practices.

Abnormally dry conditions may impact the vitality of some grazing areas and should be considered when grazing programs are outlined. The difficulty in achieving grazing potential in some areas prone to drought should not be exacerbated with stocking rates that leave no margin of error. A sustainable utilization level leaves room for varying climatic conditions while allowing the permittee to maintain income over the long run. Protecting soil through rotating pastures allows organic matter to build which in turn increases plant vigor and buffers against drought.

The protection and enhancement of riparian areas is also of great importance. Livestock must be provided watering developments in areas located away from the creek bottoms to minimize grazing impacts to sensitive riparian areas. Additional water sources can shorten the amount of time livestock spend in creek bottoms and allow them to forage longer in preferred upland habitats, thus also minimizing "secondary range" areas too far from water to graze. Water development away from drainages will in turn allow better riparian restoration efforts and livestock distribution.

Range BMPs are activities that permittees and the Land Operations / Range Program utilize to fulfill their responsibility in providing the Tribal membership as represented by the Tribal Council with acceptable range management on the Reservation. The USDA Natural Resources Conservation Service (NRCS) has developed a number of these BMPs as Range Conservation Practice Standards. Information on these standards is available from the NRCS who also provide technical assistance for structural and biological improvements on the rangelands of the Reservation. A list of the more common BMPs that are practiced as part of management of rangeland on the Colville Indian Reservation is provided in Appendix B. These include structural improvements, such as fences, springs, cattle guards, and salting practices, and biological improvements, such as grazing strategies, range plantings, and weed management.

3. HISTORIC AND CURRENT RANGE ENVIRONMENT

3.1 General Environment

Location
The 1.4 million acre Colville Reservation is located in the north central portion of the State of Washington (Figure 1). The Reservation, the largest in the State of Washington measures approximately 35 miles north to south and 80 miles east to west. About 610 thousand acres of the Reservation are in Okanogan County and 782 thousand acres in Ferry County. 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.

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 additional to Reservation communities, a large number of Tribal members live in nearby communities of Malott, Omak, Okanogan, Grand Coulee, Brewster, Bridgeport and Colville-Kettle Falls. The major service centers for the Reservation are Spokane ~100 miles to the southeast and Wenatchee ~125 miles to the southwest of the Reservation. The Tribal headquarters, BIA, and other government and tribal services are located at the Colville Agency near Nespelem.

Climate
Reservation climate and ecotypes range from about 12 inches of precipitation in the southwest shrub-steppe areas to 35 inches of precipitation mostly in the form of snow in the central mountainous subalpine forest regions. Temperatures at Nespelem range from a low near –25°F in the winter to a high near +100°F in the summer.

Streams and Lakes
The Reservation has nearly 3,000 miles of streams and 420 lakes and ponds. Stream density averages about 1.2 miles per square mile and ranges from areas with no perennial stream channels to watershed units with more than 2.5 miles per square mile. The majority of the lakes on the Reservation's southwest plateau area are saline or highly alkaline.

Physiography and Topography
Most of the Colville Indian Reservation is located within the physiographic province known as the Okanogan Highlands. The Columbia River, where the Highlands province merges with the terrain of the Columbia Plateau, generally marks the southern boundary of the province. The southwest portion of the Reservation, however, lies within the Columbia Plateau known locally as the Okanogan Plateau or Timentwa Flats. The eastern boundary of the Highlands province is also marked by the Columbia River (where the river flows to the south), which separated the Highlands from the Kootenay Arc province. The Okanogan River forms the western boundary and separates the Highlands province (locally the Columbia Plateau Province) from the Okanogan Trench province. Elevations on the Reservation range from 790 feet at the mouth of the Okanogan River to 6,774 feet at the summit of Moses Mountain in the western central portion.

The portion of the Okanogan Highlands within the Reservation boundary is mainly composed of two major north-south trending mountain chains. They are the Kettle River Range and the Nespelem Range.

Parts of both of these mountain chains were glaciated during the last major glacial advance. The topography in glaciated areas is characterized by smooth, rounded mountain summits with extensive bedrock exposed by glacial scouring. Relief is generally gently sloping to steep and the drainage patterns tend to be weakly developed. Non-glaciated areas in contrast, usually have narrow ridges, sloping to very steep relief, and well-developed drainage patterns with a high degree of slope dissection and are not found on the Reservation.

The Kettle River Range is located in the eastern part of the Reservation and forms the divide between the Columbia River to the east and south, and the San Poil River to the west. Grizzly Mountain, with an elevation of 6,397 feet is the highest peak on the Reservation in the Kettle River Range. Other prominent peaks include Cody Butte (4,764 feet). South Seventeen Mile Mountain (5,174 feet), Lynx Mountain (5,709 feet), Gold Mountain (4,686 feet), Whitestone Ridge (4,762 feet), and Johnny George Mountain (4,090 feet).

The Nespelem Range is in the central part of the Reservation and forms the divide between the San Poil River to the east and the Columbia and Okanogan Rivers to the south and west, respectively. The highest point in this range is Moses Mountain at 6,774-feet elevation. Other prominent peaks include Little Moses Mountain (5,963 feet), Omak Mountain (5,749 feet), Strawberry Mountain (5,855 feet), Keller Butte (4,831 feet), and Central Peak (4,781 feet).

The Okanogan Plateau in the southwest portion of the Reservation represents the most northern extension of the Columbia Plateau. Elevations range from 2,000 to 2,900 feet. This area is characterized by nearly level to gently sloping relief, and is dotted by many small lakes and ponds resulting from glaciation. Flood plains and terraces of recent alluvium with higher terraces of glacial outwash and glacial lake sediments flank the rivers and most of the major creeks.

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 (Figure 2). 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 some fee lands are owned both by the tribes and individual Tribal Members. 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 1.06 million acres, of which 1.02 million acres are tribal lands and about 0.04 million acres are allotted lands. Fee land acreage is approximately 0.32 million acres. The distribution of trust and fee patent lands on the Reservation is shown in Figure 2.

There are about 0.90 million acres of forestland (74 percent of which is commercial forestland) and 0.46 million acres of rangeland on the Reservation, of which about 89 percent and 81 percent respectively, are in Indian ownership. In broad terms, approximately one-third of the Reservation is non-forested and was originally designated as rangeland. Over time, land has been converted to agricultural and urban uses leaving approximately 28 percent of the Reservation in a condition that is considered to be true shrub steppe rangeland. Another 15 percent is in savannah-like open forests that are important for grazing, and the remaining lands are denser forest plant communities.

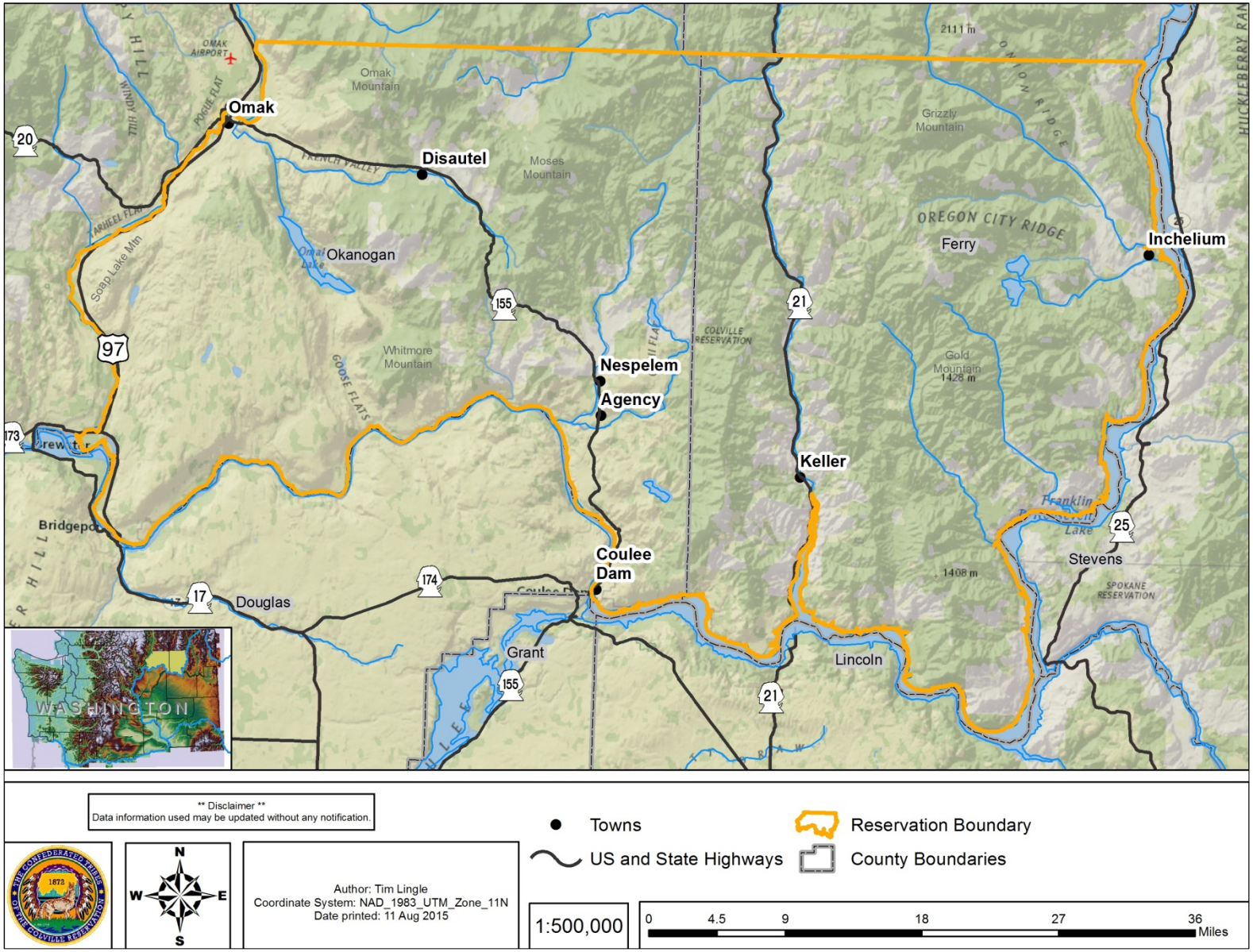


Figure 1. Location of Colville Reservation

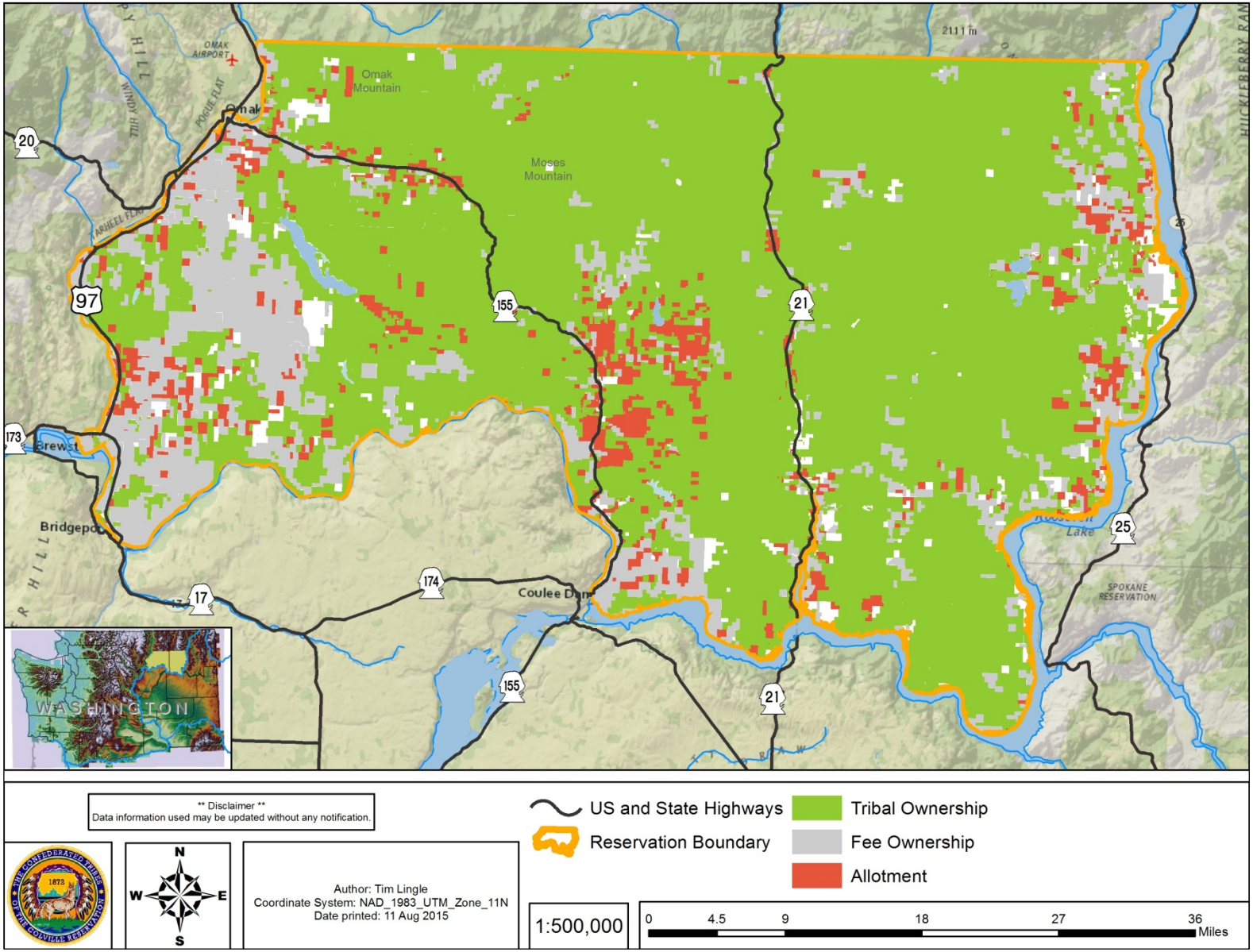


Figure 2. Distribution of Trust and Fee Lands on the Colville Reservation

3.2 Historic Grazing on the Reservation

In the late 1800s, Indian and non-Indian cattlemen alike capitalized on the Reservation's grazing lands in successful open range stock raising ventures, particularly in the Kartar Valley and Duley Lake region. When the Reservation was opened to homestead entry in 1916, the area's abundance of rich grazing lands with waist-high bunchgrass was a primary attraction for would-be settlers.

In addition to luring cattlemen, the Reservation's vast grasslands also attracted sheepmen. The country around Nespelem was particularly valued as sheep range. In the space of a few weeks in the spring of 1916, over 20,000 head of sheep were ferried across the Columbia to the Nespelem Valley and elsewhere. Eventually, sheepmen established semi-permanent sheep stations at various grazing locations on the Reservation.

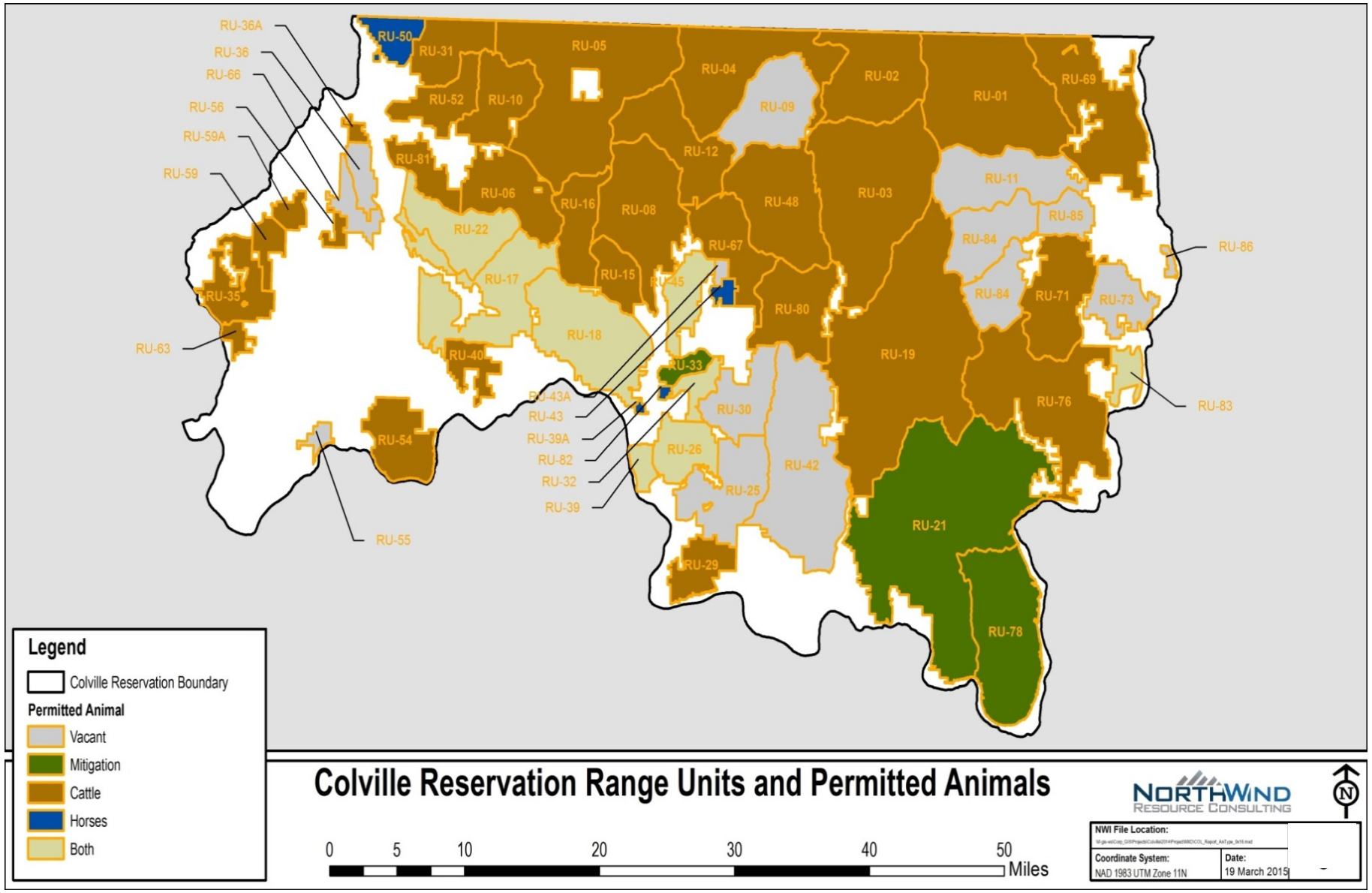
Horses shared and competed for rangelands with cattle and sheep on the Reservation. From the late 1800s through the 1930s, herds of wild horses roamed the Reservation (and a few still remain today). It was reported that by the 1920s, as many as 30,000 head of wild horses roamed the Colville Reservation. Wild horses provided an important source of income for both Indians and white settlers on the Reservation.

In addition to being a source of income, wild horses also provided entertainment for both Indians and non-Indians living on the Reservation. The phenomenal popularity of rodeo and Western shows (both organized and spontaneous) was undoubtedly influenced by the sheer number and availability of wild horses on the Reservation.

3.3 Current Range Units and Practices

The Colville Reservation has a variety of geographic features: elevation, topography, soil, precipitation, and water bodies. Consequently, the Reservation supports a diverse set of plant community types. Many of these plant communities have value for livestock grazing. Of the total 1.4 million acres within the Reservation, 1.03 million acres are within designated range units (see Figure 3), and approximately 0.95 million acres are within Tribal trust, allotment and government owned lands that are actually permitted for grazing.

The Reservation has been divided into a number of range units which includes units designated for cattle use, horse use, both cattle and horse use, or wildlife mitigation lands that are not grazed by livestock (Figure 3).Some range units have also been left vacant. The grazing season generally begins in May in the low elevations and in June in the mountains. The grazing season ends at the end of October and November. The usual turnout dates are modified when necessary due to conditions of soils, temperature, moisture, and available forage.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19 March 2015

The usual term of a range permit is five years. The current fee for Tribal members is a base rate of $1.20 per AUM. For non-members residing within the Reservation boundaries, the current fee rate is $10.00 per AUM. Grazing fee revenue from tribal trust land goes directly to the Tribes general fund. Prior to renewing each permit, the Office of Special Trust (OST) conducts a grazing study on the Reservation for an appraisal of "Fair Market Value" (FMV) for both tribal members and non-members. This is completed every five years and the data is presented to the Colville Livestock Association and the Colville Business Council for a resolution on the FMV for the next 5-year term. Range permits are administered in accordance with Chapter 4-11 of the Tribal Code and the Code of Federal Regulations (25CFR166).

The Tribal Code recognizes the importance of stewardship of the range resource, the need for integration of multiple uses on rangelands, and the opportunity for tribal members to benefit economically from the range resource. Decision making for range management is vested in the Tribal Business Council, based on recommendations from the Land Operations/Range Program. Range management on the Reservation is a trust responsibility of the Bureau of Indian Affairs.

Livestock carrying capacity for grazing units is based on a range survey done in 2014 and 2015. Range units are scheduled for re-inventory approximately every 5 years in coordination with the renewal of the range unit conservation plans or as concerns arise. The Land Operations/Range Program believes that changes in stocking rates should be made on a range unit basis, giving consideration to existing and potential species composition, range health, and forage production. The Land Operations/Range Program recognizes that with better range management, range health can be maintained or improved while at the same time improving the condition of the rangeland to accommodate other tribal objectives. These objectives include fish and wildlife habitat, culturally significant plants and animals, water quality, and fuel treatments to prevent wildfires.

Range improvements such as fencing, water developments, cattle guards, access trails, and range reseeding are in place on the Reservation. However, many more such improvements are needed. Range improvements are considered affixed to the land and cannot be removed by the lessee upon termination of a permit unless it is specifically allowed in the terms of the permit (Section 4-11-35, Tribal Code). At this time most range units are partially fenced, due to materials being prohibitively expensive. The original intent was to have all range units fully fenced. Existing fencing is often damaged by a variety of natural and anthropomorphic causes including logging, fires, wood cutters, and blown down trees. There is some fencing along road corridors and an effort is made to reinforce them in critical areas. Motorists are notified that the Reservation is designated as open range.

3.4 Current ESDs / Forest Habitat Types

There are eleven ecological site types (plant association groups) and fourteen forest habitat types present on the Reservation (Tables 1 and 2).

Table 1. Ecological Sites (Rangeland) found within the Colville Reservation.

ECOLOGICAL SITE NAME	Percent of Total Habitat
MLRA B008X Columbia Plateau: Dry Loamy 9-15" Precipitation Zone	6.4
MLRA B008X Columbia Plateau: Dry Stony 9-15" Precipitation Zone	5.5
MLRA B008X Columbia Plateau: Loamy 9-15" Precipitation Zone	4.2
MLRA B008X Columbia Plateau: Sandy 9-15" Precipitation Zone	2.5
MLRA B008X Columbia Plateau: Sands 9-15" Precipitation Zone	2.1
MLRA B008X Columbia Plateau: Cool Stony 9-15" Precipitation Zone	1.8
MLRA B008X Columbia Plateau: Stony 9-15" Precipitation Zone	1.3
MLRA B008X Columbia Plateau: Cool Loamy 9-15" Precipitation Zone	1.1
MLRA B008X Columbia Plateau: Semi-wet Meadow 9-15" Precipitation Zone	1.0
MLRA B008X Columbia Plateau: Very Shallow 9-15" Precipitation Zone	0.7
MLRA E043A Northern Rocky Mountains: Stony 15"+Precipiation Zone	0.4

Table 2. Forest Habitat Types found within the Colville Reservation.

FOREST HABITAT TYPE	Percent of Total Habitat
Douglas-fir/Common Snowberry (PSME/SYAL)	14.0
Douglas-fir/Mallow ninebark, myrtle pachistima phase (PSME/PHMA5, PAMY)	10.9
Douglas-fir/pinegrass (PSME/CARU)	7.1
Ponderosa pine/Idaho fescue (PIPO/FEID)	4.8
Subalpine fir/huckleberry (ABLA/VACCI)	4.8
Ponderosa Pine/Antelope bitterbrush, Idaho Fescue phase (PIPO/PUTR2, FEID)	4.3
Ponderosa pine/common Snowberry (PIPO/SYAL)	3.0
Douglas -fir/common snowberry, quaking aspen phase (PSME/SYAL, POTR5)	1.4
Subalpine fir/northern twinflower (ABLA/LIBO3)	1.4
Douglas fir/Idaho Fescue (PSME/FEID)	1.2
Ponderosa pine/Common Snowberry, Quaking Aspen Phase (PIPO/SYAL, POTR5)	0.5
Quaking aspen series (POTR5)	0.4
Ponderosa pine/antelope bitterbrush, Indian ricegrass phase (PIPO/PUTR2, ACHY)	0.1
Subalpine fir-whitebark pine/kinnikinnick (ABLA-PIAL/ARUV)	0.1

The three most common natural plant communities that cover approximately 241,000 acres or 93 percent of the Reservation's shrub steppe rangeland include:

- Bluebunch Wheatgrass/Sandberg's Bluegrass (*Hesperostipa comata /Poa secunda*) – The herbaceous layer of this range plant community is dominated by bluebunch wheatgrass with Sandberg's bluegrass as a minor species. The forb component is dominated by arrowleaf balsamroot and silky lupine. The predominantly inconspicuous shrub layer is dominated by

scattered three-tip sagebrush. The percent by weight of grass, forbs and shrubs are 55%, 35% and 5%, respectively.

- Bluebunch Wheatgrass/Needle and thread-Sandberg's Bluegrass (*Pseudoreogneria spicata* / *Hesperostipa comata / Poa secunda*) – Bluebunch wheatgrass dominates the herbaceous layer with needle and thread and Sandberg's bluegrass as minor components in this range plant community. The forb component is dominated by silky lupine and common yarrow. The shrub element is usually inconspicuous and dominated by scattered three-tip sagebrush. The percent by weight of grass, forbs and shrubs are 65%, 30% and 5%, respectively.
- Antelope Bitterbrush/Bluebunch Wheatgrass (*Purshia tridentata / Hesperostipa comata*) – Bluebunch wheatgrass dominates the herbaceous layer in this plant community with Sandberg's bluegrass as minor species of the site. The principal forbs are arrowleaf balsamroot and Wyeth eriogonum. The shrub layer is dominated by antelope bitterbrush with big sagebrush and three-tip sagebrush as subdominant species of the site. The percent by weight of grass, forbs and shrubs are 50%, 25% and 25%, respectively.

3.5 Current Grazing and Utilization

As of January 2015, only 42 range units were grazed by cattle, horses, or both, and within these a total of 22,912 AUMs were used. Assuming an average grazing season of six months, this represents less than half of the total AUMs available across the Reservation. The current livestock use is allocated to 3,619 cattle and 156 horses (Appendix C). In 2000, there were over 7,000 cattle grazing under permit. With lower stocking rates there has been a decline in the amount of grazing pressure and utilization. Ranchers are retiring and not passing the operation on to the next generation. Ranching profits are also down due to the increasing cost of operation and young people are not as interested in ranching.

The AUMs are allocated yearly among tribal members and non-tribal livestock producers who live within the boundaries of the Colville Reservation, according to range unit stocking capacities. Each year there are designated areas that are to be rested or delayed due to fires, wildlife, and other natural resource concerns. Rotational grazing practices are to promote overall rangeland health.

In the mid-1980s, the Reservation's rangelands were said to be in "poor to fair condition" based upon a range inventory done by the Soil Conservation Service (SCS). In 2012, the Land Operations / Range Program commissioned a new multi-year study to be completed to collect new rangeland condition data across the Reservation. Data was collected over the 2012-2014 growing seasons at more than 450 sampling points across the Reservation. A comprehensive range condition report was prepared that provides the results of these vegetative sampling studies. Overall the inventory indicates that stocking capacities have not changed substantially within the past 15 years, although permitted animals have dropped substantially during the same period. Nonetheless, adjustments to stocking capacities or durations may need to be made to some range units that are being used above desired management levels (e.g., Range Units 54, 56, 59, and 63).

The 59 range units are listed in Table 3 along with acreage and currently permitted months of use and number of animals. The production data and forage and AUM availability was based on data collected by North Wind over the 2012 to 2014 growing seasons across the Reservation. More detailed data on the 2012-2014 studies is found in the range reports prepared for the Land Operations / Range Program.

Table 3. Range Units and Acreage.

Range Unit	Total Acres*	Season of Use (number of months)	Type of Livestock	Total Forage (Millions of Pounds)	Average Available Forage (lbs/acre)	Carrying Capacity (AUMs)**
RU-01	43,603	6	Cattle	11.85	263.60	14,367
RU-02	24,706	6	Cattle	6.96	281.97	8,708
RU-03	47,968	5.5	Cattle	15.32	298.44	17,894
RU-04	29,045	6	Cattle	7.68	249.62	9,063
RU-05	51,558	6.5	Cattle	12.96	235.98	15,208
RU-06	16,376	7	Cattle	5.04	286.48	5,865
RU-08	24,000	7	Cattle	6.21	215.75	6,473
RU-09	19,278	6.5	Vacant	2.95	151.98	3,662
RU-10	14,521	7	Cattle	5.42	369.13	6,700
RU-11	21,790	6	Vacant	4.62	212.22	5,780
RU-12	20,701	6	Cattle	4.50	216.12	5,592
RU-15	7,149	6	Cattle	2.69	346.05	3,092
RU-16	12,685	6	Cattle	3.54	278.66	4,418
RU-17	29,993	7	Both	6.78	223.18	8,368
RU-18	27,761	7	Both	9.38	316.70	10,990
RU-19	76,077	7	Cattle	20.26	257.73	24,256
RU-21	73,910	7	Mitigation	19.93	230.73	21,241
RU-22	15,751	7	Both	4.13	253.46	4,990
RU-25	16,610	7	Vacant	5.49	285.93	5,814
RU-26	9,925	7	Both	1.57	156.96	1,947
RU-29	3,964	7	Cattle	1.59	182.59	903
RU-30	12,759	7	Vacant	3.87	287.86	4,517
RU-31	11,336	7	Cattle	2.14	178.15	2,524
RU-32	4,258	7	Both	1.12	261.88	1,394
RU-33	2,869	7	Mitigation	0.58	182.10	653
RU-35	11,606	7	Cattle	1.72	141.36	2,051
RU-36	3,740	7	Vacant	0.75	159.04	744
RU-36A	786	2	Cattle	0.20	157.92	155
RU-39	2,603	7	Both	0.34	114.52	373
RU-39A	366	2	Horses	0.07	180.41	83
RU-40	5,262	7	Cattle	1.55	258.34	1,699
RU-42	42,048	7	Vacant	11.21	257.61	13,341
RU-43	1,666	5.5	Horses	0.51	307.53	641
RU-43A	938	5.5	Vacant	0.32	328.11	385
RU-45	7,259	7	Both	2.05	234.55	2,128
RU-48	26,738	6	Cattle	4.11	146.31	4,881
RU-50	5,940	7	Horses	1.06	166.95	1,240
RU-52	10,757	7	Cattle	1.99	185.27	2,491
RU-54	6,524	7	Cattle	2.75	204.00	1,664

Range Unit	Total Acres*	Season of Use (number of months)	Type of Livestock	Total Forage (Millions of Pounds)	Average Available Forage (lbs/acre)	Carrying Capacity (AUMs)**
RU-55	1,586	7	Vacant	0.32	181.77	360
RU-56	1,408	5	Cattle	0.46	253.22	446
RU-59	2,789	7	Cattle	0.68	156.32	545
RU-59A	2,592	7	Cattle	1.09	374.48	1,214
RU-63	1,830	7	Cattle	0.25	119.04	272
RU-66	2,607	7	Vacant	1.15	214.35	699
RU-67	14,051	7	Cattle	3.79	244.48	4,294
RU-69	23,682	6	Cattle	6.64	217.49	6,249
RU-71	19,001	6	Cattle	3.50	170.10	4,016
RU-73	8,074	6	Vacant	2.55	252.31	2,194
RU-76	37,416	6	Cattle	9.98	238.64	11,101
RU-78	26,603	7	Mitigation	8.89	272.40	9,058
RU-80	17,330	7	Cattle	3.41	181.61	3,890
RU-81	7,282	7	Cattle	2.38	312.14	2,842
RU-82	475	7	Horses	0.07	146.48	87
RU-83	2,286	6	Both	0.95	229.23	571
RU-84	14,648	6	Vacant	2.51	168.98	3,094
RU-84A	10,593	6	Vacant	1.50	136.06	1,802
RU-85	5,197	6	Vacant	1.61	255.08	1,657
RU-86	855	6	Vacant	0.16	181.43	194
TOTAL	945,131			**546.69**		**280,879**

*Total acreage is based on individual grazing permits and does not include Fee land but does include Tribal, Allotment, and Government lands. These acreages may differ slightly from GIS calculations.

**The AUM numbers shown in this column do not reflect season of use considerations or duration of grazing. If a livestock producer's permit allowed grazing for six months, for example, then the AUM availability shown in this column would need to be divided by six. For instance, in RU-86 where only 194 total AUMs are available, if a livestock producer were to graze this unit for six months, only 32 AUMs would be available (194/6). This means that only 32 cow-calf pairs could be grazed on this unit for six months before the carrying capacity would be exceeded. If, on the other hand, the producer were to only graze the unit for three months, then 65 cow-calf pairs could be grazed on the unit (194/3=65).

3.6 Monitoring Recommendations

- Permittees are to monitor and document locations of livestock on their range units throughout the grazing season. In addition, permittees are required to monitor and document forage utilization on their respective range units. The Land Operations / Range Program personnel will be available to assist permittees in locating key monitoring area in their range units.
- These range monitoring results will be recorded on maps and forms provided to the permittees by Land Operations / Range Program. Completed forms and maps are to be returned to the Land Operations/Range Program at the end of the grazing season.
- Throughout the grazing season, Land Operations / Range Program personnel will, at least once annually monitor the condition of soils, vegetation, wildlife, and water quality as well as livestock

distribution and forage utilization to assess the impacts of the grazing strategies on each range unit. Changes in these grazing strategies will be made if undesirable impacts are observed.

Reservation-Wide Monitoring

Reservation-wide monitoring is necessary to evaluate IRMP implementation, to determine the effectiveness of the management direction towards achieving the Desired Future Conditions, and to validate the assumptions and models used in developing this Resource Management Plan. A Reservation-wide Monitoring and Evaluation Report will be prepared by the Land Operations / Range Program on an annual basis to document the results of this monitoring.

Baseline Monitoring – Characterizes the existing conditions and desired future conditions (DFC) and trends towards reaching these DFC's. It also provides a control for monitoring and assessing activities. Baseline monitoring sites need to be developed throughout the Reservation to sample current conditions.

Implementation Monitoring – Shows whether or not prescribed management direction was implemented as designed and in accordance with IRMP management goals and management direction. In addition to specific project monitoring, supplemental implementation monitoring will include internal field reviews by interdisciplinary teams using audit-like procedures. In the event of incorrect or inappropriate application of the management direction, causes will be identified along with corrective or preventative actions to be taken. Corrective measures will be incorporated into: (1) modification of and adjustment to contracts, (2) administrative procedures, (3) development of adaptive measures to improve future performance, and (4) long range plans as necessary to ensure management direction is both properly designed and implemented.

Effectiveness and Validation Monitoring – Demonstrates if management directions were effective in meeting planned levels and integrated resource management plan goals and objectives. The intent is to focus on cause and effect relationships between land management activities and achieving desired future conditions and management goals and objectives. Effectiveness monitoring will be done on a sample basis to characterize typical conditions so that results can be extrapolated.

Project-Level Monitoring

Baseline Monitoring – Specific projects to be monitored will be selected based on local issues and management direction used. Projects involving each type of land management activity will be monitored along with a percentage of the Range Units each year to assure carrying capacities are kept current. At the project level, baseline monitoring begins with the project design stage. The primary objective will be to determine if management direction identified in the IRMP were implemented and correctly applied in a timely fashion. During the review, visual observations will be made to see if IRMP management objectives and direction are both properly designed and implemented.

For project level baseline monitoring, area parameters of the existing conditions will be described and the changes proposed through implementation of the project. Parameters to be documented, at minimum, will include.

- Location, size, equivalent open area and unique features of WMU in which project is to be conducted.
- Presence of cultural sites/areas and culturally significant plants.
- Available transportation network and road densities.
- Presence of threatened and endangered animal, fish and plant species.
- Extent and condition of riparian habitat.

- Soil quality present.
- Water quality and stream channel conditions.
- Present fuel loading and fire hazard.
- Wildlife habitat condition including corridors and fragmentation.
- Big-game populations.
- Presence and use by livestock.
- Range condition
- Understory condition and presence of disturbed areas.
- Canopy closure, if applicable
- Plant Association Group and/or Potential Natural Community.

Implementation Monitoring – Implementation monitoring will be conducted when the project is completed to determine whether or not the activity was implemented as designed and in accordance with IRMP objectives and management direction. The affected parameters documented with the baseline monitoring will be re-measured, evaluated and the results compared with the planned action. In the event elements of the project were not implemented or correctly applied in a timely manner such as the planned mitigation, the causes would be identified and corrective or preventative actions would be implemented. Corrective measures could include development of adaptive measures to improve future performance, modification of contracts, and changes in administrative procedures.

Effectiveness and Validation Monitoring – Each year, effectiveness monitoring will be conducted randomly on 10 percent of the management activities including those of all resources (i.e. fish and wildlife, watershed restoration, range, forest harvest, road construction, etc.). Within this 10 percent, at least one forest vegetation permanent inventory plot will be established in each Watershed Management Unit. The inventory plot will be a cluster of five subplots located to represent an average of the results of the forest management activity. The inventory plot will be designed similar to the modified Continuous Forest Inventory Plots with data collected on the full complement of vegetative conditions. Implementation monitoring methodology on non-forest vegetation resource values and activities (i.e. fish and wildlife, cultural resources, water quality, etc) will be conducted consistent with project monitoring for that resource.

3.7 Additional Recommendations

- The "Take Half – Leave Half" management strategy will be used that specifies grazing intensity and duration that will be used for each Range Unit on the Reservation. Under this strategy, when one-half of the current years forage production in an area has been removed, the livestock will be moved to a new grazing area. Overgrazing in riparian areas and meadows may be a concern and special consideration on forage use in these areas should be considered. Movement of livestock out of these sensitive areas may be required.
- Plots established in the 2012-2014 inventories should be re-measured every five years. Following this monitoring schedule will assure that 20 percent of established plots per year will be revisited and that each range unit will have data no older than five years upon revision of this plan and upon updating of grazing permits. Maintain accurate AUM calculations based on forage data from the 2012-2014 assessment and any updates that occur subsequent to that.
- Range Program staff should commit to conducting grazing utilization studies and possibly inventorying permitted animals on units which have been scored low on rangeland health

assessments or known to have especially high numbers of horses. Units permitted for horses are prone to invasive weeds problems and lower forage availability, possibly due to unknown numbers of feral animals grazing within the range unit.

- Conduct workshops in coordination with the WSU Extension Office to provide education to livestock producers and tribal members as well as members of the Colville Indian Livestock Association to coordinate monitoring of grazing lands by permittees.
- Create and maintain a database of fences and fence condition for all range units to comply with grazing permits and avoid trespass.
- The importance of monitoring and controlling invasive plants (e.g. noxious weeds) has been recognized by the Tribes. Concurrent with this report, the Range Program has developed a Tribal Weed Management Plan that calls for increased monitoring and inventory activities.
- Explore alternatives in management and rotations to reduce the impact of "secondary range" areas.

APPENDIX A

Tribal Code Regarding Rangeland Management

CHAPTER 4-11 RANGELAND MANAGEMENT

GENERAL PROVISIONS

4-11-1 Purpose and Objectives

(a) It is the purpose of this Chapter to:

(1) Support the integrated management and preservation of the land, water, fish, forest, vegetation, wildlife, and recreational values on rangelands within the Colville Reservation and improve and build up these resources where they have deteriorated;

(2) Promote use of the range resource by Colville tribal members to support them in earning a living, in whole or in part through the grazing of their own livestock;

(3) Provide for the administration of a grazing management program, which will:

(a) Yield the highest rate of return to grazing permittees consistent with the principles of sustained yield management;

(b) Promote long term resilient and sustainable rangeland ecosystem conditions;

(c) Fulfill the resource management objectives of the Colville Confederated Tribes and the Natural Resources Department;

(d) Promote fulfillment of the overall trust obligations of the federal government as administered by the Superintendent, Colville Indian Agency;

(e) Preserve and promote tribal authority and provide processes to implement such authority as recognized in federal law.

(4) Promote the use of an ecosystem approach as defined and developed by the Natural Resources Department of the Colville Confederated Tribes in managing rangelands.

(b) This Chapter shall be construed as consistent with the objectives set out in federal law related to the management of tribal rangelands.

4-11-2 Definitions

(a) "Adult Tribal Member" means a member of the Colville Tribes who has attained the age of 18, Unless otherwise provided by the Business Council.

(b) "Conservation" means the practice of management action to protect, conserve, utilize, and maintain the sustained yield productivity of land.

(c) "Department" shall mean the Range Department of the Confederated Tribes of the Colville Indian Reservation unless another department is clearly intended.

(d) “Director” means the Director of the Range Department of the Confederated Tribes of the Colville Indian Reservation or his designee.

(e) "Domestic Livestock" means, but is not limited to, cattle, sheep, goats, horses, buffalo, swine, fowl, or other animals specifically raised and used for food or fiber or as a beast of burden.

(f) "Individually Owned Land" means land owned in fee by a member of the Confederated Tribes of the Colville Reservation or land or any interest therein held in trust by the United States for the benefit of individual Indians and land or any interest therein held by individual Indians subject to federal restrictions against alienation or encumbrance.

(g) "Permit" means a revocable privilege granted in writing limited to entering on and utilizing forage by domestic livestock on a specified tract of land.

(h) "Rangelands" means those lands which are currently used for or have the potential to be used for the grazing of domestic livestock or wildlife.

(i) "Rangeland management plan" means a five (5) year plan developed by the Director which will carry out the provisions of this Chapter.

(j) "Secretary" means the Secretary of the Interior or his authorized representative, acting pursuant to delegated authority.

(k) "Superintendent" means the Superintendent of the Bureau of Indian Affairs of the Colville Indian Agency.

(l) "Tribal Lands" means land owned in fee by the Confederated Tribes of the Colville Reservation or a tribal member and/or land held in trust by the United States for the Tribes or individual tribal members.

4-11-3 Jurisdiction

Unless otherwise exempted by this Chapter or federal law, this Chapter shall apply to all tribal and individually owned rangelands located within the boundaries of the Colville Reservation including all persons and property thereon.

4-11-4 Civil Remedy

Any violation of this Chapter or regulation adopted hereunder for which a remedy is not otherwise provided by this Chapter shall be subject to a civil fine as provided for in Chapter 2-2. Nothing in this Chapter shall preclude the Tribes from filing criminal charges to the extent permissible under tribal law.

MANAGEMENT OF RANGELANDS

4-11-30 Range Units

All rangelands under the jurisdiction of the Tribes shall be consolidated into management units. This shall be conducted by the Business Council upon consideration of the recommendations of the Director, in a manner which will best meet the needs of the Tribes, the permittees, land ownership status and proper land use.

4-11-31 Grazing Capacity

Subject to the approval of the Business Council, the Director shall prescribe the maximum number of livestock which may be grazed on each range unit and the season, or seasons of use to achieve the purpose and objectives of this Chapter. The grazing capacity so prescribed shall take into consideration the implementation of tribal objectives, the objectives of the integrated resource management plans as developed by the Natural Resource Management department, and the land use and conservation requirements of this Chapter. Stocking rates shall be reviewed on a continuing basis and adjusted as conditions warrant.

4-11-32 Grazing Seasons

No livestock shall be turned on the open range at the beginning of the grazing season until properly authorized by the Director. This will include notification of Range staff prior to release, so an accurate count can be established. Any animals released without notification, and Range personnel present will be considered a violation unless otherwise arranged with the Director. All stock shall be promptly removed from the range at the end of the grazing season. Range staff must also be notified prior to transport to allow for final end of season counts. Failure to do so will be considered a violation unless otherwise arranged with the Director. Penalties will be assessed for any animal left out after the closing date.

4-11-33 Grazing Fees

(a) The Business Council shall determine the minimum grazing fees for the issuance of grazing permits. Any Indian corporations, Indian associations, or adult tribal members of the Tribes obtaining a permit without competitive bidding as provided by this Chapter, shall be required to pay not less than the

minimum rate established by the Business Council in accordance with this section, for all non-Indian owned livestock which they may be authorized to graze in accordance with the grazing permit issued.

(b) Landowners in giving the Business Council written authority to grant grazing privileges on their individually owned land as provided by this Chapter, may stipulate a minimum rate above that established in accordance with this section if justified because of the above average value. Landowners may also stipulate a lower rate than the reservation minimum, subject to approval of the Business Council, when the permittee is a member of the landowner's immediate family.

(c) In addition to the grazing fee, the permittee shall pay annually in advance a fee as determined by the Business Council, to cover the cost of work performed in the preparation of grazing permits.

(d) All fees related to livestock grazing on the Colville Reservation shall be billed for and paid annually in advance to the Tribes. The due date for annual grazing fees shall be made a provision of the permit. Failure to make payment will subject the grazing permit to cancellation and may disqualify the permittee from future permits.

4-11-34 Conservation and Land Use Requirements

Livestock grazing within the Colville Reservation shall be conducted in accordance with recognized principles of proper rangeland management and conservation and the protection of nonlivestock uses including but not limited to fish and wildlife habitat, water quality, vegetation and recreation.

4-11-35 Range Improvements—Ownership

(a) Improvements placed on permitted rangelands shall be considered affixed to the land and cannot be constructed or removed without written permission secured by the Director. This section shall not apply if the improvement is specifically excepted therefrom under the permit terms which will include the maximum time allowed for removal of such improvements.

(b) The Range Department assumes responsibility for maintaining fence lines on range unit boundaries where that boundary is not defined by an intersection of a lease or other tribal property. If the property is private or fee or an allotment or a lease the Range Department assumes responsibility, contingent on the availability of funds, for one-fourth (1/4) of the fencing materials and labor supplied to maintain that fence boundary. If a parcel of private land is located entirely within the boundaries of a range unit, it is the responsibility of that landowner to "fence out" the range unit and livestock therein.

(c) Fencing: The Range Department is not responsible for maintaining the fences on private or lease land unless permitted livestock from the range unit have damaged that fence and are trespassing.

(d) Impoundment: The Range Department assumes livestock control and compliance issues within range unit boundaries. Animals trespassing from range units to other properties will be the responsibility of the Range Department. Any livestock issues concerning trespass, neglect, or abandonment that occur on private, lease, or other tribal properties other than range units will be the responsibility of the Range Department.

4-11-36 Rangeland Management Plan

Every five (5) years the Director shall produce and implement, upon approval of the Business Council, a rangeland management plan designed to carry out the provisions of this Chapter.

MANAGEMENT OF LIVESTOCK

4-11-70 Counting Livestock—Moving Permit

All livestock authorized to graze upon or trail over restricted Indian land must be counted by a tribal representative or by the Superintendent or his representative. Arrangements must be made for counting all livestock before they enter or leave the reservation. Permittees or owners trailing livestock are required to notify the Director a sufficient length of time in advance to permit it to have a representative present when stock are counted on or off the reservation.

4-11-71 Branding and Inspection

(a) All livestock grazing on the Colville Reservation shall be properly branded with a registered Washington State brand.

(b) In order to secure compliance with this Chapter and correct conditions injurious to livestock on the open range, all livestock being transported or driven to, from or within the boundaries of the Colville Reservation are subject to brand inspection or examination for disease by a tribal representative or a representative of the Superintendent. A moving permit shall be required for all livestock trucked to and from the reservation. Such livestock shall be checked by a representative of the Tribes or the Superintendent who, if appropriate, shall issue the moving permit.

4-11-72 Trust Lands

No livestock shall be driven upon or across any tribal lands within the reservation without first securing a crossing permit from the Superintendent and, unless otherwise exempted, paying a crossing fee as determined by the Director.

4-11-73 Control of Livestock Disease

(a) Whenever livestock on Indian lands become infected with contagious or infectious diseases, or have been exposed thereto, such livestock must be treated and the movement thereof restricted in accordance with applicable federal, state and tribal laws. Animals that die from contagious or infectious diseases shall be burned at once and the carcasses of all animals which die close to water, trails, or other places where they will be a nuisance shall be removed immediately.

(b) Lessees or permittees are required to participate in the State-Federal Brucellosis Eradication Program. All herds must participate in the area certification and recertification program and when found to be infected, must remain under quarantine, be segregated from all other herds, and complete scheduled retests until released from quarantine.

(c) All female calves to be kept for breeding purposes should be vaccinated between three (3) and eight (8) months of age. Breeding cattle being transferred into the Indian lands covered by lease or permit must originate:

(1) From herds that are in a Modified Certified or Certified Free Area not under quarantine for brucellosis; or

(2) From herds that are officially vaccinated female animals under thirty (30) months of age; and

(3) From herds which have tested negative to the blood test within the past twelve (12) months, and the animals moving into the area have tested negative to the blood test not more than thirty (30) days prior to entry.

4-11-74 Kind of Livestock

Upon consideration of the recommendations of the Director, the Business Council may determine the kind of livestock that may be grazed on range units within the reservation. The kind of livestock shall be subject to the grazing capacity determined in accordance with this Chapter and the conservation and land use requirements of this Chapter. Domestic sheep and goats will be restricted from range, due to the potential spread of disease to wild big horn sheep populations.

GRAZING PERMITS

4-11-100 Grazing Permits

Unless otherwise provided by this subchapter, all use of range units for livestock grazing, shall be authorized by a grazing permit issued by the Business Council upon the recommendation of the Director. Unless otherwise provided by the Business Council, each grazing permit shall last for a period of five (5) years and non-members whose permanent residence is not within the boundaries of the Colville Indian Reservation shall not be permitted to graze livestock on the reservation.

4-11-101 Individually Owned Lands

Except as provided by this section, any individually owned lands shall be excluded from the permitting process. The Business Council may include individually owned land in grazing permits on behalf of:

(a) Orphaned minors;

(b) Persons who are not sound of mind and without legal guardians;

(c) Undetermined heirs or devisees of a deceased Indian owner;

(d) Adults whose whereabouts are unknown;

(e) Heirs or devisees, none of whom are using the land and who have not been able to agree upon the permitting of their land during a three (3) month period, and after notice given by posting a general notice in all post offices on the reservation;

(f) Any owner who gives the Tribes written authority to grant grazing privileges; and

(g) Any other minor or person who is not sound of mind or is otherwise under legal disability, if that person's guardian, conservator, or other fiduciary, appointed by a State or Tribal Court of competent jurisdiction, gives the Business Council written authority to grant grazing privileges.

4-11-102 Issuance of Grazing Permits

(a) Unless otherwise provided by this section, grazing permits shall be advertised for competitive bid by the Director. Advertisements shall:

(1) Be for a thirty (30) day period unless otherwise authorized by the Business Council;

(2) Call for sealed bids;

(3) Contain a statement, where applicable, that an oral auction subsequent to sealed bid may occur opening at the discretion of the governing body; and

(4) Limit the privilege of meeting high sealed bids of non-Indians to adult tribal members, Indian corporations, and Indian associations, according to preference determined by the Business Council.

(b) The Council reserves the right to reject any or all bids.

(c) The Business Council may authorize the issuance of grazing permits by negotiation when, in its discretion, no useful purpose would be served by advertisement. Negotiated permits shall be limited to the grazing capacity established pursuant to this Chapter.

(d) The Business Council may authorize the issuance of grazing permits without competitive bidding on rangelands within the reservation to Indian corporations, Indian associations, and adult tribal members of the Tribes. Tribal members residing on or near the reservation may be given preference in issuance of permits over members residing away from the reservation providing land ownership patterns dictate this to be logical.

(e) Grazing permits shall not be issued to persons owing delinquent fees or other payments under this Chapter.

4-11-103 Special Permit Requirements and Provisions

(a) All grazing permits shall provide that:

(1) The permittee agrees he will not use, cause, or allow to be used any part of the permitted area for any unlawful conduct or purpose;

(2) If the Director finds upon examination of the range, at any time after issuance of the permit, the condition of the range requires adjustment in the amount or other respect of grazing use, the permittee shall adjust his use to the extent the Director deems necessary;

(3) The permit authorizes the grazing of livestock only and the permittee shall not utilize the permitted area for hay cutting, post or timber cutting, or any other use without written authorization from the Business Council.

(b) Nothing in this Chapter shall be construed to affect the general privileges shared by all tribal members to access on tribal properties.

4-11-104 Bonding and Insurance Requirements

(a) The Director may require the permittee to submit a performance bond that will reasonably assure performance of the permit obligations. A bond when required, may be for the purpose of guarantying the estimated construction cost of any improvement to be placed on the land which will become the property of the landowner or to insure compliance with special or additional contractual obligations.

(b) The permittee may be required to provide insurance in an amount adequate to protect any improvements on the permitted premises; and may also be required to purchase appropriate liability insurance and such other insurance as may be necessary to protect the landowner's interest.

4-11-105 On-and-Off Grazing Privileges

The permittee may be allowed credit for the grazing capacity of other rangelands not covered by the permit, but which are owned or controlled by him and grazed in common with the permitted lands as a part of the range unit. The grazing capacity will be determined by the Director and shown on the grazing permit.

4-11-106 Assignment of Grazing Privileges

Grazing permits shall not be assigned, subpermitted or transferred without the consent of the Business Council. In addition to any other penalty provided for a violation of this Chapter or a permit issued under this Chapter, any income received by the permittee for a violation of this section shall be returned to the Tribes and the permittee may be subject to civil penalties as provided by this Code.

4-11-107 Modification and Cancellation of Permits

(a) Following a hearing on the record as provided by the administrative procedures provisions of this Code, the Director may revoke or withdraw all or any part of a grazing permit by cancellation or modification for a violation of the permit or this Chapter.

(b) The Business Council may, without the necessity of a hearing by cancellation or modification, revoke or withdraw all or any part of:

(1) A tract of individually owned land from a grazing permit upon the request of the individual Indian owner(s) on one hundred and eighty (180) days written notice;

(2) Any lands on thirty (30) days written notice if the Tribes no longer has jurisdiction over such lands.

TRESPASS AND RELATED VIOLATIONS

4-11-140 Acts Prohibited on Restricted Lands

The following acts are prohibited under this Chapter:

(a) Grazing upon or driving across any individually owned or tribal lands of any livestock without an approved grazing or crossing permit;

(b) Unless otherwise provided by this Chapter, allowing livestock to drift and graze rangelands without an approved permit;

(c) The grazing of livestock upon rangelands within an area closed to grazing of that class of livestock;

(d) The grazing of livestock upon an area of rangeland withdrawn from use for grazing purposes to protect it from damage, after the receipt of notice from the Director or his designee of such withdrawal, or

refusal to remove livestock upon instructions from the Director when an injury is being done to the rangeland by the improper handling of livestock;

(e) The grazing of livestock in violation of any provision of this Chapter or any other resolution or Chapter of the Colville Business Council.

4-11-141 Notice and Order to Remove

(a) When it has been determined that a violation under this subchapter exists and the owner of the unauthorized livestock or violator is known, the Director shall serve written notice upon the alleged violator or his agent by certified mail return receipt requested, or personal delivery and a copy of the notice shall be sent to any known lien holder. The notice shall set forth the act constituting the violation, the legal description of the land where the livestock were observed, the verification of brands in the Washington State Brand Book, and the law or regulation alleged to have been violated. The notice shall also instruct the alleged violator to remove the livestock or take other action necessary to terminate the violation within a specified time, allow a specificized time from receipt of the notice to show that there has been no violations, or pay a penalty and damages as determined under this subchapter. If the alleged violator fails to comply with the notice, the Director may impound the livestock involved as provided in this subchapter. The Director may notify the alleged violator orally in addition to written notice as it deems necessary.

(b) When neither the owner of the unauthorized livestock nor his representative is known, the Director may impound the livestock as provided in this subchapter upon the posting of notice in two public places on the reservation.

4-11-142 Penalties and Damages

(a) The amount due the landowner and/or the Tribes for a violation of this subchapter shall be determined as follows:

(1) The Range Department is authorized to assess fees and penalties according to the Range Department schedule;

(2) Fees and Penalties may include:

(A) Violation Step Process

i. Violation 1-written warning with signed documentation requiring a corrective action plan to address violation issues

ii. Violation 2- a fine in the amount of $75 will be issued

iii. Violation 3- a fine in the amount of $150 will be issued

iv. Violation 4- a fine in the amount of $250 will be issued, and permittee will be placed on probation

v. Violation 5-cancelation of the permit requiring immediate removal of all associated livestock

(B) If livestock are deemed a threat to public safety, animals may be impounded at any step in the process and associated penalties will be the responsibility of the permittee

(C) Permittee's will start each new calendar year three (3) steps below their finishing status from the prior year (ex. 6 violations in 2009, so permittee will start 2010 at step 3)

(D) If applicable, a reasonable value of forage consumed, payable to the landowner or the Tribes as appropriate, based upon the following schedule for Fair Market Value rates (FMV):

Animals left on range less than two (2) weeks after the closing date- 2 X FMV/AUM

Animals left on range from two (2) to four (4) weeks after the closing date- 4 X FMV/AUM

Animals left on range from four (4) to six (6) weeks after the closing date- 8 X FMV/AUM

Animals left on range more than six (6) weeks after the closing date- 16 X FMV/AUM

Ex. An animal left out 7 weeks after the closing date would be charged-

7 weeks=49 days. 49/30 days=1.63 months.

1.63x (16x$8.50= $136.00)=$221.68

(E) Any damages to private or tribal property injured or destroyed; and

(F) All expenses to the Tribes, incurred in gathering, impounding, caring for, and disposing of livestock in cases which necessitate impoundment under this subchapter.

(b) Neither the imposition of any civil penalty nor any action under this section shall preclude either any civil actions by the Tribes or a private land owner for damages caused by trespassing livestock or prosecution for any offense involved with such trespass.

(c) The Director shall take action to collect all such penalties and damages, reimbursement for expenses incurred in impoundment and disposal, and seek injunctive relief when appropriate. All payments for such penalties and damages shall be credited to the landowners where the trespass occurs except that the value of forage or crops consumed or destroyed may be paid to the lessee of the lands not to exceed the rental paid, and reimbursement for expenses incurred in impoundment and disposal shall be credited as appropriate.

4-11-143 Demand for Payment

Where the livestock have been removed or the violation otherwise terminated, but satisfactory settlement has not been made within the time prescribed under this section the Director shall send by certified letter, return receipt requested or personally deliver to the livestock owner or his agent, and a copy of the letter shall be sent to any known lien holder. The letter shall demand immediate settlement and advise the violator that unless settlement is received within five (5) working days from the date of receipt, the case may be referred to the tribal prosecutor for appropriate action.

4-11-144 Impoundment

(a) Range Department: The Range Department assumes livestock control and compliance issues within range unit boundaries. Livestock trespassing from range units to other properties shall be the responsibility of the Range Department to notify permittee. Any livestock issues concerning trespass, neglect or abandonment that occurs on private, lease or other tribal properties other than range units will be the responsibility of the Range Department.

(b) Livestock that trespass from private onto range, the Range Department will assume responsibility to mitigate those instances, issue citations and impound livestock if the owner does not comply.

(c) Livestock which may be impounded as provided by this subchapter, may be impounded at any convenient place on the reservation by the employees of the Department(s). Within twenty four (24) hours after impoundment, the person impounding the livestock shall register the same with the Tribal Court.

(d) Upon registration with the Tribal Court, the judge shall set a date and time for a hearing to be held concerning the impoundment. The hearing shall be held not less than five (5) days after service or mailing of the notice as provided herein, whichever is later, if the owner is known, unless the owner requests and is granted an earlier date, and not less than fourteen (14) days after posting of the notice as provided herein, if the owner is unknown. If the owner of the livestock is known, the notice of hearing may be personally served or sent by certified mail. If the owner of the livestock is unknown, the notice shall be served by posting notice in two public places on the reservation.

(e) The notice of hearing shall state that the livestock have been impounded, the name of the person impounding them, and the reason therefor, the brand if any, a general description of the place where the

trespass or other violation occurred, and the present location of the livestock impounded and the keeper thereof, and the time, date and place of the hearing.

(f) The tribal prosecutor shall represent the Tribes in a hearing under this section. If the Court determines by a preponderance of the evidence that the impounded livestock were grazing in violation of this Chapter, the Court shall enter judgment for penalties and damages as provided by this subchapter. In addition, the Court shall order the impounded livestock sold, in a commercially-reasonable manner, fourteen (14) days from the date of the hearing to pay the amount of judgment and the fine, unless the owner shall pay such amount, in addition to the charges accrued up to the date of payment and costs of the hearing.

APPENDIX B

Range Best Management Practices

A list of the more common BMPs that are practiced as part of management of rangeland on the Colville Indian Reservation is provided below. The Range Program meets with each permittee annually to review their best management practices for their individual range unit and to develop strategies to successfully improve the rangelands on the reservation.

Fencing

Fencing is applied in areas where livestock control is needed. Fences may not be needed where natural barriers will serve the purpose. Program will use the NRCS fencing specification when designing new fence-line with a minimum life expectancy of 25 years.

Fences should meet the following criteria:

- All new fencing that is being installed will be "wildlife friendly" which means the top and bottom wires will be smooth barbless wire.
- Due to frequency of fire fence H-brace will be constructed using metal posts.
- Gates will be installed in fences approximately every ½ mile or in appropriate places to assist with livestock movement.
- Permittees are responsible for the maintenance of fences and gates on their assigned Range Units.
- Range Units with more than one permittee, areas of fence maintenance will be determined in coordination with the Land Operations / Range Program and the permittees prior to the grazing season.

Watering Development

Control livestock access to water and reduce impacts to riparian areas such as streams, wet lands, springs, lakes and ponds by installing Springs and Hard watering points/crossings when funding is available.

- **Construction of Springs (offsite watering points)** consists of installing water troughs where natural spring, streams, and other water bodies occur within range units to provide water and to encourage distribution of grazing animals and improve livestock gains.
- **Hard watering points/crossings** is a trail or travelway constructed across a stream or at a water access point that allows livestock to cross or to drink with minimal disturbance to the streambank and channel and will be constructed utilizing NRCS specifications to:
  - Prevent or minimize water degradation from sediment, nutrient and organic loading.
  - Protect the watercourse from restricted capacity, degradation and adverse hydrological impacts.
  - Protect the land from streambank erosion.
  - Provide a means for livestock to cross a watercourse or provide a stable area to drink from the stream.

Cattle guards

Cattle guards are the best solution for safely containing livestock without the use of gates. They enable access to rangelands while keeping livestock secure and eliminating safety issues on public access roads.

- Install cattle guards when funding allows to safely contain livestock without the use of gates.
- Work cooperatively with Counties and BIA Roads to ensure and provide that periodic maintenance of cattle guards takes place.
- The type of cattle guard installed is based upon the traffic type and anticipated traffic load.
- All cattle guards are required to have by-pass gates.

Salting

Salting practices are used to provide range livestock with minerals and nutrients but it also is used to distribute livestock evenly throughout the range units for full utilization.

- Salt and mineral blocks are to be placed on uplands at least one-half mile from the nearest water source, and at least one-fourth mile away from tree plantations and/or seed tree harvest units.
- Salt and mineral blocks are to be kept off the ground and moved from site to site utilizing as much of the Range Unit as possible.
- Blocks are to be removed at the end of the grazing season.

Grazing Strategies

Grazing systems are designed to increase livestock production and improve the forage cover by allowing for periods of rest and by encouraging more even distribution of grazing use. The grazing system or strategy that may be employed includes the following general types:

- Rotation grazing means livestock are strategically moved through a series of fresh pastures in order to provide a "grazing-rest period" in able for plants to regrow.
- Deferred grazing typically defers grazing until the most important forage plants have set seed before grazing that area. This is a good way to improve heavily grazed rangelands that are in poor condition.
- Delayed turnout, associated with deferred grazing, is a beneficial management practice for native range. Early spring growth is made at the expense of food reserves stored in the roots or stem bases. If plants are not allowed to grow long enough to replace depleted food reserves, the plants will be weakened. Repeated early use can kill the desirable perennials. Delayed turnouts may also be utilized as a strategy to protect culturally significant plants or ensure they are available for harvest by the membership.
- Deferred-rotation systems delay the use of one unit until after seed set while other units continue to be grazed. The following year, the deferment is rotated to another unit. Thus, each unit is given an occasional rest from grazing during the critical seed-production season. Expensive cross-fencing and more handling of livestock often is required.

Range Plantings

Utilize range planting/reseeding to establish native and desirable non-native vegetation such as grasses, forbs, legumes, shrubs, and trees. This practice may be applied as part of a resource management system to accomplish one or more of the following purposes:

- Restore a plant community similar to its historic climax or the desired plant community.
- Provide or improve forages for livestock.

  - Provide or improve forage, browse or cover for wildlife.
  - Reduce erosion by wind and/or water.
  - Improve water quality and quantity.

- Utilize seed mixes that are comprised of species that are based upon the ecological sites where they are to be used.
- This practice shall be applied where desirable vegetation is below the acceptable level for natural reseeding to occur, or where the potential for enhancement of the vegetation by grazing management is unsatisfactory.
- Selection of a species or combination of species shall be designed to meet the desired nutritional/palatability and ground cover requirements for the kind and class of livestock and wildlife.
- Selection of species or combination of species shall be designed to meet the desired season of use or grazing period.
- A mixture of shrubs and trees indigenous to the site shall be planted when riparian area, stream bank stability and water temperature criteria are important.

Weed Management

Noxious weeds are non-native aggressive plant species that out-compete desirable and native plant species. These invasive weeds are a threat to pasture and rangeland, riparian plant communities, agriculture production, and some species are toxic to livestock and humans.

Land Operations / Range Program staff focuses time on prevention measures, treating and eradicating new weed infestations, educating landowners, tribal members and other tribal program staff. The noxious weed program is detailed in the Integrated Weed Management Plan.

- Establish management goals and objectives for weed infested sites.
- Utilize a combination of chemical, biological cultural and mechanical treatments whenever practical.
- Herbicide applications would be implemented in a manner to avoid off site movement of herbicides either through the air, through soil, or along the soil surface. Project site terrain, soil type, and vegetation would be taken into consideration when selecting herbicide type, application method, and application timing.
- Evaluate and monitor the effectiveness of weed control treatments.
- Include pre-treatment surveys for sensitive habitat and species listed under the ESA within or adjacent to proposed treatment areas.
- Clean equipment, vehicles, and clothing of personnel to remove weed seeds/materials.
- All approved herbicides would be handled and applied in strict accordance with all label restrictions and precautions, as well as applicable Tribal policy.
- Applicators are responsible for complying with all applicable Federal, State, Tribal and county laws, codes, and regulations connected with the use of weed control herbicides.
- Applicators would comply with safety requirements, including personal protective equipment, spray equipment, herbicide labels and rates, and environmental concerns
- On sites treated with pesticides, sign will be posted to alert the public.

APPENDIX C

Form 5-5526
Stocking Rates for Indian Lands and Range Units

Form 5-5526
INSTRUCTIONS

OMB No. 1076-0157
Expires: 02/28/2010

The maximum stocking rate prescribed by the approval hereof shall not be increased without the prior approval of the **Regional** Director upon a showing that an increase may be made without risking range deterioration. Such a showing must be in the form of adequate utilization checks or range condition studies by range units which shall be made a matter of record. Decreases in maximum allowable stocking for conservation purposes, and adjustments in use during a permit period which do not result in the prescribed maximum stocking rate for the unit or reservation being exceeded, shall not require approval by the **Regional** Area Director until the end of the current permit period, at which time the approval of a revised maximum stocking rate will be required as the basis for allocation and advertisement of grazing privileges for the new permit period.

(1) This form should be prepared at least 6 months prior to the expiration of the existing permits. In these cases where a Permit Period is not clearly defined it shall be prepared at least every 3 years.

(2) All Indian lands and government owned range land (under supervision of Bureau of Indian Affairs), usable for grazing but not a part of a farm or farm pasture shall be included within a range unit boundary although in some instances the Indian land presently is not included in the grazing permit.

(3) Prepare in triplicate with maps and submit to **Regional** Director for approval

(4) A map of all range units in triplicate must be prepared and be of a size large enough to specifically delineate the exact boundaries of each range unit.

(5) The original is for the Agency records, the remaining copies are for **Regional** and Central Office files.

(6) COLUMN 1. Should show the range unit number, and when applicable, the sub-unit designations (such as 1a, 1b, and 1c). Include units set aside exclusively for wildlife and so designate. After filling in the necessary figures on the sub-unit lines (1a, 1b, and 1c respectively) show total for each unit on separate line. Insert the word TOTAL in the left hand margin on this line or leave next line blank so that totals of each unit are identifiable.

(7) Acres shown in columns 2 through 6 represent only range land in units. (See 25 CFR 166.10).

(8) The figures in column 6 have no bearing in the computation of column 9 (surface acres per cow month).

(9) Column 6 "Usable Range" acres should not include range land not used by livestock because of lack of adequate water facilities. Acres excluded from usable range are barren, waste, inaccessible and timber lands not used for grazing.

(10) Under columns 7 when a sub-unit is used intermittently throughout the year show the different seasons of use and group by using brackets ( ) to indicate the total number of months used in column B and the surface acres per cow month in column 9.

(11) Column 9 is obtained by dividing column 10 into column 5. Show to nearest tenth acre.

(12) At the bottom of the page show the totals in columns 1, 2, 3, 4, 5, 10 and 11 by adding only the TOTAL line for each range unit. Column 1 is obtained by counting the number of range units on the reservation. (Do not include the sub-units).

FORM 5-5526 AUGUST 2015

STOCKING RATE FOR THE COLVILLE RESERVATION

Range Unit Number	AREA OF RANGE IN ACRES				TOTAL ACRES OF USEABLE RANGE	SEASON OF USE			SURFACE ACRES PER COW MONTH	STOCKING RATE	
	TRIBAL	ALLOTTED	GOV'T OWNED	TOTAL		FROM	TO	NO. MONTHS		COW MONTH	COW UNIT
1	**2**	**3**	**4**	**5**	**6**	**7**		**8**	**9**	**10**	**11**
RU-01	43,482	120	1	43,603		05/01	10/31	6.0	3.0	14,367	2,394
RU-02	24,706	0	0	24,706		05/15	11/15	6.0	2.8	8,708	1,451
RU-03	47,488	479	1	47,968		05/15	10/31	5.5	2.7	17,894	3,254
RU-04	28,681	364	0	29,045		05/01	10/31	6.0	3.2	9,063	1,510
RU-05	51,023	535	0	51,558		05/01	11/15	6.5	3.4	15,208	2,340
RU-06	15,020	1,356	0	16,376		05/01	11/30	7.0	2.8	5,865	838
RU-08	22,888	1,112	0	24,000		05/01	11/30	7.0	3.7	6,473	925
RU-09	19,254	24	0	19,278		05/15	11/30	6.5	5.3	3,662	563
RU-10	13,867	654	0	14,521		05/01	11/30	7.0	2.2	6,700	957
RU-11	21,565	225	0	21,790		05/01	10/31	6.0	3.8	5,780	963
RU-12	20,701	0	0	20,701		05/01	10/31	6.0	3.7	5,592	932
RU-15	7,104	45	0	7,149		05/01	10/31	6.0	2.3	3,092	515
RU-16	12,685	0	0	12,685		05/01	10/31	6.0	2.9	4,418	736
RU-17	28,942	1,051	0	29,993		05/01	11/30	7.0	3.6	8,368	1,195
RU-18	26,558	1,203	0	27,761		05/01	11/30	7.0	2.5	10,990	1,570
RU-19	74,354	937	786	76,077		05/01	11/30	7.0	3.1	24,256	3,501
RU-21	71,448	2,200	262	73,910		05/01	11/30	7.0	3.5	21,241	3,045
RU-22	15,430	321	0	15,751		05/01	11/30	7.0	3.2	4,990	713
RU-25	14,769	1,500	341	16,610		05/01	11/30	7.0	2.8	5,814	848
RU-26	7,688	2,235	2	9,925		05/01	11/30	7.0	5.1	1,947	278
RU-29	1,681	2,274	9	3,964		05/01	11/30	7.0	4.4	903	129
RU-30	10,881	1,673	205	12,759		05/01	11/30	7.0	2.8	4,517	656
RU-31	10,166	1,170	0	11,336		05/01	11/30	7.0	4.5	2,524	361
RU-32	2,331	1,927	0	4,258		05/01	11/30	7.0	3.1	1,394	199
RU-33	1,657	1,212	0	2,869		05/01	11/30	7.0	4.4	653	93
RU-35	10,885	721	0	11,606		05/01	11/30	7.0	5.7	2,051	293
RU-36	3,557	183	0	3,740		05/01	11/30	7.0	5.0	744	106
RU-36A	270	516	0	786		05/01	06/30	2.0	5.1	155	78
RU-39	2,395	208	0	2,603		05/01	11/30	7.0	7.0	373	53
RU-39A	190	176	0	366		04/01	06/30	3.0	4.4	83	41
RU-40	5,115	147	0	5,262		05/01	11/30	7.0	3.1	1,699	243
RU-42	40,561	872	615	42,048		05/01	11/30	7.0	3.1	13,341	1,934
RU-43	1,299	367	0	1,666		05/01	10/15	5.5	2.6	641	116
RU-43A	900	38	0	938		5/15	10/31	5.5	2.4	385	70
RU-45	5,482	1,777	0	7,259		05/01	11/30	7.0	3.4	2,128	304
RU-48	26,054	637	47	26,738		05/15	11/15	6.0	5.5	4,881	815
RU-50	5,940	0	0	5,940		05/01	11/30	7.0	4.8	1,240	177
RU-52	10,637	120	0	10,757		05/01	11/30	7.0	4.3	2,491	356
RU-54	5,886	638	0	6,524		05/01	11/30	7.0	3.9	1,664	238
RU-55	1,586	0	0	1,586		05/01	11/30	7.0	4.4	360	51
RU-56	278	1,130	0	1,408		05/01	09/30	5.0	3.2	446	89
RU-59	2,500	289	0	2,789		05/01	11/30	7.0	5.1	545	78
RU-59A	2,477	115	0	2,592		05/01	11/30	7.0	2.1	1,214	173
RU-63	608	1,222	0	1,830		05/01	11/30	7.0	6.7	272	39
RU-66	2,274	333	0	2,607		05/01	11/30	7.0	3.7	699	100
RU-67	13,296	754	1	14,051		05/01	11/30	7.0	3.3	4,294	613
RU-69	20,474	2,512	696	23,682		05/01	10/31	6.0	3.7	6,249	1,073
RU-71	17,192	1,696	113	19,001		05/01	10/31	6.0	4.7	4,016	673

RU-73	6,483	473	1,118	8,074		05/01	10/31	6.0	3.2	2,194	424
RU-76	35,115	2,098	203	37,416		05/01	10/31	6.0	3.4	11,101	1,860
RU-78	26,588	15	0	26,603		05/01	11/30	7.0	2.9	9,058	1,294
RU-80	16,731	403	196	17,330		05/01	11/30	7.0	4.4	3,890	562
RU-81	7,121	161	0	7,282		05/01	11/01	7.0	2.6	2,842	406
RU-82	475	0	0	475		05/01	11/30	7.0	5.5	87	12
RU-83	803	1,191	292	2,286		05/01	10/31	6.0	3.5	571	109
RU-84	14,648	0	0	14,648		05/01	10/31	6.0	4.7	3,094	516
RU-84A	10,465	128	0	10,593		05/01	10/31	6.0	5.9	1,802	300
RU-85	4,909	288	0	5,197		05/01	10/31	6.0	3.1	1,657	276
RU-86	855	0	0	855		05/01	10/31	6.0	4.4	194	32
TOTAL	**898,418**	**41,825**	**4,888**	**945,131**						**280,079**	

APPENDIX D

Common Range Plants of the Colville Reservation

Top Ten Forbs, Grasses, and Shrubs

USDA Plant Symbol	Scientific Name	Common Name	Nativity, Duration, and Growth habit
AGGL	*Agoseris glauca*	Pale agoseris	Native perennial forb
BASA3	*Balsamorhiza sagittata*	Arrowleaf balsamroot	Native perennial forb
CAMA5	*Calochortus macrocarpus*	Sagebrush mariposa lily	Native perennial forb
CATH4	*Castilleja thompsonii*	Thompson's Indian paintbrush	Native perennial forb
ERHE2	*Eriogonum heracleoides*	Parsnipflower buckwheat	Native perennial forb
ERNI2	*Eriogonum niveum*	Snow buckwheat	Native perennial forb
GAAR	*Gaillardia aristata*	Blanketflower	Native perennial forb
LERE7	*Lewisia rediviva*	Bitter root	Native perennial forb
LUSE4	*Lupinus sericeus*	Silky lupine	Native perennial forb
PHLO2	*Phlox longifolia*	Longleaf phlox	Native perennial subshrub
ACHY	*Achnatherum hymenoides*	Indian ricegrass	Native perennial grass
ACTH7	*Achnatherum thurberianum*	Thurber's needlegrass	Native perennial grass
CARU	*Calamagrostis rubescens*	Pinegrass	Native perennial grass
ELEL5	*Elymus elymoides*	Squirreltail	Native perennial grass
FEID	*Festuca idahoensis*	Idaho fescue	Native perennial grass
HECO26	*Hesperostipa comata*	Needle and thread	Native perennial grass
LECI4	*Leymus cinereus*	Basin Wildrye	Native perennial grass
POCU3	*Poa cusickii*	Cusick's bluegrass	Native perennial grass
POSE	*Poa secunda*	Sandberg bluegrass	Native perennial grass
PSSP6	*Pseudoroegneria spicata*	Bluebunch wheatgrass	Native perennial grass
AMAL2	*Amelanchier alnifolia*	Saskatoon serviceberry	Native perennial shrub
ARTRW8	*Artemisia tridentata* ssp. *wyomingensis*	Wyoming big sagebrush	Native perennial shrub
CHVI8	*Chrysothamnus viscidiflorus*	Green rabbitbrush	Native perennial shrub
ARTR4	*Artemisia tripartita*	Threetip sagebrush	Native perennial shrub
PUTR2	*Purshia tridentata*	Antelope bitterbrush	Native perennial shrub
RICE	*Ribes cereum*	Wax currant	Native perennial shrub
ROWO	*Rosa woodsii*	Woods' rose	Native perennial shrub
SPBE2	*Spiraea betulifolia*	White spirea	Native perennial shrub
SYAL	*Symphoricarpos albus*	Snowberry	Native perennial shrub
HODI	*Holodiscus discolor*	Oceanspray	Native perennial shrub

Photographs of each of these common species are found on the following pages. Other species encountered on the Colville Reservation during the 2012-2014 Range Surveys are found on the pages following the photographs. All photographs except those indicated below by North Wind Resource Consulting, LLC; ACTH7 by Sheri Hagwood; CARU, ELEL, POCU3, POSE, AMAL2, CHVI8, ARTR4, PUTR2, RICE SPBE2, SYAL by Matt Lavin; HODI by Growiser.net; HECO26 by Sally and Andy Wasowski; LECI4 by Ralph Maughan.

Pale agoseris

Agoseris glauca

Arrowleaf balsamroot

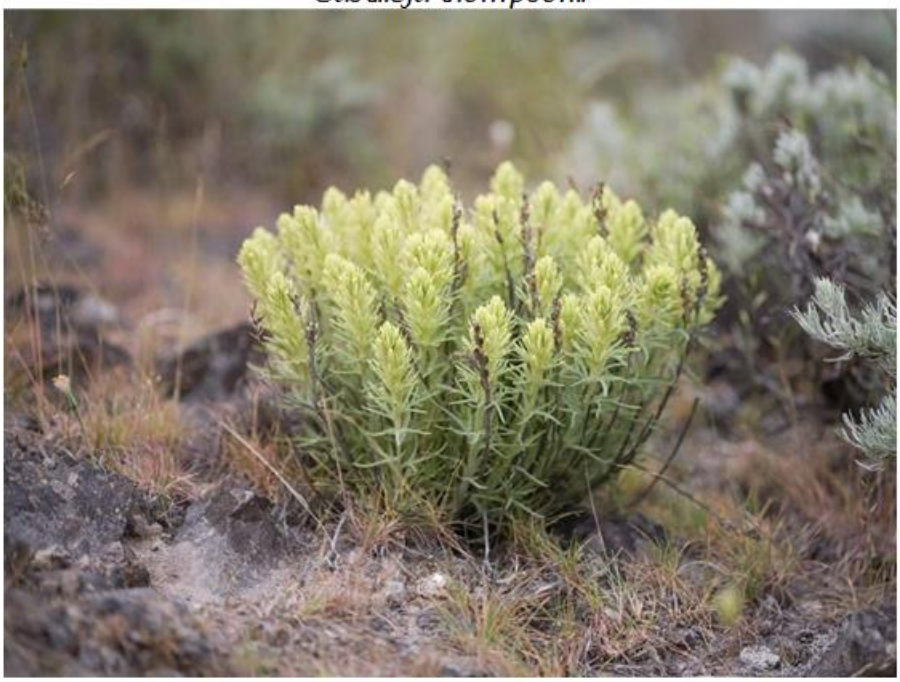
Balsamorhiza sagittata

Sagebrush mariposa lily

Calochortus macrocarpus

Thompson's Indian paintbrush

Castilleja thompsonii



Parsnipflower buckwheat

Eriogonum heracleoides

Snow buckwheat

Eriogonum niveum

Blanketflower

Gaillardia aristata

Bitter root

Lewisia rediviva

Silky lupine

Lupinus sericeus

Longleaf phlox

Phlox longifolia

Indian ricegrass

Achnatherum hymenoides

Thurber's needlegrass

Achnatherum thurberianum

Pinegrass

Calamagrostis rubescens

Squirreltail

Elymus elymoides

Idaho fescue

Festuca idahoensis

Needle and thread

Hesperostipa comata

Basin Wildrye

Leymus cinereus

Cusick's bluegrass

Poa cusickii

Sandberg bluegrass

Poa secunda

Bluebunch wheatgrass

Pseudoroegneria spicata

Saskatoon serviceberry

Amelanchier alnifolia

Wyoming big sagebrush

Artemisia tridentata ssp. wyomingensis

Green rabbitbrush

Chrysothamnus viscidiflorus

Threetip sagebrush

Artemisia tripartita

Antelope bitterbrush

Purshia tridentata

Wax currant

Ribes cereum

Woods' rose

Rosa woodsii

White spirea

Spiraea betulifolia

Snowberry

Symphoricarpos albus

Oceanspray

Holodiscus discolor

Other Plants Encountered on the Colville Reservation during the 2012-2014 Range Surveys

USDA Plant Symbol	Scientific Name	Common Name	Nativity, Duration, and Growth habit
COLI2	*Collomia linearis*	Tiny Trumpet	Native annual forb
COPA3	*Collinsia parviflora*	Maiden blue eyed Mary	Native annual forb
CRPTP2	*Cryptantha pterocarya* var. *pterocarya*	Wingnut cryptantha	Native annual forb
EPMI	*Epilobium minutum*	Chaparral willowherb	Native annual forb
GAYOP	*Gayophytum spp.*	Groundsmoke	Native annual forb
HOUM	*Holosteum umbellatum*	Jagged chickweed	Native annual forb
ORLU	*Orobanche ludoviciana*	Sand broomrape	Native annual forb
PLPA2	*Plantago patagonica*	Wolly plantain	Native annual forb
PODO4	*Polygonum douglasii*	Douglas' knotweed	Native annual forb
ACCO4	*Aconitum columbianum*	Columbian monkshood	Native perennial forb
ACMI2	*Achillea millefolium*	Common yarrow	Native perennial forb
ACRU2	*Actaea rubra*	Red baneberry	Native perennial forb
ADBI	*Adenocaulon bicolor*	American trailplant	Native perennial forb
AGGL	*Agoseris glauca*	Pale agoseris	Native perennial forb
AGUR	*Agastache urticifolia*	Nettleleaf giant hyssop	Native perennial forb
ALAC4	*Allium acuminatum*	Tapertip onion	Native perennial forb
ANMA	*Anaaphalis margaritaceae*	Western pearly everlasting	Native perennial forb
ANMI3	*Antennaria microphylla*	Littleleaf pussytoes	Native perennial forb
ANRO2	*Antennaria rosea*	Rosy pussytoes	Native perennial forb
APAN2	*Apocynum androsaemifolium*	Spreading dogbane	Native perennial forb
AQFL	*Aquilegia flavescens*	Yellow columbine	Native perennial forb
ARCO5	*Arenaria congesta*	Ballhead sandwort	Native perennial forb
ARCO9	*Arnica cordifolia*	Heartleaf arnica	Native perennial forb
ARDR4	*Artemisia dracunculus*	Tarragon	Native perennial forb
ARHO2	*Arabis holbellii*	Holboell's rockcress	Native perennial forb
ASCA11	*Astragalus canadensis*	Canadian milkvetch	Native perennial forb
ASMI9	*Astragalus miser*	Timber milkvetch	Native perennial forb
ASPU9	*Astragalus purshii*	Woollypod milkvetch	Native perennial forb
ASTRA	*Astragalus* spp.	Milkvetch	Native perennial forb
CARO2	*Campanula rotundifolia*	Bluebell bellflower	Native perennial forb
CASTI2	*Castilleja* spp.	Indian paintbrush	Native perennial forb
CHANA2	*Chamerion angustifolium* var. *angustifolium*	Fireweed	Native perennial forb
CHDO	*Chaenactis douglasii*	Douglas' dustymaiden	Native perennial forb
CHUM	*Chimaphila umbellata*	Pipsissewa	Native perennial forb

CIUN	*Cirsium undulatum*	Wavyleaf thistle	Native perennial forb
CLPU	*Clarkia pulchella*	Pinkfairies	Native perennial forb
CLUN2	*Clintonia uniflora*	Bride's bonnet	Native perennial forb
COOC	*Coptis occidentalis*	Idaho goldthread	Native perennial forb
COUM	*Comandra umbellata*	Bastard toadflax	Native perennial forb
CRAC2	*Crepis acuminata*	Tapertip hawksbeard	Native perennial forb
CRAT	*Crepis atribarba*	Slender hawksbeard	Native perennial forb
CYFR2	*Cystopteris fragilis*	Brittle bladderfern	Native perennial forb
DEME	*Delphinium menziesii*	Menzies' larkspur	Native perennial forb
EQLA	*Equisetum laevigatum*	Smooth horsetail	Native perennial forb
ERCO5	*Erigeron corymbosus*	Longleaf fleabane	Native perennial forb
ERIGE2	*Erigeron* spp.	Fleabane	Native perennial forb
ERLI	*Erigeron linearis*	Desert yellow fleabane	Native perennial forb
ERPU2	*Erigeron pumilus*	Shaggy fleabane	Native perennial forb
ERUM	*Eriogonum umbellatum*	Sulphur-flower buckwheat	Native perennial forb
FRVE	*Fragaria vesca*	Woodland strawberry	Native perennial forb
GATR3	*Galium triflorum*	Fragrant bedstraw	Native perennial forb
GETR	*Geum triflorum*	Old man's whiskers	Native perennial forb
GEVI2	*Geranium viscosissimum*	Sticky purple geranium	Native perennial forb
GOOB2	*Goodyera oblongifolia*	Western rattlesnake plantain	Native perennial forb
HECY2	*Heuchera cylindrica*	Roundleaf alumroot	Native perennial forb
HEMA80	*Heracleum maximum*	Common cowparsnip	Native perennial forb
HIAL2	*Hieracium albiflorum*	White hawkweed	Native perennial forb
HYCA4	*Hydrophyllum capitatum*	Ballhead waterleaf	Native perennial forb
IPCO5	*Ipomopsis congesta*	Ballhead ipomopsis	Native perennial subshrub
IRMI	*Iris missouriensis*	Rocky Mountain iris	Native perennial forb
LIBO3	*Linnaea borealis*	Twinflower	Native perennial forb
LILE3	*Linum lewisii*	Lewis flax	Native perennial forb
LIRU4	*Lithospermum ruderale*	Western stoneseed	Native perennial forb
LODI	*Lomatium dissectum*	Fernleaf biscuitroot	Native perennial forb
LOMA3	*Lomatium macrocarpum*	Bigseed biscutroot	Native perennial forb
MACA2	*Machaeranthera canescens*	Hoary tansyaster	Native perennial forb
MARAR	*Maianthemum racemosum* ssp. *Racemosum*	False Solomon's Seal	Native perennial forb
MAST4	*Maianthemum stellatum*	Starry false lily of the valley	Native perennial forb
MEOB	*Mertensia oblongifolia*	Oblongleaf bluebells	Native perennial forb
MIPE	*Mitella pentandra*	Fivestamen miterwort	Native perennial forb
ORSE	*Orthilia secunda*	Sidebells wintergreen	Native perennial forb

OSBE	*Osmorhiza berteroi*	Sweetcicely	Native perennial forb
OSOC	*Osmorhiza occidentalis*	Western sweetroot	Native perennial forb
PEFRS3	*Penstemon fruticosus* var. *scouleri*	Littleleaf bush penstemon	Native perennial forb
PEGA3	*Perideridia gairdneri*	Gardner's yampah	Native perennial forb
PHHA	*Phacelia hastata*	Silverleaf phacelia	Native perennial forb
PHHO	*Phlox hoodii*	Hood's phlox	Native perennial forb
PHMU3	*Phlox multiflora*	Flowery phlox	Native perennial forb
PHSP	*Phlox speciosa*	Showy phlox	Native perennial forb
PODI2	*Potentilla diversifolia*	Mountain-meadow cinquefoil	Native perennial forb
POGR9	*Potentilla gracilis*	Slender cinquefoil	Native perennial forb
POGL9	*Potentilla glandulosa*	Sticky cinquefoil	Native perennial forb
PRTR4	*Prosartes trachycarpa*	Roughfruit fairybells	Native perennial forb
PTAQ	*Pteridium aquilinum*	Western brackenfern	Native perennial forb
RUPA6	*Rumex paucifolius*	Alpine sheep sorrel	Native perennial forb
SEIN2	*Senecio integerrimus*	Lambstongue ragwort	Native perennial forb
SELA	*Sedum lanceolatum*	Lanceleaf stonecrop	Native perennial forb
SEST2	*Sedum stenopetalum*	Wormleaf stonecrop	Native perennial forb
SETR	*Senecio triangularis*	Arrowleaf ragwort	Native perennial forb
SIDR	*Silene drummondii*	Drummond's campion	Native perennial forb
SIID	*Sisyrinchium idahoense*	Idaho blue-eyed grass	Native perennial forb
SOMI2	*Solidago missouriensis*	Missouri goldenrod	Native perennial forb
STAM2	*Streptopus amplexifolius*	Claspleaf twistedstalk	Native perennial forb
SYMPH4	*Symphyotrichum spp.*	Aster	Native perennial forb
THOC	*Thalictrum occidentale*	Western Meadow-rue	Native perennial forb
TITRU	*Tiarella trifoliata* var. *unifoliata*	Oneleaf foamflower	Native perennial forb
TOLY	*Tonestus lyallii*	Lyall's goldenweed	Native perennial forb
VEAM2	*Veronica americana*	American speedwell	Native perennial forb
VIAM	*Vicia americana*	American vetch	Native perennial forb
VIGL	*Viola glabella*	Pioneer violet	Native perennial forb
ZIPA2	*Zigadenus paniculatis*	Foothill deathcamas	Native perennial forb
ZIVE	*Zigadenus venenosus*	Meadow deathcamas	Native perennial forb
ARABI2	*Arabis* spp.	Rockcress	Native perennial forb
ARENA	*Arenaria* spp.	Sandwort	Native perennial forb
HACKE	*Hackelia* spp.	Stickseed	Native perennial subshrub
LIPU11	*Linanthus pungens*	Granite prickly phlox	Native perennial subshrub
AGCR	*Agropyron cristatum*	Crested wheatgrass	Introduced perennial graminoid
VUOC	*Vulpia octoflora*	Sixweeks fescue	Native annual grass
CACO11	*Carex concinnoides*	Northwestern sedge	Native perennial graminoid

CAMO	*Calamagrostis montanensis*	Plains reedgrass	Native perennial graminoid
CAREX	*Carex* spp.	Sedge	Native perennial graminoid
CARO5	*Carex rossii*	Ross' sedge	Native perennial graminoid
CAVA3	*Carex vallicola*	Valley sedge	Native perennial graminoid
JUNCU	*Juncus* spp.	Rush	Native perennial graminoid
PHPR3	*Phleum pratense*	Timothy	Native perennial graminoid
AGSC5	*Agrostis scabra*	Rough bentgrass	Native perennial grass
ARPUL	*Aristida purpurea* var. *longiseta*	Fendler threeawn	Native perennial grass
BRIN2	*Bromus inermus*	Smooth brome	Native perennial grass
DAGL	*Dactylis glomerata*	Orchardgrass	Native perennial grass
DISP	*Distichlis spicata*	Saltgrass	Native perennial grass
ELGL	*Elymus glaucus*	Blue wildrye	Native perennial grass
ELTR7	*Elymus trachycaulus*	Slender wheatgrass	Native perennial grass
FEOC	*Festuca occidentalis*	Western fescue	Native perennial grass
HOJU	*Hordeum jubatum*	Foxtail barley	Native perennial grass
KOMA	*Koeleria macrantha*	Prairie Junegrass	Native perennial grass
POFE	*Poa fendleriana*	Muttongrass	Native perennial grass
POPR	*Poa pratensis*	Kentucky bluegrass	Native perennial grass
THIN6	*Thinopyrum intermedium*	Intermediate wheatgrass	Native perennial grass
ALVIS	*Alnus viridis* ssp. *sinuata*	Sitka alder	Native perennial shrub
ARUV	*Arctostaphylos uva-ursi*	Kinnikinnick	Native perennial shrub
CEVE	*Ceanothus veluthinus*	Snowbrush ceanothus	Native perennial shrub
ERNA10	*Ericameria nauseosa*	Rubber rabbitbrush	Native perennial shrub
LOUT2	*Lonicera utahensis*	Utah honeysuckle	Native perennial shrub
MARE11	*Mahonia repens*	Oregon-grape	Native perennial shrub
OPFR	*Opuntia fragilis*	Brittle pricklypear	Native perennial shrub
PAMY	*Paxistima myrsinites*	Oregon boxleaf	Native perennial shrub
PHCA11	*Physocarpus capitatus*	Pacific ninebark	Native perennial shrub
PHLE4	*Philadelphus lewisii*	Lewis' mock orange	Native perennial shrub
PHMA5	*Physocarpus malvaceus*	Mallow ninebark	Native perennial shrub
PRVI	*Prunus virginiana*	Chokecherry	Native perennial shrub
RILA	*Ribes lacustre*	Prickly currant	Native perennial shrub
RUID	*Rubus idaeus*	American red raspberry	Native perennial shrub
RUPA	*Rubus parviflorus*	Thimbleberry	Native perennial shrub
SALIX	*Salix* spp.	Willow	Native perennial shrub
SARA2	*Sambucus racemosa*	Red elderberry	Native perennial shrub
SASC	*Salix scouleriana*	Scouler's willow	Native perennial shrub
SHCA	*Shepherdia canadensis*	Russet buffaloberry	Native perennial shrub
VAME	*Vaccinium membranaceum*	Thinleaf huckleberry	Native perennial shrub
VASC	*Vaccinium scoparium*	Grouse whortleberry	Native perennial shrub

VIED	*Viburnum edule*	Squashberry	Native perennial shrub
TECA2	*Tetradymia canescens*	Spineless horsebrush	Native perennial subshrub
ABLA	*Abies lasiocarpa*	Subalpine fir	Native perennial tree
ACGL	*Acer glabrum*	Rocky Mountain maple	Native perennial tree
CRDO2	*Crataegus douglasii*	Black hawthorn	Native perennial tree
LAOC	*Larix occidentalis*	Western larch	Native perennial tree
PICO	*Pinus contorta*	Lodgepole pine	Native perennial tree
PIEN	*Picea engelmannii*	Engelmann spruce	Native perennial tree
PIPO	*Pinus ponderosa*	Ponderosa pine	Native perennial tree
POTR5	*Populus tremuloides*	Quaking aspen	Native perennial tree
PSME	*Pseudotsuga menziesii*	Douglas-fir	Native perennial tree
SEWA	*Selaginella wallacei*	Wallace's spikemoss	Native perennial moss
AMAL	*Amaranthus albus*	Prostrate pigweed	Introduced annual forb
ARAB3	*Artemisia absinthium*	Absinth wormwood	Native perennial shrub
BRAR5	*Bromus arvensis*	Field brome	Introduced annual graminoid
BRTE	*Bromus tectorum*	Cheatgrass	Introduced annual graminoid
CEDI3	*Centaurea diffusa*	Diffuse knapweed	Introduced annual forb
DESO2	*Descurainia sophia*	Herb sophia	Introduced annual forb
DIAR	*Dianthus armeria*	Deptford pink	Introduced annual forb
HYPE	*Hypericum perforatum*	Common St. Johnswort	Introduced perennial forb
LASE	*Lactuca serriola*	Prickly lettuce	Native annual forb
LIDAD	*Linaria dalmatica* spp. *dalmatica*	Dalmatian toadflax	Introduced perennial forb
MEOF	*Melilotus officinalis*	Sweetclover	Introduced perennial forb
POAR8	*Potentilla argentea*	Silver cinquefoil	Introduced perennial forb
POAV	*Polygonum aviculare*	Prostrate knotweed	Introduced perennial forb
POBU	*Poa bulbosa*	Bulbous bluegrass	Introduced perennial graminoid
RUCR	*Rumex crispus*	Curly dock	Introduced perennial forb
SIAL2	*Sisymbrium altissimum*	Tall tumblemustard	Introduced annual forb
SOLAN	*Solanum* sp.	Nightshade	Introduced perennial forb
SOOL	*Sonchus oleraceus*	Common sowthistle	Introduced annual forb
TAOF	*Taraxacum officinale*	Dandelion	Introduced perennial forb
TRDU	*Tragopogon dubius*	Yellow salsify	Introduced annual forb
VETH	*Verbascum thapsus*	Common mullein	Introduced biennial forb