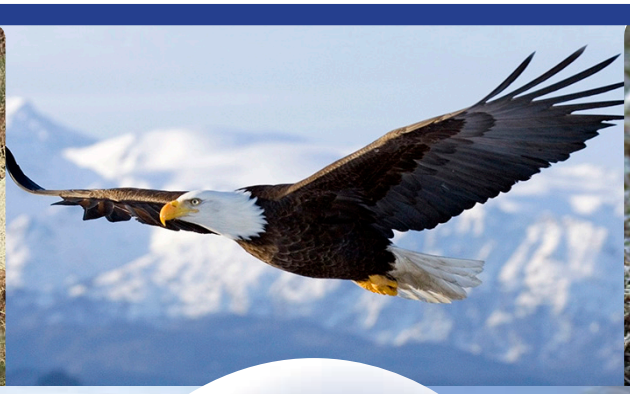
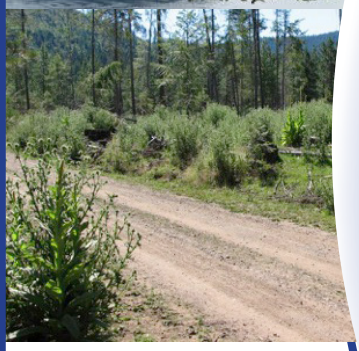



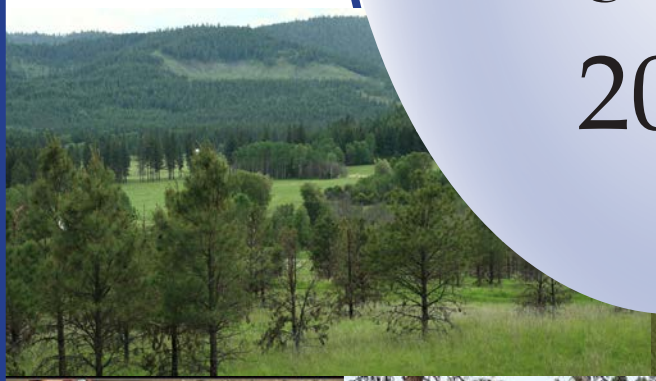

Confederated Tribes of the Colville Reservation

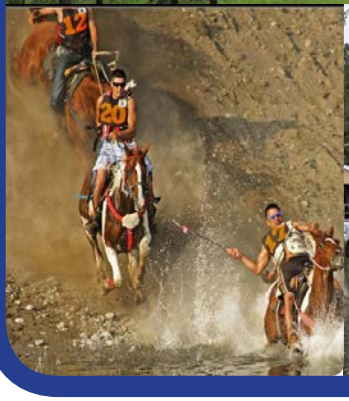





Integrated Resource Management Plan

2015



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Introduction

The Confederated Tribes of the Colville Reservation adopted an Integrated Resource Management Plan (IRMP) in 2000. It included management goals and objectives for the period 2000 – 2014. In 2014, the Tribes' IRMP Core Team began the process to update the IRMP. The team prepared a Resource Assessment of the natural resources of the Reservation that described the resources of the Reservation and identified management issues of concern to be addressed in the updated plan.

During a series of workshops, the IRMP team assessed the effectiveness of the original IRMP and identified ways to enhance and improve the plan to provide greater flexibility and realistic goals. In addition, the team emphasized the need for a user-friendly design for the IRMP document that would make it more accessible and informative for the tribal community and the Colville Business Council.

In 2014, the IRMP team prepared and administered a community survey to solicit input from tribal members and residents of the Colville Reservation. The purpose of the survey was to document the community's priorities, preferences and concerns regarding the management of the Tribes' natural and cultural resources.

The IRMP Core Team consists of representatives from the Tribes' natural resource departments with additional contributions from the Planning, Realty, and History / Archaeology departments.

Integrated Resource Management Planning

An Integrated Resource Management Plan is defined as a tribe's strategic plan for the comprehensive management of a reservation's resources. The process by which IRMPs are developed is a mechanism for the examination of the relationships among natural resources and their various uses, economic trends, cultural needs, and social forces. The ultimate goal of an IRMP is to create a balance within natural resource management actions that reflects the social, cultural, economic, and natural resource values of reservation residents.

Integrated resource management is an approach to reservation resource management that takes a whole system approach, viewing all resources (natural, social, cultural, and economic) as being interrelated in such a manner that management actions directed at one resource also affect others. As such, the integrated resource management approach accommodates the management of natural resources that involve multiple, and sometimes, conflicting uses. In developing the IRMP, the goal of the planning effort was to provide a plan that balances multiple uses in a way that ensures the long-term sustainability of all the natural resources that are important to the tribes of the Colville Reservation.

National Environmental Policy Act Requirements

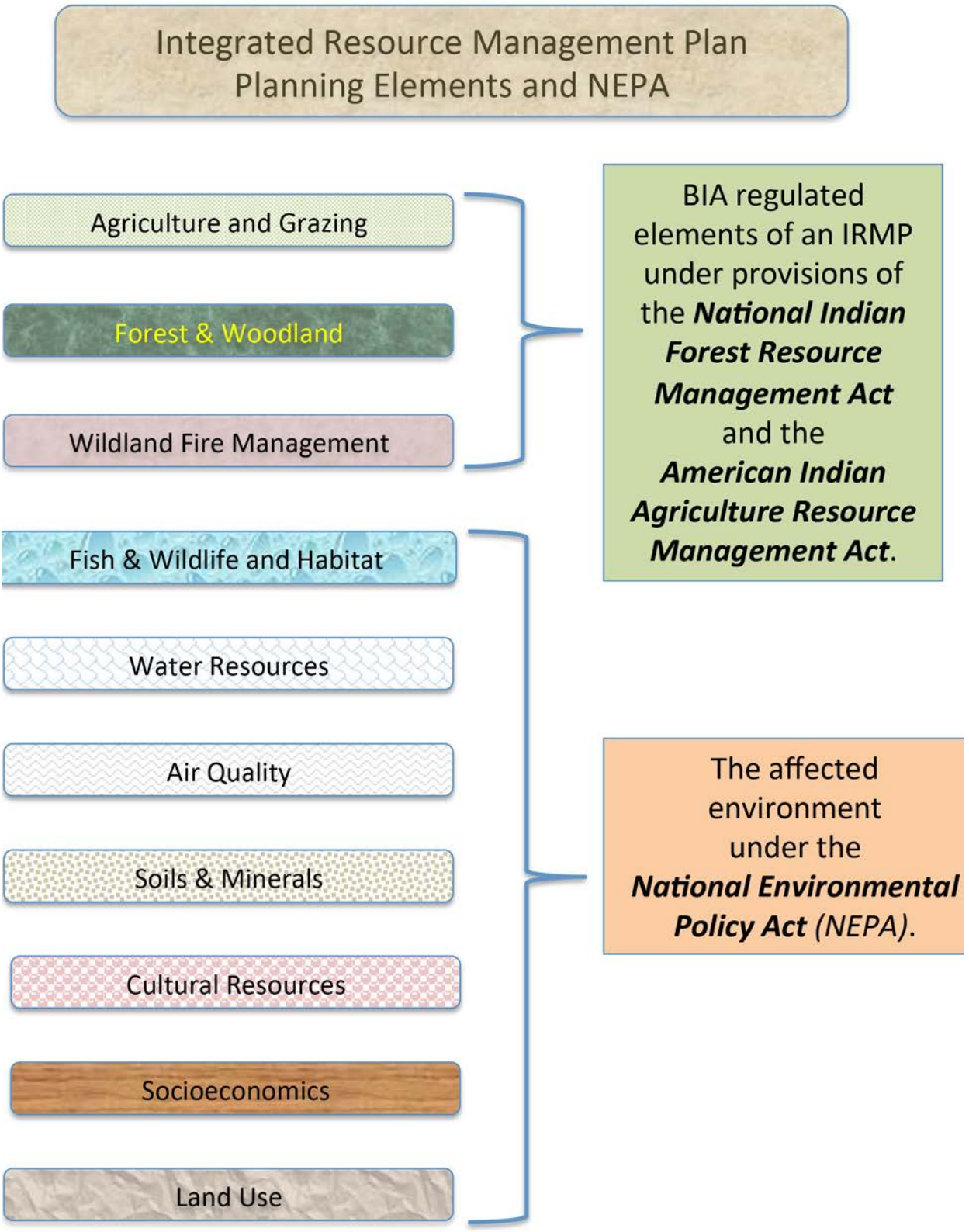
The Tribes' forest resources comprise a large portion of the trust lands of the Colville Reservation and provide a major source of revenue and employment for the tribal government and the community. Timber harvesting at this scale constitutes a major federal action under the provisions of the National Environmental Policy Act (NEPA) and requires the preparation of a Programmatic Environmental Assessment (EA) or a Programmatic Environmental Impact Statement (EIS) to assess the adverse environmental impacts that could potentially result from implementing a new, multi-year Forest Management Plan under the IRMP.

The Bureau of Indian Affairs has regulatory and fiduciary responsibilities in the management of agricultural and forest resources on tribal trust lands. These include ensuring that current, approved management plans are in place for these resources and that environmental impacts and feasible mitigation measures are identified. Although the BIA Northwest Region Office suggested that a Programmatic EA would suffice, The Colville Business Council chose to prepare a formal Programmatic EIS that would include scoping meetings with the Reservation community and documented responses to comments in the Final Environmental Impact Statement.

A Notice of Intent was published on November 21, 2014 in the Federal Register to advise the public that the BIA and the Tribes intended to prepare a Draft Programmatic EIS for the IRMP. Public scoping meetings were held in Reservation communities in October 2015. The DEIS was prepared in 2016 and Notices of Availability were published in the Federal Register by the BIA and the EPA in the summer of 2017. Community meetings were held in Reservation communities to receive public comments on the DEIS.

In their review, the EPA supported the IRMP because it "enhances the holistic approach of the previous IRMP toward sustainable timber harvest levels and forest health objectives." The EPA further noted that they "acknowledge and appreciate the high quality planning effort and coordination that is reflected in a clear and informative Draft IRMP." The EPA rated the DEIS as "Adequate" because it "adequately set forth the environmental impacts of the preferred alternative." The Response to Comments was released in January 2018.

The Final Programmatic EIS was prepared in 2018 and Notices of Availability were published in the Federal Register by the BIA and EPA. After public review, the Record of Decision was prepared designating this IRMP as the preferred management alternative.


Integrated Resource Management Plan
Planning Elements and NEPA
Agriculture and Grazing
Forest & Woodland
Wildland Fire Management
BIA regulated elements of an IRMP under provisions of the National Indian Forest Resource Management Act and the American Indian Agriculture Resource Management Act.
Fish & Wildlife and Habitat
Water Resources
Air Quality
Soils & Minerals
Cultural Resources
Socioeconomics
Land Use
The affected environment under the National Environmental Policy Act (NEPA).

Natural Resource Management Alternatives

In anticipation of analysis of the plan in the Programmatic EIS, the IRMP Core Team developed five management alternatives as required under NEPA:

1. Continue the current management strategy.
2. Enhance and improve the current management strategy.
3. Concentrate on forest and rangeland health problems.
4. Expand forest and cattle production.
5. Eliminate timber harvesting and livestock grazing.

The IRMP team chose Alternative 2 as the preferred alternative to be developed in this new IRMP. The alternatives were presented to the Colville Business Council on June 3, 2014 with the IRMP team's recommendation for Alternative 2. The Council passed Resolution 2014-367 approving the recommendation by a vote of 10 to 0.

Community Input

In the 2014 Community Survey, respondents were asked to choose the management alternative they preferred. The majority (53%) preferred Alternative 2 to enhance and improve the Tribes' current management strategy. The second largest response (45%) was for an approach that would concentrate on forest and rangeland health problems. Although most respondents chose only one alternative, 291 chose more than one. The majority of them (203) chose a combination of Alternatives 2 and 3.

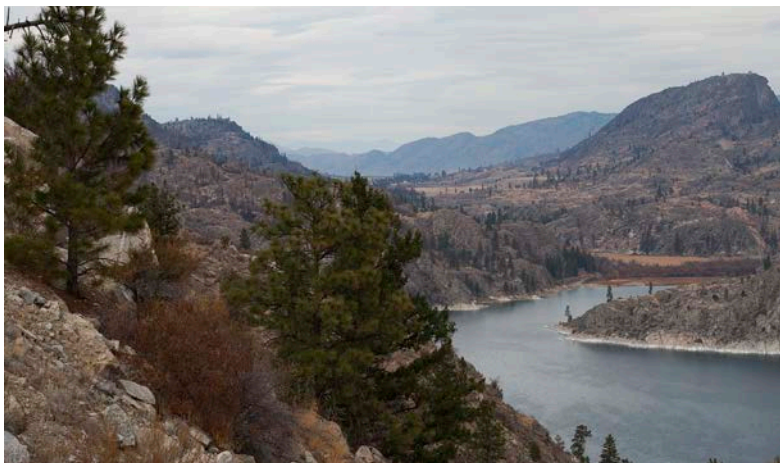
The strong support for addressing forest and rangeland health problems was further emphasized by responses to a question concerning the importance of controlling insects and disease. The responses were almost unanimous (97%) that controlling insects and disease was very important (83%) or somewhat important (14%).

Only 7% of respondents want to see a management focus that expands forest and cattle production. More respondents (10%) would prefer to entirely eliminate both timber harvesting and livestock grazing on the Reservation. Accelerating timber harvesting was supported by only 13% of respondents.

Enhancements and Improvements in the 2015 IRMP

In the course of developing the preferred alternative management approach, the IRMP team reviewed the 2000 IRMP goals and objectives and identified a number of enhancements and improvements to be incorporated into the 2015 IRMP to improve management of the Reservation's natural resources. These include:

- Establishment of Special Emphasis Areas:
    - Lake Management Areas
    - Wildlife habitat and travel corridors
    - Cultural plant gathering areas
- Enhanced Best Management Practices for forests, agriculture and rangelands.
- Adaptable harvest volume for timber sales based on site conditions.
- Improved enforcement of rangeland grazing permit requirements.
- Development and implementation of a Forest Road Management Plan with construction and closure standards.
- Transportation and timber harvest plans developed with Light Detection and Ranging (LIDAR), a laser-based remote sensing technology.
- Development and implementation of a climate change strategy.
- A new Memorandum of Understanding with the Bonneville Power Administration to re-establish native plants in mitigation areas.
- Increased efforts to control invasive weeds, emphasizing non-herbicidal treatments.
- Additional wildlife population augmentation for species with diminishing numbers.
- Okanogan Nations Alliance collaboration regarding aboriginal territories.



Colville Reservation Omak Lake

Comprehensive Planning

The IRMP is a component in a suite of plans that make up a Comprehensive Plan. Besides the IRMP, the Tribes are also developing and updating other plans, including the Land Use Plan and a Comprehensive Plan.

The IRMP is supplemented by a number of underlying, resource-specific management plans that provide additional information, technical data and best management practices, including:

- Forest Management Plan
- Range Management Plan
- Agricultural Management Plan
- Fish & Wildlife Management Plan
- Cultural Resource Management Plan
- Parks & Recreation Plan
- Soil & Water Management Plan
- Non-Point Source Management Plan
- Wetland Program Plan
- Wellhead Protection Plan
- Water Quality Monitoring Strategy and Quality Assurance Project Plan
- Wildland Fire Management Plan
- Wildland Fire Prevention Plan
- Forest Road Management Plan

Resource Management Planning

History of Resource Management Planning

Integrated resource management planning on the Colville Reservation is a fairly recent development in the history of the Reservation. Although Congress created a forestry program for Indian lands in 1909, it wasn't until 1936 that General Forest Regulations provided some forest management objectives. These national objectives had little effect on forest management at the local level, especially during World War II. During the 1950s, management planning on the Reservation was confined to individual timber sales and allotments.

The Indian Reorganization Act of 1934 provided for tribal participation in the planning and management of tribal resources. In 1938, the Constitution and By-Laws of the Confederated Tribes of the Colville Reservation were approved by the United States federal government and the Colville Business Council was established as the governing board of the Tribes.

Biles Coleman Logging Trucks

It wasn't until 1960, with passage of the Multiple Use - Sustained Yield Act, that the federal government acknowledged that natural resources such as forests and rangelands are used for multiple purposes. That act directed the Secretary of Agriculture to develop and administer the renewable resources of timber, range, water, recreation and wildlife on the national forests for multiple use and sustained yield of the products and services. This is the first law to have the five major uses of national forests contained in one law equally, with no use given preference over another.

The first formal forest management plan for the forests of the Colville Reservation was prepared in 1961. This was the beginning of intensive forest management on the Reservation. The annual allowable cut was set at 120 million board feet and was focused on the remaining 396,000 acres of virgin sawtimber and emphasized the harvest of large ponderosa pine trees.

The plan emphasized the production of timber crops. Other forest uses were to be developed to the fullest extent possible without conflicting with this primary use. Recreation, wildlife, water, grazing and mining were acknowledged, but the top priority of the plan was to grow timber for lumber mills and generate revenue for the Tribes and allottees.

The 1960s saw the beginning of major environmental legislation affecting the management of the Tribes' natural resources. The Clean Air Act of 1963 was designed to control air pollution on a national level. It requires the Environmental Protection Agency (EPA) to develop and enforce regulations to protect the public from airborne contaminants known to be hazardous to human health.

The National Environmental Policy Act of 1969 (NEPA) was one of the first laws ever written that established a broad national framework for protecting the environment. NEPA's basic policy is to assure that all branches of government give proper consideration to the environment prior to undertaking any major federal action that significantly affects the environment. The law requires public participation and the use of a formal planning process, including the analysis of alternative actions.

The Clean Water Act of 1972 updated the Federal Water Pollution Control Act of 1948, establishing a basic structure to regulate discharges of pollutants into the waters of the United States and to regulate quality standards for surface waters. The Act made it unlawful to discharge any pollutant from a point source into navigable waters, unless a permit is obtained.

Passage of the Indian Self-Determination and Education Assistance Act of 1975 gave tribes more responsibility for programs and services provided by the federal government. A Senate report concerning management of Indian natural resources, criticized the BIA for poor management of tribal resources, citing deficient inventory data and the absence of good management and planning practices. As a result, the federal government began developing comprehensive reservation resource and development assessments.

On the Colville Reservation, concerns about wildlife were addressed in 1972 when areas were set aside to protect wildlife during all or part of the year, and the first tribal general deer season was established. In 1976 the Fish and Wildlife Department was created. In 1980 the Northwest Power Planning Act was passed, requiring mitigation of fish and wildlife losses due to hydropower development. The first wildlife mitigation properties on the Reservation were purchased in 1993 and are managed by the Fish and Wildlife Department.

The Tribes began addressing concerns regarding tribal water rights and began a water use-permitting program in the 1970s. During the 1980s, the Tribes established water quality standards and developed programs for pollution abatement and on-site wastewater treatment. The Environmental Trust Department was formalized in 1988 and began developing soils and watershed expertise in the following years.

A major shift in timber management practices on the Colville Reservation began in the late 1970s. Timber marking guidelines were implemented to remove a certain percentage of the commercial volume. New management directives required the preparation of individual stand harvesting prescriptions. Regeneration cuts were prescribed for areas with extensive insect or disease problems.

Forwarder

A forestry program review in 1979 revealed problems from a lack of coordination between tribal and BIA forestry programs. A subsequent review in 1984 resulted in a resolution by the Colville Business Council to combine the Colville Tribal Forestry and BIA Forestry into one organization. A primary goal was to develop a long-range management plan.

In 1985, the Tribal Council passed the Colville Forest Practices Act establishing minimum standards for forest practices affecting Reservation resources. The Forest Practices code provisions apply to forest practices on all forest lands and forest roads within the Colville Reservation, including lands held in trust or in fee status, and on other tribal trust lands and allotments associated with the Confederated Tribes of the Colville Reservation.

Integrated Resource Management Planning

In the early 1980s, forest management plans were being developed that included integrated concepts. The Tribes established an interdisciplinary review procedure for projects proposed on Reservation lands in 1986. This eventually became the Project Proposal Process (3P).

In 1988, the BIA initiated a national IRMP initiative intended to develop comprehensive, integrated plans for each reservation. The passage of Indian forestry and agriculture acts in the early 1990s established the requirement that forest and agricultural plans comply with tribal IRMPs.

During the development of the National Indian Forest Resources Management Act (NIFRMA) in 1991, Congress declared that the federal investment in Indian forest management was significantly below the level of investment in Forest Service, Bureau of Land Management, or private forestland management. The Indian Forestry Management Assessment Team (IFMAT), under the direction of the Intertribal Timber Council (ITC), identified integrated resource management plans as a high priority for management of Indian resources.

In their 1993 IFMAT assessment, the ITC noted that development of IRMPs on reservations had not been successful due to a lack of helpful guidelines and commitment by the BIA, and especially by the absence of adequate funding and resource management expertise. In 1997, the BIA authorized funding for IRMP development. The 2003 IFMAT assessment recommended increased funding to accelerate IRMP development, and in 2004, Congress provided line item funding that continued for 9 years.

The American Indian Agricultural Resource Management Act of 1993 (AIARMA) was passed to promote the self-determination of Indian tribes by providing for the management of Indian agricultural lands and related renewable resources in a manner consistent with identified tribal goals and priorities for conservation, multiple use, and sustained yield.

AIARMA requires that the management of agricultural resources be consistent with integrated resource management plans in order to protect and maintain other values such as wildlife, fisheries, cultural resources, recreation and to regulate water runoff and minimize soil erosion.

These laws empowering tribes in the management of their natural resources are leading to greater satisfaction in the quality of natural resource management in tribal communities. Indian resources are increasingly managed by tribal programs in accordance with tribal visions. Management priorities are shifting towards sustainable multiple use with resource preservation receiving increased emphasis.

Sanpoil River

An Interim Forest Management Plan was developed in 1989 in anticipation of development of an IRMP for the Colville Reservation. The plan was updated in 1992 and was extended in 1999 to provide time to finalize the 2000 IRMP and accompanying Environmental Impact Statement.

The 2000 IRMP was the first multiple use natural resource management plan developed for the Colville Reservation. The IRMP provided a holistic approach to the natural resources of the Reservation: the watersheds, forests, rangelands and the fish, wildlife and humans who inhabit them. The multidisciplinary team prepared a resource assessment and created a management structure and a management plan with detailed goals and objectives.

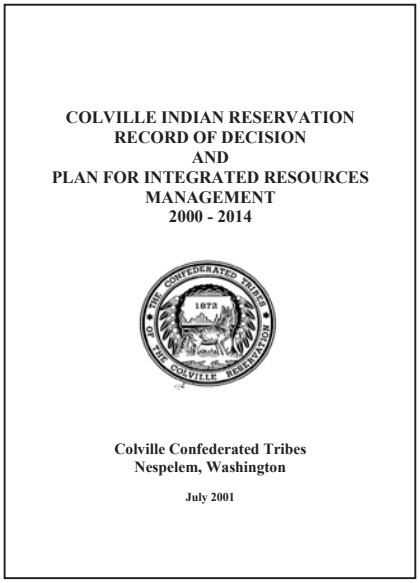
The Tribes' forest and range resources comprise a large portion of the trust lands of the Colville Reservation and provide a major source of revenue and employment for the tribal government and the community. Timber harvesting, especially at this scale constitutes a major federal action under the provisions of the National Environmental Policy Act and requires an assessment of the adverse environmental impacts that may result from implementing a multi-year Forest Management Plan under the IRMP.

The Bureau of Indian Affairs has regulatory and fiduciary responsibilities in the management of agricultural and forest resources on tribal trust lands. These include ensuring that current, approved management plans are in place for these resources and that the environmental impacts and feasible mitigation measures are identified.

The Tribes' IRMP team prepared a draft Programmatic Environmental Impact Statement (EIS) for the proposed 2000 IRMP that considered 6 alternative actions with timber harvest levels ranging from 54.6 to 94.8 MMBF. The preferred alternative set the annual allowable cut at 63.5 MMBF and reduced range use on allotments by 15%.

After circulation and review of the EIS, the Council chose to create a 7th alternative with an allowable annual cut of 77.1 MMBF with additional emphasis on regeneration harvesting to address insect and disease problems and provisions for 14 sensitive watersheds where harvest would be postponed for 15 years. Allowable range use was increased 50% for livestock and wildlife.

The 2000 IRMP encompassed the period from 2001 to 2014 and consisted of multiple documents: a Phase I multi-document Resource Inventory, a Phase II Goals and Objectives document, a Record of Decision/Plan for Integrated Resource Management (ROD/PIRM), and the Final Environmental Impact Statement. Within these documents are various lists of planning goals, objectives, standards, and guidelines. Resource managers, Council members and interested community members expressed concerns that the plan was overly long and excessively technical. Consequently, the 2015 IRMP team emphasized that the updated IRMP should be a concise, coherent plan that is user friendly and easily accessible.


COLVILLE INDIAN RESERVATION
RECORD OF DECISION
AND
PLAN FOR INTEGRATED RESOURCES
MANAGEMENT
2000 - 2014

Colville Confederated Tribes
Nespelem, Washington

July 2001

The Project Proposal Process (3P)

The Project Proposal Process provides review of proposed projects on the lands of the Reservation to ensure consistency with the goals and objectives of the IRMP and compliance with Tribal Codes and federal laws and regulations, including NEPA requirements for environmental impact analysis and the consideration of alternative actions.

The Project Proposal Process provides a review of project proposals by a team of representatives from natural resource departments, realty, planning and community infrastructure departments as well as the BIA Superintendent. Examples of projects reviewed in the Project Proposal Process are:

- Timber sales and forest maintenance projects
- Wildland-Urban Interface and fuels reduction projects
- Reforestation projects
- Timber salvage projects
- Range and pasture permits and leases
- Road maintenance projects
- Range improvement projects
- Property transfers and conveyences
- Fee to trust ownership status
- Development projects
- Environmental restoration projects
- Wildife mitigation projects

During the 3P review of project proposals, recommendations are made to ensure that environmental impacts are minimized and mitigated and that projects are consistent with the IRMP and compliant with applicable laws and regulations. An environmental assessment is prepared for projects that may have adverse environmental impacts. Projects must be approved by the 3P Team, the BIA Superintendent, program managers and the Colville Business Council.

Project proponents can be private individuals or businesses, the Tribes' corporation or a tribal program. Many projects are proposed by the Tribes' programs and departments and they are also required to undergo 3P review.

For example, the Forestry Department submits proposed timber sales and other forest management projects to the team to gain site-specific recommendations for protection or enhancement of other resources. The department provides detailed project descriptions with maps, silvicultural prescriptions, harvest plans, and other relevant information. Project review often includes field trips and organized public meetings to obtain input for project development.

Elders on tour prior to timber sale

The Mt Tolman Fire Center fuels planners present projects involving prescribed fire and fuels management. These proposals involve the use of fire in the management of the Tribe's natural resources. The fuels planners also contribute to the development of mitigation measures intended to minimize environmental impacts.

The Range Program brings proposed range improvement projects and grazing permits for review by the team. They also contribute to the evaluation and assessment of other proposed natural resource projects and provide comments and suggestions.

The Fisheries Department provides review of proposed actions affecting fisheries resources or habitat to ensure that these resources are adequately protected. The Wildlife Program biologists review all land management activities, including timber sales, and provide vital wildlife population data and assessments of the potential impact of these projects on associated wildlife species and their habitats.

The Environmental Trust Department contributes reviews of project plans to identify potential impacts to soil, water, and air resources and recommends mitigation measures. The department also brings proposals for watershed restoration projects for 3P review.

The History / Archaeology Program identifies cultural sites that may be affected by proposed projects and coordinates with project proponents to avoid sites or develop appropriate mitigation measures. The Tribal Archaeologist, the Resource Archaeologist and the Cultural Plant Team review applications and participate in project planning for major natural resource and other projects on the Reservation. They contribute to the preparation of environmental assessments and conduct cultural resource surveys. Cultural Plant Team is responsible for identifying cultural plants that may be affected by natural resource projects.

Tribal Codes and Federal Laws

Management of the Reservation's natural resources requires compliance with the Tribes' Natural Resource Codes as well as federal laws and their associated regulations. The Tribes' natural resource departments and programs not only comply with these legal requirements, in many cases, they are charged with their enforcement.

Many of the tribal codes concerned with the environmental impacts of forest practices, grazing, mining, and non-point source pollution from urban and agricultural runoff, were originally enacted by the Colville Tribal Council in the 1980s.

Natural Resource Codes

The Tribes' Natural Resource Codes are periodically reviewed and updated to address changing conditions and advances in environmental science and resource management practices. The current codes are posted on the Tribes' website (www.colvilletribes.com). The codes also assign enforcement authority to specific tribal departments such as Environmental Trust, Planning, Parks & Recreation and Fish & Wildlife.

Fish, Wildlife and Recreation (Chapter 4-1)

The Tribes regulate the harvest of wildlife resources within the aboriginal territory of the Colville Tribes. In regulating wildlife and recreation resources of the Reservation, tribal members are afforded the greatest possible freedom to use and enjoy these resources, consistent with the preservation and improvement of these resources for future generations. Wildlife found on the Reservation may be taken only at such times, in such places, and in such a manner as provided by tribal law. Enforcement of this chapter is primarily the responsibility of police officers, and other tribal law enforcement personnel.

Cultural Resources Protection (Chapter 4-4)

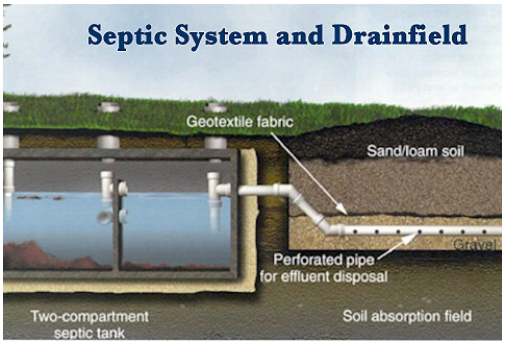
The Cultural Resources Protection chapter reasserts requirements of federal laws affecting historical and archeological resources and the requirement that the Tribes be notified of any federal actions such as the review and permitting of proposed projects. The Tribes must be consulted and in some cases, a project cannot proceed without consent of the Tribes. The Tribes have the authority to nominate sites on the Reservation for inclusion in the National Register of Archaeological and Historic Sites. The ordinance details the powers and duties of the History and Archaeology Program. Damaging or adversely impacting significant resources are prohibited acts. Permits are required if projects or actions adversely affect archaeological resources or historic properties. Criminal and civil penalties are identified for prohibited acts. Chapter 4-4 discusses survey, inventory

Overview of a buried archaeological site

and registering archaeological and historic properties. Any applicant or permittee aggrieved by any decision made under this Chapter, may petition the Council for a hearing to review such decision.

On-Site Wastewater Treatment and Disposal (Chapter 4-5)

The economy, health, safety and welfare of the people residing and doing business within the Colville Indian Reservation are affected by the construction and utilization of on-site wastewater treatment and disposal systems (i.e. septic tank systems) servicing both Indian and non-Indian people on trust and fee land within the Colville Reservation.



Inadequate treatment and disposal of wastewater can contaminate and degrade water resources on which many people depend for domestic, agricultural, industrial, business, recreational and other uses. The existence of shallow groundwater, unacceptable soil percolation rates, steep slopes, shallow bedrock, silt and clay strata throughout much of the Colville Reservation together with anticipated population growth and business development on the Reservation require uniform planning, standards and permitting procedures in order to protect the quality of Reservation waters for current and future intended uses.

The Environmental Trust Department administers this Chapter. Fees may be charged for permits and administration services provided under this Chapter in accordance with a fee schedule proposed by the Environmental Trust Department and adopted by the Tribal Council.

Mining Practices Water Quality (Chapter 4-6)

Exploration and mining of minerals on the Reservation can have irreversible impacts on water quality. This chapter requires that preventative measures and best management practices are used in mining operations to manage non-point sources of water pollution and that lands affected by mining operations are properly reclaimed. Enforcement of the provisions of this chapter is the responsibility of the Environmental Trust Department.

Forest Practices (Chapter 4-7)

This chapter provides for sustainable forest management practices that integrate protections for water quality and quantity, fish and wildlife, soils, vegetation, cultural resources, recreation and scenic beauty. Applications are required for any proposed projects that have some potential for damaging a Reservation resource or adversely impacting the health, safety or welfare of the Reservation population. These include forest practices utilizing heavy equipment for timber harvesting, road construction and maintenance.

This chapter requires the application of best management practices for road construction and maintenance, water crossings, gravel pits and quarries, weed control, logging systems and landings. The chapter also specifies riparian management zones along all waters except forested wetlands that preclude roads and skid trails, heavy equipment, landings and quarries. The Reserve Trees requirements provide for the number of trees and snags to be left standing in regeneration harvests. Additional provisions include post-harvest site preparation, landing cleanup, slash disposal and reforestation. Protection of threatened and endangered species as well as cultural resources are also included.

This Chapter provides the following enforcement procedures: informal conferences, Notices to Comply, Stop Work Orders, corrective actions by the Department, civil penalties, injunctions and other civil and administrative judicial relief. Enforcement of the provisions of this chapter is the responsibility of the Environmental Trust Department.

Water Quality Standards (Chapter 4-8)

This Chapter establishes tribal water quality standards for the surface waters and ground waters located within the exterior boundaries of the Reservation. The quality of all surface and groundwater on the Reservation is protected to insure the health, economic, aesthetic and cultural well being of all people residing on the Reservation.

Watershed Award 2013

This chapter requires any person who plans to discharge any waste from a point source into Reservation waters, must obtain a permit from the Environmental Trust Department. Any person engaged in any operation or activity that results in a spill or discharge, which may cause pollution of the waters of the Reservation, may be subject to civil penalties, including fines up to $10,000 per day. The Environmental Trust Department may issue cease and desist orders for discharges or cleanup orders for spills or dumping into Reservation waters.

Hydraulic Projects (Chapter 4-9)

This Chapter protects aquatic resources by requiring application and approval of hydraulic projects. Tribal members depend on aquatic resources such as lakes, wetlands, streams and rivers for fish and for cultural and ceremonial purposes.

Hydraulic projects involve construction or other activities that affect the natural flow or course of streams or rivers. Hydraulic projects include projects requiring construction fill for recreational, industrial, commercial, sewage treatment or residential projects affecting watercourses, road fills for water crossings, bridges, dams and impoundments requiring rock, sand, dirt, or other material for construction. Application review and approval, as well as enforcement are the responsibility of the Environmental Trust Department.

Water Crossings

Water Resources Use And Permitting (Chapter 4-10)

This chapter asserts the water rights of the Colville Tribes and provides for the administration of water permits. The Water Administrator must ensure adequate levels in streams and lakes for fish and wildlife conservation and tribal member use. The Administrator has the authority to remove or shut down diversions, wells, or obstructions to the flow of water and any activities adversely affecting water quality. This code is administered by the Environmental Trust Department.

Rangeland Management (Chapter 4-11)

This chapter requires that rangeland be consolidated into management units and that the grazing capacity and maximum number of livestock are determined and adjusted as needed to comply with integrated resource management objectives. Grazing seasons are determined by the Range director and the Council determines grazing fees and authorizes grazing permits.

Open Range Warning Sign

Livestock counts, branding and inspections for disease are required. Domestic sheep and goats are restricted from rangelands due to the potential to spread disease to the wild bighorn sheep population. Permittees must adjust grazing use if the Director determines that conditions of the range require it. The Land Operations Department is authorized to assess fees and penalties for prohibited acts.

Forest Protection (Chapter 4-12)

This chapter provides for enforcement for forest related offenses such as unlawful timber harvesting, woodcutting, and arson. The code requires permits for forestry activities on trust lands and timber salvage. Enforcement is the responsibility of all police officers, law enforcement officers, and all law enforcement agencies of the Tribes and BIA.

Wild Horses (Chapter 4-14)

Feral horses on the Colville Reservation

Feral free roaming horses are under the jurisdiction of the Tribes and are managed as part of the natural resources of the Reservation. They are protected from unauthorized capture, branding, undue disturbance and destruction. They and their habitat are to be managed and controlled in a manner designed to achieve and maintain a feral horse herd on the Colville Indian Reservation. The code requires that the herd be maintained in numbers that will insure the perpetuation of the herd, but at the same time will not unduly interfere with the use of rangelands for other purposes. Feral horses are managed by the Range Program and the Fish & Wildlife Department.

Shoreline Management (Chapter 4-15)

This chapter provides for the protection, control, conservation, and utilization of the shoreline resources of the Reservation. It establishes the shoreline regulatory structure for the management of shoreline areas within the Reservation through the planning and fostering of all reasonable and appropriate uses.

All shoreline developments and uses must utilize best management practices that minimize any increase in surface water run off and to control, treat and release runoff so that receiving water quality and shore properties and features are not adversely affected. Natural and cultural resources are to be protected and preserved in any proposed developments. This code is administered by the Planning Department.

Fire Management (Chapter 4-19)

This chapter provides for the establishment and maintenance of a complete, cooperative and coordinated forest fire protection and suppression program. The Fire Management department is empowered to take charge of and direct fire suppression activities and investigate the cause of forest fires. The department also administers burn permits and appoints wardens to provide information to the public, investigate fires, patrol forest areas, inspect spark-emitting equipment and forestland operations to ensure fire prevention. The Tribal Police Department has the authority to investigate, arrest and initiate prosecution of violators.

Federal Laws

The following federal laws affect management of the natural resources of the Reservation. They require compliance by tribal departments and programs to protect air and water quality, fish and wildlife habitat and traditional cultural resources.

- National Environmental Policy Act (NEPA)
- Clean Air Act (CAA)
- Clean Water Act (CWA)
- The National Indian Forest Resources Management Act (NIFRMA)
- American Indian Agricultural Resource Management Act (AIARMA)
- Endangered Species Act (ESA)
- The Lacey Act
- National Historic Preservation Act (NHPA)
- American Antiquities Act of 1906
- Archaeological Resources Protection Act (ARPA)
- American Indian Religious Freedom Act (AIRFA)
- Native American Graves Protection and Repatriation Act (NAGPRA)
- The Migratory Bird Act
- Pacific Northwest Electric Power Planning and Conservation Act
- Wetland Protection Act
- Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)
- Federal Hazardous and Solid Waste Amendments (HSWA)
- The Federal Wildland Fire Management Policy

The 2014 Community Survey

The 2014 Colville Reservation Community Survey solicited input from tribal members and residents of the Colville Reservation. The purpose of the survey was to document the community's priorities, preferences and concerns regarding the management of the Tribes' natural resources.

Although the survey was open to all members of the Colville Tribes, the IRMP Core Team chose to include all residents of the Reservation as well as employees of the Tribes and the Bureau of Indian Affairs who work on the Reservation. The team felt that the Reservation community is most affected by management of the Reservation's natural resources.

The team assembled a survey crew of tribal members experienced in survey administration with a designated survey crew supervisor. The crew was tasked with ensuring that all communities and age groups were provided the opportunity to participate in the survey. The survey questionnaire was also made available electronically via the Tribes' website and email. Eligible respondents had to be a tribal member, a resident of the Colville Reservation or an employee of the Tribes or BIA, 18 years or older, to complete the survey.

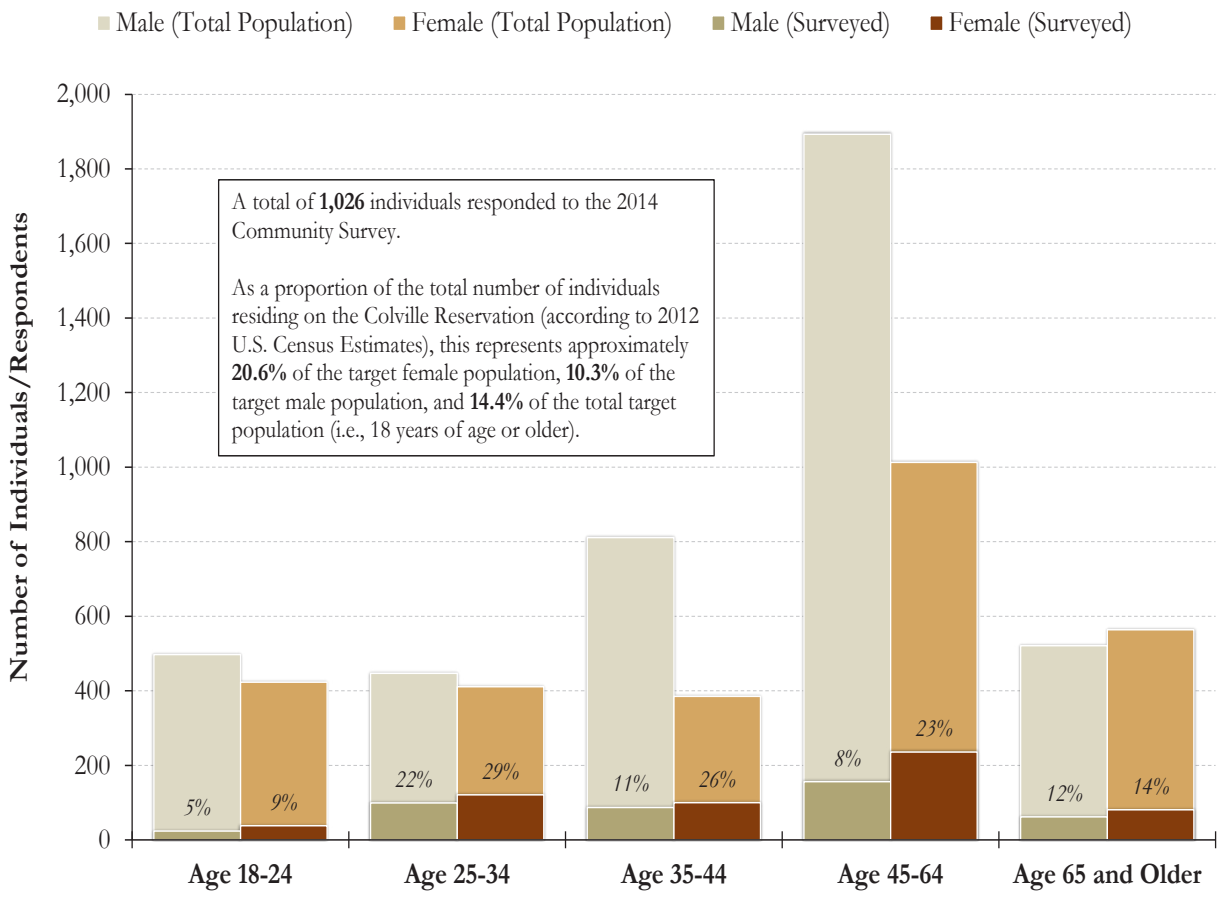
Colville community members' were generally very amenable to participating in the 2014 Colville Reservation Community Survey when asked. In total, 1,026 individuals provided completed or substantially completed responses to the survey. The survey sampled approximately 14.4% of the total eligible Reservation population (6,965), and was especially successful in garnering opinions from individuals aged 25-64.

The survey results play an important role in developing IRMP goals and objectives for the management of the natural resources of the Colville Reservation. The results reveal the ways that community members use natural resources such as firewood and plant gathering, hunting and fishing and recreational activities along the lakes, streams and rivers of the Reservation. The results also reveal community perceptions of the Tribes' management of forest and range resources and the benefits that accrue to the Tribes as a whole and the larger community as well as the flora and fauna of the Reservation.

Respondents were asked whether they were familiar with the Tribes' Holistic Goal and the list of Desired Future Conditions. Only 32% were familiar with the Holistic Goal and only 23% were familiar with the Desired Future Conditions. Of these, 55% felt that the Tribes have made progress in achieving these goals and conditions. Breaking down responses by age group indicates that younger respondents are more optimistic than older respondents in their evaluations.

Survey Response Statistics by Age and Gender Cohorts

*2014 Colville Community Survey **vs.** 2012 U.S. Census Estimates*



Holistic Goal

Quality of Life

We want to maintain and build upon our unique culture, traditions, language, sovereignty and history; we want a healthy society, environment and economy; we will treat everyone with honor and respect, having the freedom to worship, live, work and play as we choose, accepting each others diversity/uniqueness.

We want to provide plentiful/affordable housing, meaningful/secure employment and educational opportunities. We want communities that are clean, self-sufficient, safe, wholesome and provide opportunities for family based recreation.

Forms of Production

We will support our quality of life through sustainable wealth from diverse income opportunities, without waste or sacrifice of tradition, culture and values; we will emphasize the importance of involving the membership in developing their communities; we will provide opportunities/infrastructure to increase understanding/awareness of our culture, traditions, language, sovereignty and history throughout our communities, schools and workplaces, continuously promoting honor, respect and diversity.

Future Resource Base

We are and continue to be a self-sustaining sovereign entity; having flourishing enterprises; having healthy productive landscapes including rangelands, croplands, forests, riparian areas, streams and lakes; tribal decisions will include protection of tradition, culture, and aesthetic values; we will continue to provide improved/enhanced opportunities to communities/schools/workplaces to increase understanding and awareness of our culture, values, tradition, languages, sovereignty and history.

The Reservation remains as a rural life-style and the population is in balance with an effective water, mineral, and energy cycle with biodiversity resulting in an abundance of culture, medicinal and edible plants, clean air and water, springs and streams that flow year round, large trees, wildlife, fish and insects.

Enacted by Colville Business Council Resolution 1996-23 on January 18, 1996.

DESIRED FUTURE CONDITIONS

1. Reservation and boundary waters meet Tribal Water Quality Standards.

2. Reservation watersheds have healthy, resilient soil and hydrologic functions and characteristics.

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 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 Reservation's 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 in gathering, fishing, hunting, weaving, ceremonial practice and the everyday activities of the membership.

Forest near Inchelium

Boat on Twin Lakes

Cattle Grazing on the Reservation

Kartar Valley

Trust Claims Settlement

In 2005, the Colville Tribes and 40 other federally-recognized tribes filed a lawsuit against the United States, in which the tribes alleged that the Department of the Interior and the Department of the Treasury had mismanaged monetary assets and natural resources held in trust by the United States for the benefit of the tribes.

After five years of litigation, the tribes and the federal government entered into settlement negotiations. In April 2012, the Department of Justice announced settlements between the government and tribes totaling more than $1 billion. These settlements resolved claims dating back more than 100 years and ended years of litigation that burdened both the plaintiff tribes and the United States.

The Confederated Tribes of the Colville Reservation agreed to accept a $193 million settlement offer from the federal government to resolve historical grievances over the accounting and management of tribal trust funds and trust lands that had been a source of conflict between Indian tribes and the United States for decades.The settlement ranks among the largest for Indian trust-mismanagement cases in U.S.history and reflects the federal government's commitment to restore a positive working relationship with tribal governments.

During the settlement negotiations, the Tribes contracted with the Oregon State University College of Forestry and consultant Applegate Forestry LLC to assess the cost to repair the damage to the Reservation's natural resources. The resulting restoration plan estimated that a decade long restoration program costing over $100 million, would be needed to achieve a healthier forest with a long-term sustained yield of timber products, cleaner water, improved fish and deer habitat, and more cultural plants. The restoration effort would also create significant tribal employment.

The Colville Business Council initially planned to use 80% of the settlement funds for environmental and cultural restoration projects, and to disburse the remaining 20 percent, or about $4,000 each to 9,500 tribal members. The Tribes negotiated to place $38.6 million of settlement funds into a special trust account to protect distributions to tribal members from federal taxation.

Concerned with the depressed local economy resulting from the closure of lumber mills and wood processing facilities, the tribal community petitioned the Colville Business Council to hold a referendum vote to authorize the distribution of an additional $57.9 million of the settlement funds. Members of the Tribes voted in August 2013, by a margin of 10 to 1, in favor of distributing the additional funds.

In addition, a group called "Colville Members for Justice" filed a lawsuit seeking distribution of the entire settlement to tribal members through per-capita payments. The

Colville Tribal Court dismissed the suit in October 2013. The group appealed the decision and it was taken up by the Tribal Appeals Court and was ultimately dismissed in 2014.

Ultimately, the Colville Business Council decided to distribute an additional $57.9 million. Of the remaining $96.5 million, the Council allocated approximately $29 million for restoration projects. The Council established a task force consisting of representatives of Environmental Trust, Forestry, Range, Fish & Wildlife, History & Archeology, Transportation, Planning, Accounting, Realty and Real Property. The task force was authorized to develop a comprehensive restoration plan based on the restoration plan developed during settlement negotiations.

The task force had seven overall goals in preparing the Natural Resources Restoration Plan:

- Restore forest watersheds through road location, design, maintenance, decommissioning closure, and improved road system management.
- Address forest health problems.
- Restore deer habitat, cultural plant habitats, and forage productivity in on-forest rangelands.
- Increase cultural plant abundance and availability.
- Support the IRMP effort.
- Provide employment and training for tribal members.
- Build capacity to address current management gaps for cultural resources, watersheds, roads, fish, wildlife, forest and range resources.

Partially plugged culvert

Landslide prone area where roads should not be constructed

The Natural Resources Restoration Plan

The Natural Resources Restoration Plan was approved by the Colville Business Council in May 2013 by a vote of 7 to 0. The plan provided three overriding goals:

- Improve the condition of natural resources across the Reservation degraded by past management, including forest, shrub-steppe, cultural plants, and watershed resources.
- Expedite changes to resource management programs to ensure improved resource outcomes in the future, including development of a new Integrated Resource Management Plan.
- Participation of the membership in the process of resource restoration to ensure that restoration efforts continue into the future.

The Restoration Plan has the following objectives that supplement the individual resource restoration plans:

- Increase knowledge of Reservation resources through surveys and assessments of soil condition, watershed impacts from roads, big game and eagle nest locations, invasive plants (weeds), range condition and production, range infrastructure, and cultural plant locations.
- Design and renovate the tribal greenhouse.
- Provide support for advanced natural resource education to prepare tribal members for careers managing natural resources.
- Purchase LIDAR imagery of the Reservation to support resource mapping and analysis.

Watershed Restoration

The Restoration Plan includes goals and objectives for watershed restoration to restore watershed conditions and the water quality of the Reservation's streams and lakes by upgrading or eliminating road features that are damaging water and aquatic resources, developing road standards that prevent water resource degradation, and improving oversight of road planning, construction, maintenance, and use.

Watershed Restoration Goals:

- Improve the ecological function of the watersheds.
- Improve water quality, riparian and aquatic habitat, and restore natural flows of Reservation streams.

- Develop a management plan for forest access roads that protects watersheds and improves access for resource management and tribal member use.
- Utilize tribal businesses to conduct restoration work and involve tribal youth in measuring outcomes.

Restoration of the Reservation watersheds focuses on forest access roads, especially those with erosion problems that affect nearby streams. Roads with drainage problems will have drainage structures installed. The plan identifies roads in streamside riparian zones as well as unused or duplicative roads that will be decommissioned. Stream crossings and culverts that are eroding or inadequately constructed will be replaced or removed.

Rangeland Restoration

Restoration of the Reservation rangelands is intended to enhance and maintain range conditions, sustainable livestock production and wildlife forage. Rangeland conditions will be restored by improving management of grazing animals, including horses and cattle, and controlling invasive vegetation. Additional fencing and structures will improve grazing management, reduce livestock on highways, and protect riparian zones.

Feral Horse Impacts in Friedlander Meadow

Rangeland Restoration Goals:

- Achieve the optimal desired future condition of Reservation rangelands, with sustainable economic returns to livestock producers.
- Create a mosaic of desirable rangeland plant communities with diverse forbs, grasses, and shrubs that optimize ecosystems processes.
- Establish range condition and trend plots to monitor the status of range vegetation and evaluate the effectiveness of grazing management.

- Encourage grazing practices that lead to an increase in highly palatable plant species, a decrease of undesirable species, and improved range conditions.
- Establish grazing compliance procedures that will enforce appropriate livestock management that will benefit other natural resource programs.

Wildlife Restoration

An aerial survey of big game, eagle nests and other wildlife will establish baseline wildlife information for the Reservation. This information provides a basis for developing wildlife management goals & objectives in the IRMP. The wildlife included in the surveys are:

- Sharp-tailed grouse lek counts
- Bighorn sheep lamb counts
- Gray wolf pup counts
- Gray wolf pack counts
- Big game counts
- Feral horse counts
- Eagle nest surveys

Bald Eagles

Gray-wolves

California Bighorn Sheep

Forest Restoration

Forest restoration is intended to restore and maintain resilient landscapes, create fire adapted communities and conditions that will contribute to a resistant and resilient forest. The plan includes restoration activities to restore ecosystem processes by managing vegetation structure, stand density, species composition, patch size, patterns, and fuel loading and distribution. This will create ecosystems that are resistant/resilient to epidemic levels of insects and disease and catastrophic wildfire. It will also allow fire to play its natural ecological role on the Reservation while protecting human life, structures, and cultural resources.

Forest Restoration Goals:

- Provide tribal employment through forest management and fire management activities.
- Develop a regulated forest that provides a sustainable supply of forest products over the long term.
- Reduce stocking and competition to increase growth and vigor of stands.
- Manipulate species composition, favoring early seral species.
- Reduce the potential of resource damage from destructive wildland fires.
- Assist land managers by protecting, maintaining or enhancing other resources through treatments of forest fuels.
- Maintain a fire dependent ecosystem.
- Develop a program of fuels management and prescribed fire that will effectively reduce the fire hazard of accumulated fuels, achieve multiple resource objectives, and provide for the natural role of fire in the ecosystem.
- Provide opportunities for wildland fire to be used for resource benefits and implementation when conditions permit.

Current regeneration harvesting practices involve retention of a small number of larger ponderosa pine and western larch. Additional trees are planted or natural regeneration occurs.

Cultural Plants Restoration

The goal of the cultural plant restoration is to assess the distribution and abundance of traditional cultural plants and associated native plant communities throughout Reservation lands and to compile traditional cultural plant information through field inventory, records review, and consultation with the elder and practitioner community.

The History / Archaeology Department staff and contractors will train a three-member tribal team to gather data. The data will be analyzed and inventoried and will be followed by monitoring and evaluation.

These efforts will provide baseline information to guide restoration and protection for future generations. Gaining an understanding of the distribution and abundance of traditional cultural plants and associated native plant communities will significantly improve the Tribes' ability to protect and manage these valuable resources.

Huckleberries

Soil, Water and Air

Watersheds: Water and Soils

The watersheds of the Reservation function naturally to provide clean water, regulate stream flows by cycling water through the soil, and provide fish and wildlife habitat, and cultural resources. Riparian zones lining stream courses and wetlands offer critical support for these functions, shading the water, supporting the food chain with leaf litter, strengthening stream banks with root systems, slowing runoff with absorbent soils, dissipating flood flows, and providing woody debris for aquatic habitat.

Elbow Lake

Soils of the Reservation play an important role in supporting plant growth by providing a medium for root growth and inorganic, mineral nutrients such as: nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, boron, molybdenum, copper, zinc, nickel, chlorine, cobalt, and selenium. Soils moderate temperature fluctuations and insulate deeper roots from hot and cold extremes experienced at the surface. Soils are a principal controlling factor for water movement through much of the hydrologic cycle. The water holding capacity of soils is essential for plant survival.

According to the Hydrology report, soils across the Reservation vary widely in texture, depth, rock fragment content, and natural drainage. In general, soils on the uplands are generally suited for timber production, livestock grazing, wildlife habitat and recreation while soils on terraces and plateaus are suited for agriculture and urban development as well as livestock grazing, wildlife habitat and recreation.

The Reservation lies within several precipitation zones and has nearly 3,000 miles of streams, 420 lakes, and over 22,000 acres of wetlands. The majority of lakes (about 300) are in the southwest plateau area and are saline or highly alkaline. Most of the lakes

outside this area are at higher elevations, either with clear water, low nutrients and primary productivity, or with warmer water and more nutrients and primary productivity. Currently, Reservation lakes tend to be within the moderate to high productivity range, primary productivity being the amount of photosynthesis by algae.

The Columbia River flows along the Reservation's eastern and southern borders and the Okanogan River flows along its western border. The eastern half of the Reservation has the greater number of streams and flows are moderate to low. The western half has fewer streams and flows are very low to intermittent in many cases. A primary source of groundwater is in the alluvial and glacial deposits that fill the bottom of most river and stream valleys. In many areas, groundwater is limited by aquifers that are small, disjointed and directly connected to lakes and streams.

Water Resource Conditions

The riparian, stream and fishery conditions on the Reservation were historically stable and provided substantial sustenance, cultural and spiritual values to the Colville Tribes with relatively balanced water and nutrient cycles. The riparian and in-stream conditions provided abundant and productive habitat for plants and animals including fish, mammals, birds, and insects.

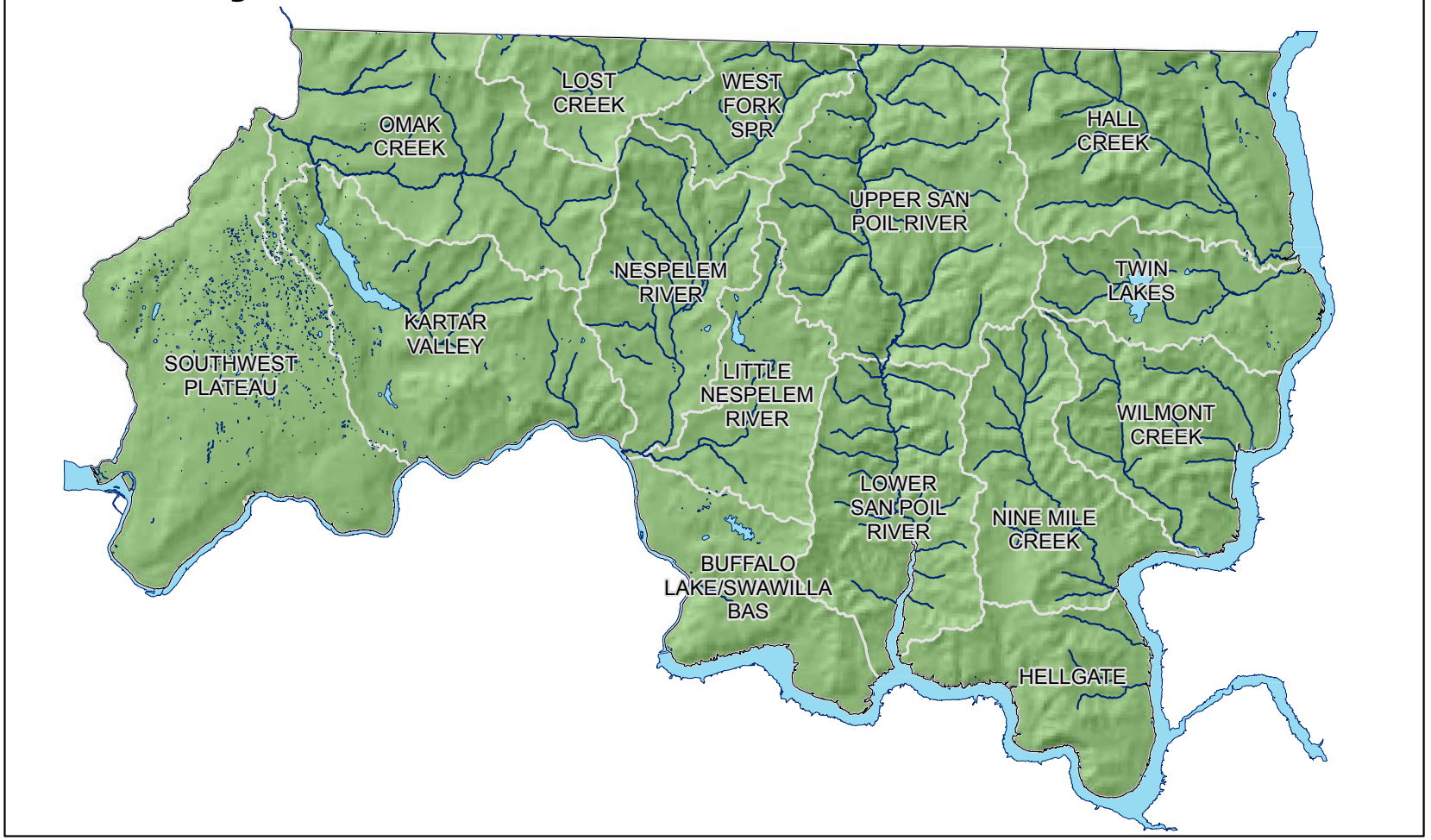
Old Fish Hatchery

The Environmental Trust Department monitors the water quality of surface waters (streams, rivers, lakes and wetlands) and groundwater. As there are nearly 3,000 miles of interior rivers and streams with an additional 202 miles of boundary waters shared with Washington State (the Columbia and Okanogan Rivers), monitoring them all would require a substantial increase in staff and funding.

Consequently, the Environmental Trust Department has stream monitoring sites in only 59 of the 209 watershed management units across the Reservation. Field water quality parameters are collected at approximately 75 surface water quality sites in 12 of the 15 resource management units on the Reservation. Approximately 65% of the Reservation's total stream network is tributary to monitoring sites and are therefore monitored. A number of the larger streams have several monitoring sites on their main stem and additional sites at the mouths of tributary streams. Water quality sampling sites were selected by consideration of tribal interests, accessibility, flows, ecological sources, and point and nonpoint sources of pollution.

Current information indicates that water quality within the exterior boundaries of the Reservation is not "impaired," but concerns do exist that require further action. The 2014 Hydrology Report states that water quality commonly exceeds standards set by the Tribes. Past records and recent tests indicate that segments of many flowing water bodies

Resource Management Units & Named Streams



** Disclaimer **
Data information used may be updated without any notification.

LEGEND

RMUs — Named Streams — Lakes & Boundary Waters

N W E S

Author: Elizabeth Wright
Coordinate System: NAD_1983_UTM_Zone_11N
Date printed: 04 March 2014

1:511,719

0 4.75 9.5 19 28.5 38 Miles

fail to meet EPA and Tribal water quality standards for temperature, dissolved oxygen, bacteria (fecal coliform) and turbidity. Recent assessment reports indicate that more than a quarter, and as high as forty percent, of all monitored streams experience standard criteria exceedances or levels of concern for these parameters.

Violation of standards occur mostly in summer months, when water temperatures exceed standards, dissolved oxygen levels fall below minimum standards, and fecal bacteria counts become concentrated during low flows. In many watersheds, Environmental Trust does not have enough bacterial contamination samples to make any observations based on trends. Turbidity values typically are highest in the spring during periods of increased runoff and erosion, particularly in watersheds affected by stream-adjacent land use activities.

Groundwater assessments indicate water quality is generally suitable for domestic and industrial purposes, though some localized problems are inherent to the geologic material of the aquifer. Most bacteria problems have been associated with faulty or damaged well construction that allowed surface contamination to enter the well. Other bacteria and nutrient (e.g. nitrate and ammonia) problems result from faulty septic drain fields, agricultural practices and concentrated livestock areas. Shallow and improperly placed or constructed wells are particularly susceptible to impacts from these activities.

Land Use Impacts

Various land use practices have impacted waters of the Reservation, including forest, range, and urban development. Over the last several decades, non-point source pollution has been the primary adverse impact affecting water quality and use and water-dependent resources.

Perched culvert (barrier to fish passage)

Groundwater interception by road causing erosion

Road washout at Beaver Dam Creek

Forest roads on the Reservation that have poor construction and location cause erosion and high sediment loading into streams. Many culverts block fish passage either by jumping distance or gradient. Road inventory data collected between 2004 and 2013 indicates that 12 of 15 resource management units have total road densities in excess of 3.5 miles per square mile. The inventory is used to allocate the limited funding for high priority restoration projects that will have the greatest positive impact on water quality.

Surface water conditions are affected by a number of factors. Bacterial contamination in surface water on the Reservation can originate from a number of potential sources, such as livestock, feral horses, septic systems, and wildlife. Environmental Trust's review of stream water quality data and stream condition records indicate that habitat quality index ratings for a selection of streams throughout the Reservation range mostly from poor to moderate for temperature and dissolved oxygen constraints and fair to moderate for flow and nutrient (nitrate) constraints.

Forest harvest activities have impacted nearly 90 percent of the streams and riparian areas over the last hundred or more years, according to the Hydrology Report. The most significant impacts are loss of larger woody debris, loss of canopy cover in riparian areas, and sedimentation of streams. Roads, and to a substantially lesser degree, feral horses and livestock, have impacted approximately 75 percent of streams and riparian areas on the Reservation. Of that, 50 percent have severe impacts and 25 percent moderate impacts.

Watershed Management

Watershed and water quality assessments, road maintenance inventories, stream and riparian area surveys, and general field observations have provided a basis for determining surface water restoration projects. These include forest road and road stream crossing improvements, revegetation of hillslopes, streambanks and shorelines, erosion control, stream head-cut stabilization, minor channel geometry modifications, streambed armoring, riparian fencing, animal watering site development, and limitations placed on impacting activities (e.g. forest harvesting, road construction, and livestock grazing).

Tribal code requires a permit for any activity affecting the bed or banks of waters, including wetlands on the Reservation. It contains standards for certain common activities that are performed in waters, such as road crossings, certain logging activities, bulkheads, and stream bank stabilization relating to loss of wetlands and compensatory mitigation. The Hydraulic Project, Forest Practices, and Shoreline Management codes provide nonpoint source protections for wetlands.

The primary purpose of the water quality monitoring and assessment program is to determine whether the Tribes' water quality standards are achieved and beneficial water uses are supported for water bodies across the Reservation. Monitoring informs the understanding of baseline water quality conditions for all waters and enables periodic evaluation of changes. Monitoring also helps identify waters needing restoration.

In addition to the monitoring and assessment conducted by the Environmental Trust Department, the Fish & Wildlife Department performs substantial monitoring of aquatic habitat across the Reservation and throughout the Okanogan River watershed. Federal and state agencies as well as the Tribes, monitor the Reservation boundary waters: the Columbia, Sanpoil, and Okanogan Rivers. These efforts are coordinated and results are shared between agencies.

Lake Management Areas include designated lakes and associated watersheds managed by the Tribes and BIA to provide special protection and enhance the surface water quality of lakes of special significance to the Tribal membership. Special management will include: enhanced setbacks for all future shoreline development, storm water management measures included in all development plans, active grazing management to prevent overuse of riparian areas, updated water type maps, and improvements to forest roads to meet Tribal Code requirements. Lake Management Areas will include Omak, Buffalo, Owhi, McGinnis, Rebecca, and Twin Lakes.

Water Rights Status and Strategy

Federal Indian water rights are substantively governed by federal law and Supreme Court decisions including Winters v. United States and Arizona v. California. Indian water rights, although created and vested as of the date of the reservation (or earlier, in the case of aboriginal rights) are not quantified unless litigation or congressional action has determined the size of the right.

Columbia River

These Supreme Court decisions established that the measure of the reserved water rights of a tribe includes both the present amount of water used and future increases in the amount necessary to fulfill the purposes for which a reservation was created. The court noted that Congress intended to deal fairly with Indian tribes by reserving waters, without which their lands would be useless.

In 1981, these decisions were cited by the Ninth Circuit Court of Appeals in the Colville Confederated Tribes v. Boyd Walton, Jr. decision that confirmed the Tribes' reserved water rights for current and future needs. The decision also confirmed the use of water to maintain the Omak Lake Fishery and the right of the Tribes to determine how to use their water.

A common method for quantifying Indian water rights under the court decisions is the Practicably Irrigable Acreage method. This method quantifies the amount of water needed to irrigate arable lands on a reservation. The Tribes have asserted their water rights in the Tribal Code (Water Resources Use and Permitting) and established a water rights project team that includes the Environmental Trust Department and the Office of Reservation Attorney.

The team is currently evaluating water uses, permits, certificates, rights, and claims on the Reservation. They have estimated future use based on population expansion and potential water uses. The method of determining Tribal or individual Indian water rights is yet to be determined and might vary from place to place depending on water source.

Air Quality

The Reservation is situated within four airsheds: Lake Roosevelt, Sanpoil River, Nespelem, and Okanogan River. An airshed is a geographical area where local topography influences air movement and emission dispersion. Topographical features may concentrate emissions such as smoke into localized areas of the airshed. The airsheds shown in the map were delineated based on resource management units and knowledge of local meteorological conditions. The four airsheds also extend beyond the exterior boundaries of the Reservation.

Smoke from the mill

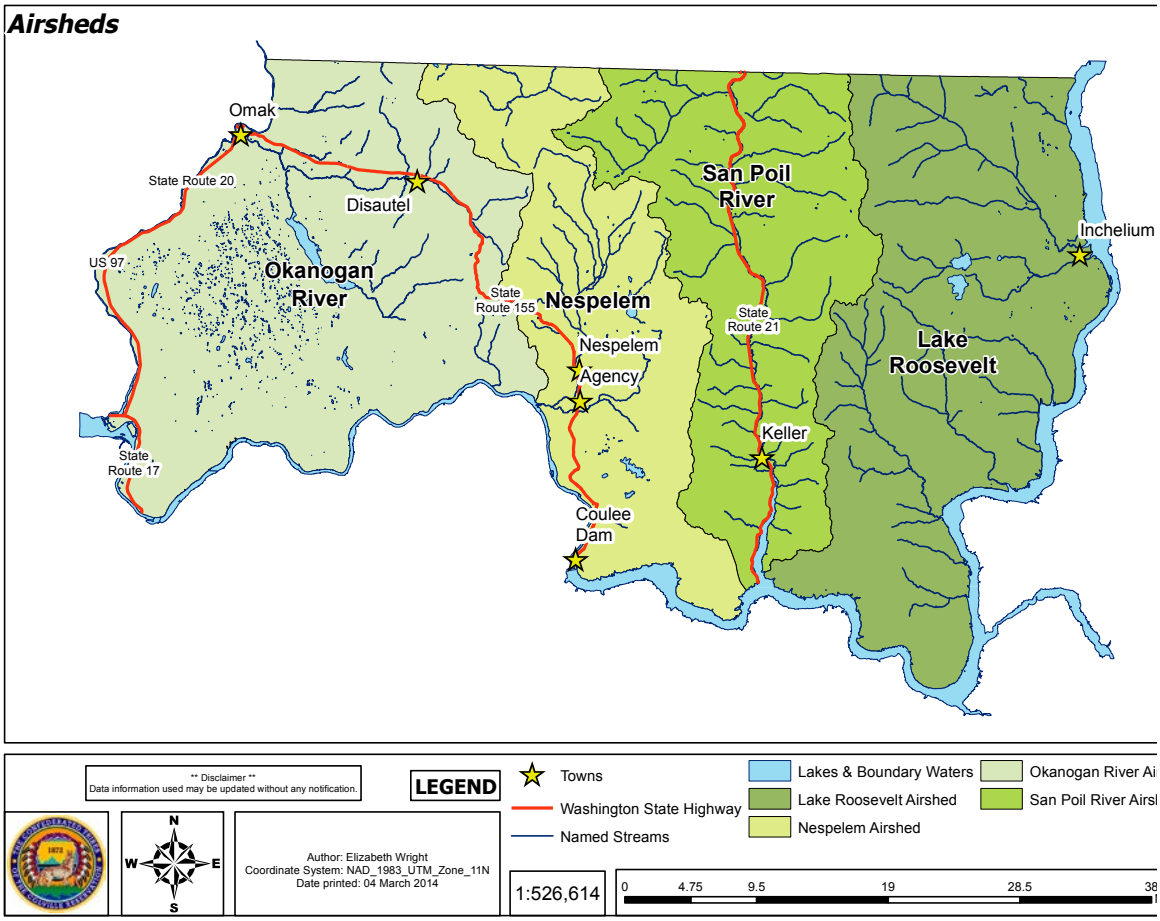
Air emissions inventories are conducted by the Air Quality Program and report on four of the six criteria pollutants; particulate matter, carbon monoxide, nitrogen oxide and sulfur dioxide. Additionally, volatile organic compounds are reported because they are precursors to ozone.

The Air Quality Program uses the emissions inventory to assess the amount of emissions from several source categories located in the airsheds of the Reservation and then develops strategies to reduce emissions that are having adverse impacts. The inventory also supplements data from monitoring efforts for a better understanding of air quality trends and concerns. By conducting successive inventories over a long period of time, trends can be determined on the number of sources and the quantity of emissions.

Air pollution is created by point and non-point sources. Point sources are individually inventoried and usually located at a fixed, stationary location that release pollutants into the atmosphere. These include gas stations, lumber mills, asphalt and concrete batch plants.

Nonpoint sources are defined as a collection of similar units within a geographic area. These include emissions from residential wood stoves that play a large role in air pollution episodes during times of low wind and inversions. Wildfires are another source and in years with larger wildfires, these emissions become the largest source of air pollution on the Reservation. Particulate matter is another non-point source of air pollution that is typically dust created by roads and wind.

The program operates three permanent continuous monitors that measure particulate matter 2.5 micron or smaller and are located in Omak, Nespelem and Inchelium. The monitors provide near real time pollution concentrations (micrograms per cubic meter) that can be used for calling health related burn ban, air quality advisories, smoke management and comparison to the National Ambient Air Quality Standards.



The tribal air quality program in coordination with Mount Tolman Fire Center issues agricultural burn permits. The majority of requests are to prepare fields to install new crops or to decrease biomass accumulation. The program issues 30 to 50 permits each year.

The Environmental Trust Department

The watersheds and airsheds of the Reservation are impacted by commercial, industrial, residential and recreational activities. The Colville Business Council began enacting codes in the 1980s that provide environmental protections for these resources. The Environmental Trust Department was assigned enforcement authority for natural resource codes that protect the air, water and soils of the Reservation. These include:

- Hydraulics Practices
- Mining
- Forest Practices
- On-Site Wastewater Treatment and Disposal
- Water Resources Use and Permitting
- Hazardous Substance Control
- Air Emissions Control
- Water Quality Standards

The Department also monitors these resources to assess air and water quality conditions, soil erosion and sedimentation. The department also issues permits for water use, on-site-wastewater systems, air emissions burn permits, forest practices, hydraulic projects and mining practices. The Environmental Trust Department and the Environmental Protection Agency permit water discharge.

The Reservation's air, water and soils are also affected by off-Reservation activities that originate from upstream mining, smelting, and commercial agriculture conducted by multiple landowners and businesses. These impacts cross jurisdictions and include multiple pollutants and responsible parties. Consequently, the Department must represent the Tribes' interests in addressing these impacts with other tribes, state, federal and international agencies.

The Environmental Trust Department addresses the legacy of many decades of timber harvesting, livestock grazing and land conversion and development that were not subject to environmental protections. The cumulative impacts include chronic and elevated rates of erosion from inadequate road construction and maintenance, degraded riparian vegetation, and altered stream hydrology (stream channelization and incision). The Department also addresses ongoing impacts from current activities to ensure that they are conducted in compliance with tribal codes and federal laws and regulations.

Erosion from stream flow down skid trail

The Environmental Trust Department provides expertise in environmental sciences (e.g. ecology, soils, hydrology, and chemistry), watershed management, water rights and water law, environmental laws and regulations.

The Department also participates in the Project Proposal Process, reviewing proposed projects on Reservation lands. The Department assesses potential impacts to the Reservation's soil, water, and air quality and makes recommendations to project proponents that will enable their activities to better protect and preserve soil, water, and air resources.

Community Concerns

The Tribes' Holistic Goal and Desired Future Conditions reflect the tribal community's desire for a healthy, environment with biodiversity and a vibrant culture. Respondents to the 2014 Community Survey were only partially aware that these goals are officially stated in the Tribes' resolutions and planning documents, however, those who were, largely recognized that the Tribes have made progress in the last 15 years towards achieving those goals.

When asked about the quality of their drinking water, approximately 78% of respondents answered "Good" or "Adequate", while 21% answered "Poor." After controlling the question of drinking water quality based on drinking water source, only 13% of respondents who obtained their water from a private well indicated "Poor" quality drinking water; whereas 26% of respondents who obtained water from the community water system indicated "Poor" quality drinking water.

Respondents indicated that air quality on the Colville Reservation is generally good to very good, with 95% of respondents indicating either "Excellent" or "Good" in response to the question. However, a large percentage of respondents (43%) indicated that the air quality on the Reservation is worse in summer months than any other time of year. This is likely due to wildfires, which 54% of respondents identified as a health concern.

A large number of respondents (54%) use firewood during the winter to heat some portion of their residence. Of this group, 91% burn firewood in a woodstove rather than a fireplace, and 77% claim firewood as their primary source of heat in the winter.

Gathering firewood

The community survey also asked respondents to express their feelings about forest and grazing practices on the Reservation. The impacts of livestock grazing on streams and wetlands were expressed as a concern by 57% of respondents. Concerns about heavy grazing and livestock rotation were expressed by 49% of respondents. Some respondents (21%) feel that grazing should be discontinued on the Reservation.

Livestock Grazing

Although only 12% of respondents felt that not enough has been done to reduce the environmental impacts of forest practices, over half (54%) expressed a desire for forest practices focused on forest health issues.

Forest access roads, which are largely constructed to facilitate forest maintenance and timber harvesting, are also used by the community for a variety of purposes. When asked how they felt about forest roads, 50% of respondents said the roads should be maintained to prevent environmental damage. A significant number (39%) agreed that, lacking maintenance, many roads have caused soil erosion that degrades fish habitat and water quality.

Forest Access Road

Environmental Trust Goals & Objectives

Achieve and maintain a healthy environment with functioning ecological systems including biodiversity, clean water, clean air, and healthy soils required to support plants, animals, tribal values, and subsistence uses.

Soils and Water

Goal 1: Surface Water. Protect and restore surface waters and aquatic ecosystems to promote ecological, cultural, subsistence, recreational, and economic functions.

Objectives:

- Conduct a surface water quality monitoring program to determine if/how often water quality standards requirements are being met.
- Provide a surface water quality monitoring results report to the public every other year.
- Work with all other Tribal and BIA programs whose activities influence water quality to incorporate management activities that will increase the frequency that water quality monitoring samples meet the Water Quality Standards code requirements.
- Monitor recreational areas on Omak Lake, Buffalo Lake, Twin Lakes, Owhi Lake, and Keller Park for bacterial contamination and post warning notices when necessary.

Beginning Beaver Dam

- Administer permitting and compliance with On-Site Wastewater Treatment and Disposal, Mining Practices Water Quality, Forest Practices, Hydraulic Project Permitting, Hazardous Substance Control codes within the jurisdiction of the Tribes in order to ensure that management activities that influence surface water quality do not prevent a surface water from meeting the Water Quality Standards code requirements.
- Require point-source wastewater dischargers on the Reservation to obtain CTCR Pollution Discharge Permits and National Pollution Discharge Elimination System (NPDES) permits from the Environmental Protection Agency (EPA).
- Provide all pesticide permits or plans for application to the EPA pesticide circuit rider supporting improved monitoring of pesticide use and investigation of all possible violations of the Federal Insecticide, Fungicide, and Rodenticide Act.
- Contribute to the development of a forest road management plan that includes a maintenance program as well as design standards for road runoff management and erosion control that will increase surface waters' ability to meet the Water Quality Standards code requirements.
- Collaborate with Fish & Wildlife, Land Operations, and Planning to review water and soil best management practices (BMPs) related to agricultural activities and recommend code revisions as needed to provide adequate surface water resource protection and improve surface waters' ability to meet the Water Quality Standards code requirements.
- Collaborate with Fish & Wildlife, Land Operations, and Realty to conduct a review of rangeland management BMP effectiveness for protecting surface waters' ability to meet the Water Quality Standards code requirements. Environmental Trust will collaborate with Land Operations to recommend revisions to Colville Tribal Code 4-11: Rangeland Management as needed.
- Require proponents with proposed development greater than one (1) acre in size to obtain General Construction permits from the EPA.
- Identify all corrals and livestock holding areas where proximity to surface water reduces the surface waters' ability to meet the Water Quality Standards code requirements. Work with owners to relocate corrals and livestock holding areas away from surface water and install off-site watering points where feasible and when funding is available.

- Update and recommend revisions to the Mining Practices Water Quality and Forest Practices codes.
- Collaborate with Fish & Wildlife and the TCP Plant Ecologist at History/Archeology to identify key wetlands for restoration.
- Partner with other programs, seek funding, and implement wetland restoration projects throughout the Reservation.
- Monitor wetland and stream conditions using biotic indicators (macro-invertebrates) and assessments of riparian habitat to determine ecological conditions and whether surface waters are meeting the Water Quality Standards code requirements.
- Update water type maps within lake management areas using LIDAR and aerial photography.
- Collaborate with Forestry to upgrade all lake management area roads to meet revised Forest Practices codes and increase lakes' ability to meet the Water Quality Standards code requirements.
- Participate in Columbia Basin and State water quality and watershed forums, councils, and other venues supporting water quality protection and water resource management in Reservation boundary waters beneficial to the Colville Tribes.
- Review and comment on land use and discharge permit applications affecting waters throughout the Upper Columbia Basin.
- Maintain involvement in the Columbia River Treaty process to ensure adequate water of good quality for all beneficial uses including the reintroduction of anadromous fish above Grand Coulee Dam.
- Continue to work with Washington State, EPA, and other entities to clean up mining pollution between Trail, B.C. and Grand Coulee Dam.
- Continue to work with Washington State and other entities in the Okanogan and Similkameen Rivers to address legacy pollution issues.
- Monitor, prioritize and act on sources of potential pollution to the Reservation boundary waters.
- Use Watershed Restoration funds to reduce watershed impacts caused by Reservation roads. Restoration treatments will include closing obsolete, polluting roads, replacing poorly designed water crossings, and installing runoff controls (water bars, drivable dips, etc.) to reduce the amount of pollutant and sediment delivery to surface waters and improve Tribal waters' ability to meet water quality standards.

Goal 2: Groundwater. Sustain safe, high-quality aquifer and groundwater supplies to meet ecological, cultural, subsistence, and economic needs.

Objectives:

- Conduct a groundwater quality monitoring program to determine if and-how often the Water Quality Standards code requirements are being met.
- Provide a groundwater quality monitoring results report to the public every other year.
- Review proposals and permit applications for land use and other projects to maintain contamination source restrictions in wellhead protection zones and maintain groundwater's ability to meet the Water Quality Standards code requirements.
- Administer permits and compliance of the On-site Wastewater Treatment and Disposal code to maintain regulatory restrictions on septic systems (types, condition, distance from well).
- Collaborate with EPA to assure federal underground storage and above-ground tank regulations are observed on the Reservation.
- Provide all pesticide permits or plans for application to the EPA pesticide circuit rider supporting improved monitoring of pesticide use and investigation of all possible violations of Federal Insecticide, Fungicide, and Rodenticide Act.
- Administer compliance with Hazardous Substance Control requiring specified clean-up standards for groundwater, soil, and sediment contamination in order to protect groundwater's ability to meet water quality standards.
- Monitor groundwater levels using field and/or analytical methods and, if necessary, regulate groundwater withdrawals (such as pumping) to ensure adequate groundwater supplies for future beneficial water use by administering permitting and compliance of the Water Resources Use and Permitting code requirements.

Goal 3: Watersheds. Ensure watershed conditions that sustain water cycle function to promote productive soils, plants, and habitat.

Objectives:

- Administer permitting and compliance of the On-Site Wastewater Treatment and Disposal, Mining Practices Water Quality, Forest Practices, and Hydraulic Project Permitting codes to maintain healthy watershed functioning in the water cycle and increase Tribal waters' ability to meet the Water Quality Standards code requirements.

- Map known unstable slope locations (landslides, mass wasting) based on past records, LIDAR, the NRCS Soil Survey, and other available technologies.
- Limit forest operations in areas of soil/slope/streambank instability and channel migration zones to prevent triggering additional erosion or increasing slope movement by administering permitting and compliance of the Forest Practices code.
- Assess riparian conditions at all stream water quality monitoring locations and assess riparian management zone effectiveness as well as prioritize project planning and restoration efforts based on the results.
- Collaborate with Land Operations and Fish & Wildlife to develop best management practices (BMPs) for riparian grazing and recommend riparian grazing BMPs as revisions to Colville Tribal Code 4-11: Rangeland Management in order to improve surface waters' ability to meet the Water Quality Standards code requirements.
- Administer permitting and compliance of Forest Practices and Hydraulic Project Permitting in order to restrict non-essential human development activities within mapped flood hazard areas.
- Use Watershed Restoration funds to reduce watershed impacts caused by Reservation roads. Restoration treatments will include closing obsolete, polluting roads, replacing poorly designed water crossings, and installing runoff controls (water bars, drivable dips, etc.) to restore altered flow patterns and improve Tribal waters' ability to meet the Water Quality Standards code requirements.

Goal 4: Water Use. Manage water use to protect tribal water rights and sovereignty as well as support beneficial uses.

Objectives:

- The Colville Reservation was created to provide a permanent home and abiding place for the Colville Tribes and their members both now and in the future. In order to ensure Tribal water rights for that purpose, Environmental Trust will administer permitting and compliance of the Water Resources Use and Permitting code requirements.
- Communicate with other Tribal/BIA departments and outside parties that water use within the Reservation and all other tribal lands is for beneficial purposes as defined by the Water Quality Standards and Water Resources Use and Permitting code.
- Collaborate with other tribal and federal programs to develop and promote current and future agricultural projects and water delivery systems necessary for irrigation within the Reservation and all other Tribal lands.

- Maintain a record of all issued water permits to assist tracking overall water use within the Reservation and all other tribal lands under the Water Resources Use and Permitting code.
- Manage water use to preserve wildlife, fish, aesthetic, and other environmental values and navigational values by administering permitting and compliance of the the Water Resources Use and Permitting code.

Goal 5: Climate Change. Consider, and manage for, long-term alterations in ecological processes due to global climate change.

Objectives:

- Conduct an annual review of regional climate change forecasts, analyses, and water resource trends to determine prudent changes in watershed management that should be taken.
- Recommend revisions to appropriate Colville Tribal Codes administered by the Environmental Trust Department necessary to protect homes and communities from climate-driven threats such as flooding, rain-on-snow events, and channel migration.
- Adapt to climate-driven, changing water availability by administering permitting and compliance of the Water Resources Use and Permitting code based on the best available and up-to-date water availability science.
- Recommend revisions to appropriate Tribal Codes administered by Environmental Trust necessary to protect wetlands, riparian areas, groundwater recharge areas, and floodplains based on the best available and up-to-date climate change impact data in order to ameliorate climate change effects on the soil and water resources.

Wetland

Air Quality

Goal 1: Protect tribal members and citizens within the exterior boundaries of the Reservation from adverse effects of air pollution.

Objectives:

- Identify, through the collection of monitoring data, the nature and level of air pollution on the Reservation and within tribal communities over an extended period of time.
- Work with the Environmental Protection Agency, tribal programs, private facilities and government agencies to permit, regulate and provide compliance assistance to prevent and reduce the incidences of air pollution.
- Develop a health related burn ban program with protocols for implementation and notification of affected areas of the Reservation.
- Provide educational and outreach opportunities for the membership and other Reservation citizens that explains their role in preventing air pollution, providing alternatives to burning and steps to reduce emissions.
- Develop a smoke management program with other stakeholder groups such as the Mount Tolman Fire Center to minimize exposure to prescribed or managed fire smoke.

Smoke from North Star fire

Goal 2: Air quality will be protected and enhanced across the Reservation

Objectives:

- Identify air pollution problem sources, areas and timeframes that are of concern.
- Establish air quality emphasis areas or Reservation-wide issues to target with special projects.
- Keep emission inventories current and expand data categories. Prepare a comprehensive emissions report every three years and distribute to tribal management and the general community.
- Participate in the Project Proposal Process (3P), land use and shoreline permit reviews and the Solid Waste Advisory Committee to identify potential air quality issues and concerns.

Goal 3: Tribal codes will be developed and federal regulations followed to maintain and improve air quality.

Objectives:

- Update the Tribes' Air Quality Codes (4-18) concerning air emission control to reflect current conditions and federal regulations.
- Monitor and comment when appropriate on regional and national issues concerning air quality.
- Maintain EPA Clean Air Act Tribal Inspector credentials and carry out inspections on facilities registered under the Federal Air Rules for Reservations.

Goal 4: Climate change impacts and adaptation strategies will be identified and plans devised to minimize effects.

Objectives:

- Develop a strategy to identify, plan for and mitigate the impacts of climate change on air quality.
- Provide outreach, educational materials and opportunities for tribal members and Reservation residents to learn about climate change adaptation.
- Develop a climate change adaptation program within the Environmental Trust Department.

Twin Lakes

Agriculture

Current Conditions

Only a small portion of the Reservation is used for agricultural production. About 2% of the available land is currently used to grow orchard crops, grains, and feed. The vast majority of this is in the west portion of the Reservation where both irrigated (near the Columbian and Okanogan Rivers) and dryland farming occurs. Much of the current larger scale agriculture is commercial in nature although a number of smaller individual farmers are also active on the Reservation.

Although upland agricultural irrigation has decreased since the 1950's, the Tribes have an opportunity to expand agriculture on the Reservation. Currently, the Tribes grow their own tree seedlings to replant the forest and some orchards are being planted.

The Tribes are currently reassessing the agricultural potential of the Reservation. There are over 291,000 acres of Class 1 irrigable land on the Reservation. A new Agricultural Resource Management Plan has been developed that assesses the conditions, values, and use of agricultural lands on the Reservation, and defines the opportunities, limitations, and leasing process that need to be considered to develop, manage, and improve existing and potential agricultural lands within the Colville Reservation.

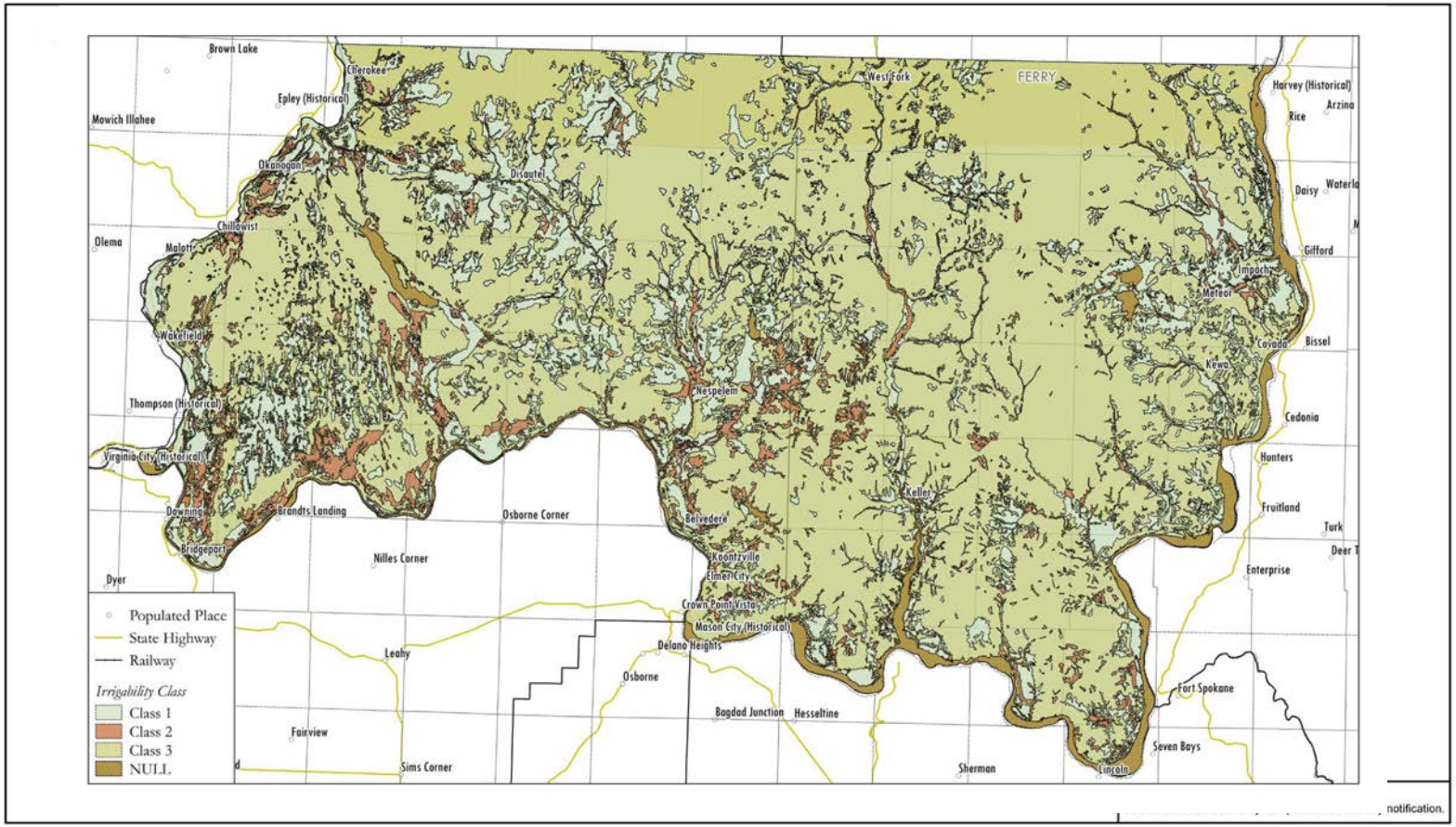
Orchards on Colville Reservation

There is potential to develop a modern agriculture infrastructure suitable for agribusiness. There is a great deal of farming expertise in Washington State that could be tapped for strategies to create profitable farming enterprises that could provide employment and teach the Tribes how to successfully farm Reservation lands.

Environmental and cultural issues surrounding an expansion of agriculture include increased use of chemical fertilizers, pesticides and herbicides, loss of shrub-steppe environments that support wildlife, loss of culturally important plants, and potentially limited supplies of water from smaller surface waters and aquifers.

Some of the Tribes' trust land, allotments and fee lands are leased for agricultural purposes. Tribal trust and allotment lands are administered by the BIA Realty office and tribal fee lands are administered by the Tribal Realty department. These leases are hampered by fractionated allotment ownership, a lack of adequate survey data, and outdated and inaccurate records. On allotment lands, agricultural activities are especially compromised by fractionated interests, crop share counts and valuation, lack of equipment, transportation, and storage facilities.

Irrigable Lands on the Colville Reservation



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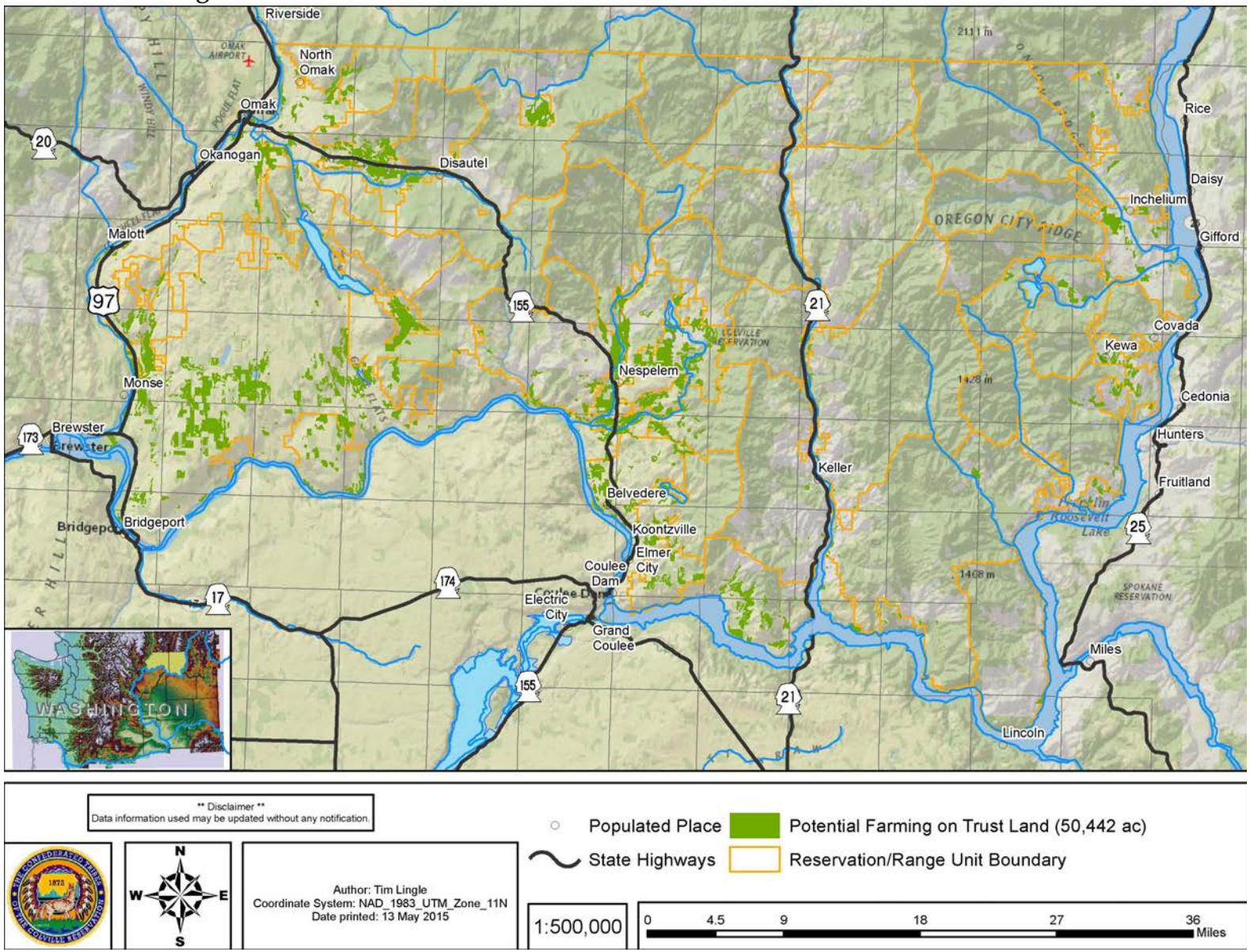
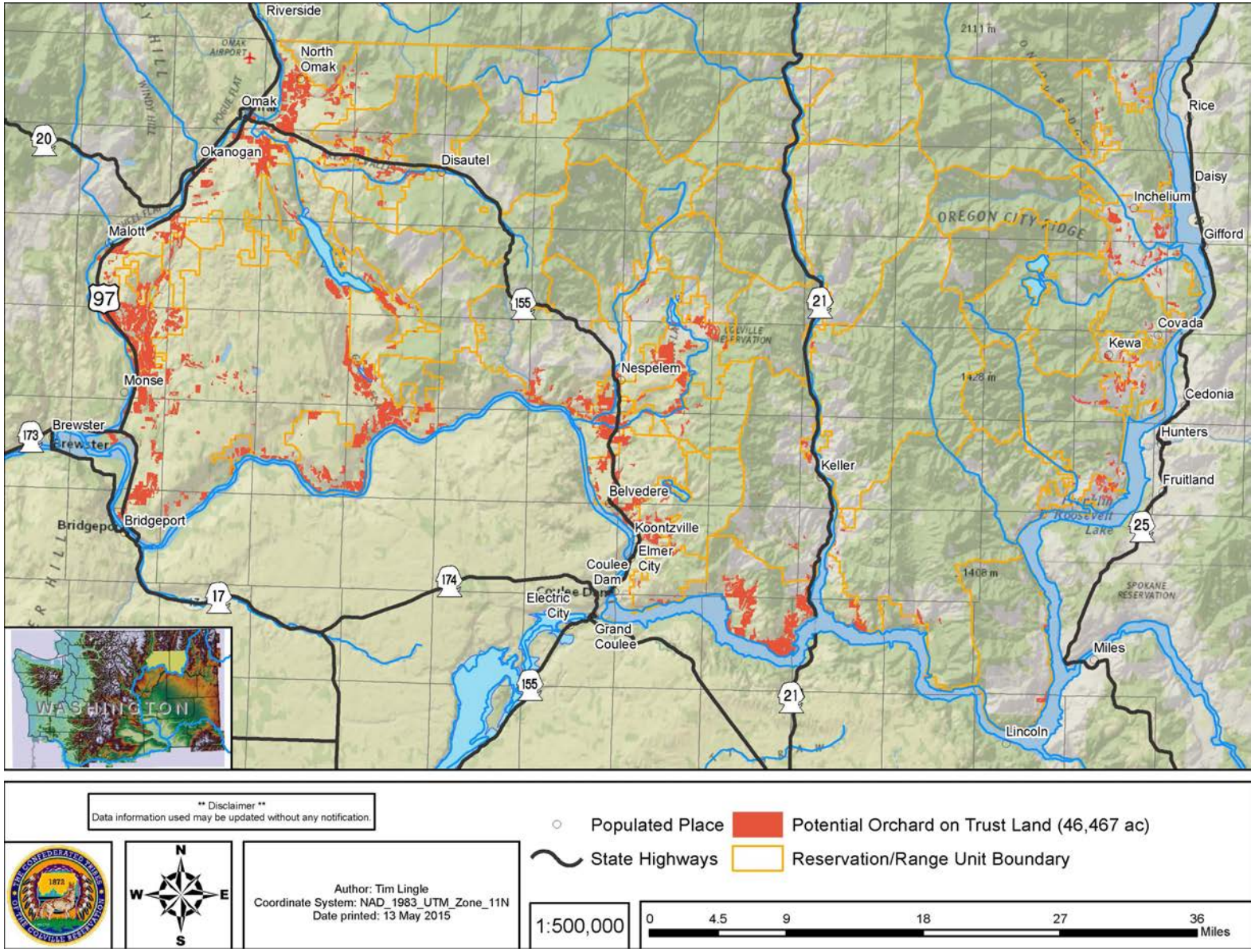
Potential Farming Land



Potential Orchard Land



Community Concerns

When asked about expanding commercial irrigation infrastructure on the Reservation, a significant number of survey respondents (47%) indicated this would have a positive effect in the community (an additional 34% stated they had no opinion on the matter).

Only 7% of survey respondents claimed to have ever been involved in commercial agriculture as a business or an employee. On the other hand, 16% of respondents indicated that they personally owned some form of livestock, most notably: horses (82%), chickens (25%), and cows (19%).

Agriculture Management

The development and management of Indian agricultural lands in accordance with integrated resource management plans will ensure proper management of Indian agricultural lands and will produce increased economic returns, enhance Indian self-determination, promote employment opportunities, and improve the social and economic well-being of the Reservation and surrounding communities.

The Tribes' Agricultural Resource Management Plan is intended to facilitate the establishment of a formal program to develop and manage agricultural lands on the Reservation. The plan would also facilitate tribal member access to federal or private programs promoting agriculture or related rural development programs generally available to the public at large. The plan is also intended to increase awareness of the educational and training opportunities available that can improve the experience and abilities of the Tribes and their members in agriculture and land management.

Agriculture Goals & Objectives

Develop and manage the agricultural lands of the Reservation in accordance with integrated resource management to ensure that proper management of Indian agricultural lands produces increased economic returns, enhances Indian self-determination, promotes employment opportunities, and improves the social and economic well being of the Tribes and surrounding communities.

Goal 1: Facilitate the creation of commercially viable, sustainable agricultural practices that provide economic benefit to the stakeholders while maintaining the integrity of the Reservation's resources.

Objectives:

- Encourage and designate areas for agricultural production, both commercial and private.
- Protect and conserve resources while maintaining the highest productive potential on Indian agricultural lands through the application of sound conservation practices and techniques.
- Where appropriate, recommend restoring agricultural lands back into forest or native grasslands.
- Increase production and expand the diversity and availability of agricultural products for subsistence, income, and employment of the tribal membership through the development of agricultural resources on tribal lands.

Canola Field Pilot Project for Biofuels

- Maintain or restore biological diversity throughout the landscape, including agricultural lands, by establishing biodiversity corridors through already- developed areas that are linked with adjacent natural areas.
- Manage agricultural resources consistent with integrated resource management plans in order to minimize adverse impacts to other values such as wildlife, fisheries, traditional cultural plants, cultural resources, recreation and to regulate water runoff, minimize soil erosion and maintain compliance with applicable chemical application standards.

Goal 2: Provide individuals and commercial entities a clear, concise procedure that documents the steps and permits required to commence agricultural operations.

Objectives:

- Enable tribal members to maximize the potential benefits available to them through their land by providing agricultural technical assistance, training, and education in resource conservation, agricultural management and use of credit and marketing of agricultural products, and other applicable subject areas.
- Assist the Tribes and individual Indian landowners in leasing trust agricultural lands for a reasonable annual return, consistent with prudent management and conservation practices, and community goals as expressed in tribal management plans and applicable tribal ordinances.

Rangeland

Reservation Rangeland and Historic Uses

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 1,392,265 acres within the Reservation, approximately 918,606 acres (66%) are within designated range units. In broad terms, rangeland includes 287,825 acres of shrub-steppe, 135,105 acres of savannah-like open forest, and 495,676 acres of denser forest plant communities.

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 sheep ranchers. 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, semi-permanent sheep stations were established at various grazing locations on the Reservation. At its peak in the 1920s, there may have been as many as 100,000 sheep grazing the Reservation.

Sheep Grazing 1920s

Horses shared and competed for rangelands with cattle and sheep on the Reservation. Since the late 1800s, wild horses have roamed the Reservation. By the 1920s, there were approximately 30,000 head of wild horses. Wild horses provided an important source of income for both Indians and white settlers on the Reservation.

Suicide Race

In addition to being a source of income, wild horses also provided entertainment for both Indians and settlers 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.

In the early years of the Reservation, cattle were a minority of grazing livestock. There were only a few thousand cattle on the Reservation in the 1920s and 1930s, but as the number of sheep and horses declined, cattle became the dominant livestock. By 1967, there were approximately 13,000 head of cattle on the Reservation's range units. Since that time, however, the number of cattle has steadily declined. In 2015, there were less than 3,800 head of cattle permitted on the Reservation's range units, with an additional 400 head of cattle on leased tracts.

Current Rangeland Conditions

According to the Range Management Plan, 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% of the Reservation in a condition that is considered to be true shrub-steppe rangeland.

The Reservation rangelands include fourteen forest habitat types and eleven ecological sites, each with a variety of environmental features: soil types, climate, precipitation, aspect and slope, producing an equal variety of plant communities that naturally develop on Reservation lands unless disturbed by fire, grazing, insect outbreaks or other perturbations. These communities occupy well-drained upland rangeland sites. Each can be thought of as a climax plant community for a particular range site and help to determine what a site's potential may be, thereby aiding in determining the management requirements of the site.

Cattle Grazing on the Reservation

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

- Bluebunch Wheatgrass/Sandberg's Bluegrass (*Agropyron spicataum/Poa Sandbergii*) - 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 (*Agropyron spicataum/Stipa comata/Poa Sandbergii)* - 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/Agropyron spicataum*) - 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.


Antelope Bitterbrush


Sandberg's Bluegrass


Blue Bunch Wheatgrass

Rangeland Inventory

A range inventory conducted by the Soil Conservation Service in the mid 1980's described the Reservation rangelands as being in "poor to fair condition." The Land Operations/Range Program recently completed a range inventory that included three years of vegetative sampling between 2012 and 2015. The inventory sampled vegetation at various locations including sites that were sampled in the mid-1980s. The inventory shows progress made since the 1980s inventory and establishes a solid baseline for future monitoring.

The 2015 range inventory indicates that there has been a significant improvement in the condition of the Reservation's rangeland. All range units that were visited in 2014 still had plenty of the current year's production available and many sites showed very little grazing impact, indicating that the Reservation could support additional grazing.

Overgrazing damages the long-term productivity of rangeland forage and allows noxious weeds, such as cheat grass, to invade. Out of forty-eight range units, only four have been identified as heavily grazed. These range units are on the west side of the Reservation in lower elevation sage brush steppe ecological sites that are infested with cheat grass. The Range Program is currently developing management strategies for these units including reduction of livestock numbers and treatments to reduce the cheat grass infestation.

Conservation Plans are being developed for individual range units to benefit livestock, wildlife, and the livestock producers. The Range Program has incorporated additional range infrastructure in management strategies to improve overall rangeland health. Wildlife friendly fencing, spring developments, cattle guards, salting practices, noxious weed controls, reseeding, and other improvements have been added to range units to keep livestock evenly distributed throughout the units to ensure range health and sustainable consumption of available forage.

Range units are re-inventoried every five years in coordination with the renewal of the range unit conservation plans. 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.

Rangeland Management

The Tribal Code emphasizes 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 Colville 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.

The Land Operations/Range Program recognizes that with better rangeland management, range health can be maintained or improved while at the same time, improving the ability 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.

On the Reservation, the authorized use of forage for grazing is expressed in animal unit months (AUMs). An animal unit is generally defined as a 1000-pound cow, with or with-

out an unweaned calf, consuming 800 pounds of forage dry matter per month. AUMs in a grazing area (calculated by multiplying the number of animal units by the number of months of grazing) provide a useful indicator of the amount of forage consumed.

Based on the 2015 range inventory, the Reservation range units produce over 273,000 tons of forage each year. Not all of this forage is accessible for grazing due to steep slopes and lack of watering points. Only about 25% of shrub-steppe and 50% of forest forage are considered to be accessible for livestock grazing. In addition, the Range Program maintains a forage utilization standard called "take half/leave half" that reserves forage and habitat for wildlife.

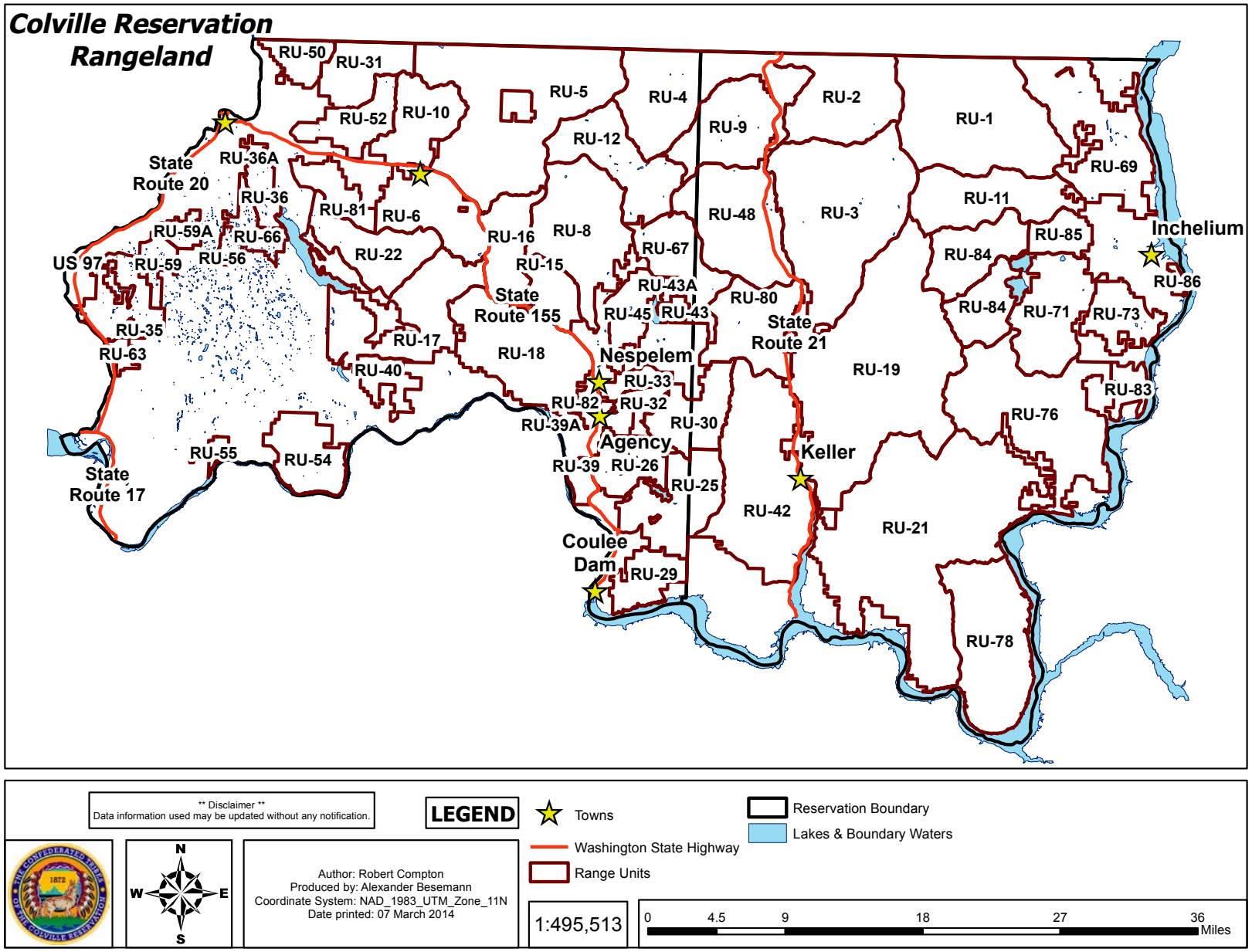
Allowing for these factors, a potential capacity of 282,368 animal unit months (AUMS) would be available and, with intensive management, could support over 47,000 head of cattle. This would require extensive fencing, watering facilities, and sufficient manpower to manage rotational grazing practices.

For these reasons, less than 80,000 AUMs were designated for livestock grazing under the 2000 IRMP, which would have allowed up to 13,000 head of cattle on the Reservation's range units. This level of grazing was never realized and in 2015 only 23,000 AUMs were actually permitted, representing less than 3,800 head of cattle. In some cases, grazing lessees and permittees don't use all the AUMs they purchase in order to reserve a range unit for their sole use. In addition, ranchers are retiring and not passing their operations on to the next generation. Ranching profits are down due to the increasing cost of operation and young people are not as interested in cattle ranching.

AUMs are allocated yearly among tribal members and non-tribal livestock producers who live within the boundaries of the Colville Reservation, and are based on range unit stocking capacities. Rotational grazing practices are utilized to promote overall rangeland health. If there is no grazing permit application for a range unit, or if the Fish & Wildlife Department permits the unit for wildlife use, it is rested from livestock grazing. In addition, a range unit will be rested if it has been disturbed by wildfire. In some cases, grazing will be delayed to protect culturally important plants.

The grazing season usually 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 as necessary to accommodate soil conditions, temperature, moisture and available forage.

The current fee rate for Tribal members is a base rate of $1.20 per AUM and for non-members residing within the Reservation boundaries, the fee rate is $10.00 per AUM. All permittees pay $10.00 per AUM for allotment use within the units grazed. Grazing fee revenue from tribal trust land goes directly to the Tribes' general fund. The usual term of a range permit is 5 years. Range permits are administered in compliance with the Rangeland Management Chapter of the Tribal Code and the Code of Federal Regulations.


Colville Reservation
Rangeland
RU-50
RU-31
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RU-12
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RU-69
State
Route 20
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Data information used may be updated without any notification.
LEGEND
Towns
Reservation Boundary
Lakes & Boundary Waters
Washington State Highway
Range Units
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Author: Robert Compton
Produced by: Alexander Besemann
Coordinate System: NAD_1983_UTM_Zone_11N
Date printed: 07 March 2014
1:495,513
0
4.5
9
18
27
36
Miles

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.

At this time, most range units are partially fenced. Fencing all the range units is prohibitively expensive and maintaining existing fences is expensive and time consuming. Fences are often damaged by logging, fires, falling trees, wildlife and livestock. There is some fencing along road corridors and efforts are made to reinforce them in critical areas. Motorists are notified that the Reservation is designated as open range.

Range Unit Acreage

Range Unit Acreage by Land Ownership				
Range Unit	Total Acres	Tribal Acres	Allotment Acres	Fee Acres
1	44,952	43,792.24	-	1,134.77
2	24,708	24,708.00	-	-
3	51,345	48,110.27	595.60	2,639.13
4	30,776	28,824.80	221.59	1,729.61
5	54,925	52,953.19	439.40	1,532.41
6	17,583	11,392.03	3,590.45	2,600.53
8	28,766	23,084.72	1,199.54	4,481.74
9	19,390	19,331.83	-	58.17
10	14,693	13,934.84	599.47	158.68
11	21,764	21,265.60	-	498.40
12	20,828	20,619.72	-	208.28
15	7,760	7,160.15	-	599.85
16	12,701	12,701.00	-	-
17	30,397	29,038.25	1,100.37	258.37
18	29,624	27,813.97	619.14	1,190.88
19	78,595	74,995.35	1,178.93	2,420.73
21	86,394	73,011.57	1,762.44	11,619.99
22	16,289	15,529.93	319.26	439.80
25	19,210	15,863.62	1,075.76	2,270.62

Range Unit Acreage by Land Ownership				
Range Unit	Total Acres	Tribal Acres	Allotment Acres	Fee Acres
26	10,029	7,269.02	2,639.63	120.35
29	8,725	1,900.31	2,490.12	4,334.58
30	13,432	11,542.12	1,410.36	479.52
31	12,086	9,725.60	1,640.07	720.33
32	4,260	2,729.81	1,530.19	-
33	3,177	1,747.03	679.88	750.09
35	12,180	11,279.90	660.16	239.95
36	4,699	3,579.70	159.77	959.54
36A	1,243	263.14	539.96	439.90
39	2,930	2,590.12	-	339.88
39A	367	206.99	160.01	-
40	6,016	5,756.11	-	259.89
42	43,496	41,321.20	500.20	1,674.60
43	1,670	1,069.97	600.03	-
43A	974	944.00	30.00	-
45	8,733	5,822.29	1,390.29	1,520.42
48	28,121	26,025.99	618.66	1,476.35
50	6,351	6,150.94	80.02	120.03
52	10,767	10,647.49	119.51	-
54	13,460	6,501.18	899.13	6,059.69
55	1,788	1,788.00	-	-
56	1,715	275.09	1,239.95	199.97
59	4,360	2,502.64	257.24	1,600.12
59A	2,900	2,644.80	75.11	180.09
63	2,118	627.99	1,240.09	249.92
66	5,353	3,172.72	290.29	1,900.32
67	15,486	13,195.62	769.65	1,520.73
69	30,538	22,469.86	2,070.48	5,997.66
71	20,574	17,251.30	1,843.43	1,479.27
73	10,102	8,901.88	140.42	1,059.70
76	41,815	35,944.17	2,400.18	3,470.65

Range Unit Acreage by Land Ownership				
Range Unit	Total Acres	Tribal Acres	Allotment Acres	Fee Acres
78	32,633	28,912.84	107.69	3,622.26
80	18,790	17,576.17	30.06	1,183.77
81	7,639	7,079.06	280.35	279.59
82	475	475.00	-	-
83	4,134	2,313.80	1,200.10	620.10
84	25,900	25,071.20	374.26	453.25
85	6,306	4,276.10	295.12	1,734.78
86	856	636.01	58.04	168.12
# Units	**Total Acres**	**Tribal**	**Allot-ment**	**Fee**
58	1,036,898	916,318.23	41,522.40	79,057.37
	47 units were in rotation in 2005	1,036,898.00	Sum of all lands	

Source: The Land Operations/Range Program
Confederated Tribes of the Colville Reservation

Noxious Weed Prevention And Control

Weeds are easily established in highly disturbed sites such as roadsides, trails, cat lines, and in overgrazed or over harvested areas. Well-managed land is the best defense against the spread of noxious weeds. However, even well managed land in good condition is susceptible when natural disturbances such as fire, open niches in a plant community and animals distribute plant parts and seeds (e.g. houndstongue). Monitoring disturbed sites is recommended for at least two to three years after applications.

Houndstongue

Non-native invasive plants can affect the structure of ecosystems by altering soil properties. Soil in areas that become dominated by noxious weeds may have lower amounts of organic matter and available nitrogen than areas supporting native grasslands. Furthermore, many non-native species deplete soil nutrient reserves to very low levels.

Invasive non-native plant species or invasive weeds pose one of the most serious threats to wildlife habitat, biodiversity, native population stability, economics, cultural resources, and scenic values. Invasive weeds can result in significant economic losses for agriculture, ranching, and recreational industries.

The invasion of non-native plants can alter ecosystem processes and threaten native species. Many of the plants gathered for cultural practices can be lost due to the invasion of weed species.

Due to the invasive nature of many weed species, implementing adaptive management or ecologically-based principles is critically important to properly manage weed species. Adaptive management for weed control focuses on establishing or reestablishing desired vegetation in place of the invasive weeds at a site rather than simply eliminating the weeds themselves. In addition, an ecological approach to the management of the weed species on infested sites enhances the overall weed management plan.

Musk Thistle

Yellow Toadflax

Restoration of native vegetation is a desirable end goal for most, but not necessarily all, infested sites. In some cases, non-invasive, non-native species may be used as competitive plantings or placeholders in treated areas.

The Tribes also recognize that weeds damage all lands and resources throughout the Colville Reservation and have developed an Integrated Weed Management Plan. The plan is based on enhancing the desired plant species and communities, rather than on simply eliminating weeds.

Common Bugloss

Weed control is an important part of natural resource and property management. Preventive programs are implemented to keep management areas free of species that have not become established, but which are known to be invasive elsewhere in the area. Priorities are set to control, reduce or eradicate weeds that have already become established on a property, based on their actual and potential impacts on the land management goals for the property, and on the program's ability to control them now versus later. Actions are taken only when careful consideration indicates that leaving the weed unchecked would result in more damage than controlling it with best available methods.

Historically aquatic invasive species have largely been overlooked, due to lack of funding and adequate staffing. Recently in the Cooperative Weed Management Area, aquatic weeds have become increasingly more evident and many treatment sites and extensive surveys have taken place.

The Aquatic/Riparian Invasive Species project will be broken into five project locations; Hall Creek, Lake La Fleur, Lake Roosevelt, Omak Lake and Twin Lakes. Extensive surveying of riparian areas is quite limited, but based on data that the Land Operations Program currently has, the primary invasive plant species include the following: purple loosestrife, Japanese knotweed, common tansy, common reed and Canada thistle.

The Land Operations/Range Program will be working closely with the Ferry and Okanogan County Noxious Weed Control Boards to complete this project. The Tribes' Wetland Specialist will be an integral part of all projects and will help conduct plant surveys prior to applications being made as well as being present during applications.

Community Concerns

In the last two decades, cattle grazing has played an increasingly less dominant role in the Reservation economy. Only 8% of survey respondents indicated that they grazed livestock on the Reservation's rangelands. The survey asked about the community's general feelings toward cattle grazing on the Reservation. Thirty-four percent (34%) of respondents felt that grazing was an important source of income for tribal ranchers and allotment owners, and 34% of respondents felt that livestock and wildlife grazing are essential to maintain rangeland health and production.

The survey also revealed that respondents believe cattle grazing on rangeland has the potential to negatively impact streams and wetlands if not managed correctly (57%), and that heavily grazed range units should not be grazed every year (49%). However, only 21% of respondents indicated their belief that grazing on the Reservation should be discontinued all together.

Feral horses on the Colville Reservation

The majority of respondents (57%) indicated that they thought feral horses are part of the Reservation culture and should be maintained, though 38% indicated that the herd should be limited to less than 200 horses. Only 8% of respondents stated that feral horses should be removed from the Reservation entirely.

The Tribes recognize that invasive non-native plant species pose one of the most serious threats to wildlife habitat and biodiversity throughout the Reservation. The vast majority of survey respondents (94%) indicated their concurrence with this assessment, stating that it is important for the Tribes to control the spread of noxious weeds on the Reservation. This concurrence, however, was qualified by 70% of respondents who agreed that whenever possible, non-herbicidal weed control measures should be used.

Cheatgrass

The Land Operations/Range Program

The Land Operations/Range Program's overall goal is to provide sustainable, desired plant communities with forage for wildlife and livestock, and to maintain and enhance rangeland health with a diversity of rangeland conditions by utilizing best practices in the management of the Reservation rangelands.

Due to the decline in grazing and permit revenues over the years and the subsidized fees for tribal members, the Range program has only minimal staffing and funding to manage 59 range units constituting almost one million acres. The limited staffing restricts the provision of technical assistance and this is exacerbated by inadequate participation by the permittees who are responsible for managing their livestock to prevent overgrazing and impacts to riparian zones. The lack of staff and funding has caused programs for noxious weeds and feral horses to be insufficiently monitored and managed.

In the course of implementing the 2000 IRMP, however, the Range program has significantly improved the management of rangelands and associated natural resources on the Reservation. Technical support and funding from the Natural Resources Conservation Service has allowed the Range program to improve range infrastructure such as fencing and livestock watering facilities.

The Range program staff has improved working relationships with grazing permittees, developing required conservation plans for range units and engaging them in best management practices as well as infrastructure improvements and maintenance. New staffing has allowed the Noxious Weed Control Program to increase control efforts of noxious weeds on the Reservation. The program focuses on identifying and treating new invaders and providing public education to increase awareness.

Working with other natural resource departments has also helped the program become more effective. The Project Proposal Process (3P) has been a valuable resource for the Range Program, by identifying any resource concerns that might be associated with the program's proposed projects. The Project Proposal Process also allows the Range Program to evaluate and assess other proposed natural resource projects, by providing comments and recommendations.

The Range program works in particular with the Fish & Wildlife Department. The staff works to incorporate all of their concerns such as excluding livestock from game reserves, initiatives to protect sage grouse habitat, managing feral horse herd size, protecting riparian areas from over grazing and soil compaction, ensuring forage availability for ungulates, and installing wildlife friendly fencing (smooth top and bottom wires). The Range program takes into consideration the amount of available forage and adjusts stocking rates to accommodate wildlife.

The Range Program staff provides expertise in animal health and behavior, vegetation, soils, and watersheds. The staff employs current best management practices to reduce grazing impacts and to use grazing management practices that increase available forage and control invasive weeds.

The program's goals and objectives illustrate the importance of maintaining and enhancing rangeland health and productivity. Membership assistance and participation in range management can benefit rangelands as well as other natural resources.

Rangeland Goals & Objectives

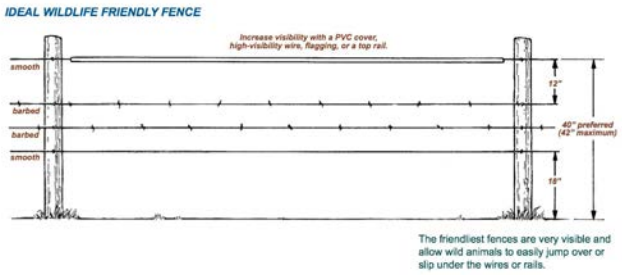
Enhance and maintain a diversity of rangeland conditions to which all tribal members and natural resource programs may benefit. Provide sustainable, desired plant communities for overall rangeland health.

GOAL 1: Maintain Ecosystem Health on Rangelands

Objectives:

- Implement best management practices to enhance and maintain a diversity of range conditions and maintain sustainable vegetation communities.
- Use best management practices 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 impacts in sensitive areas.



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

Objectives:

- 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.
  - o Re-establish and enhance native plants palatable to livestock and wildlife in disturbed areas.
  - o Implement a deferred-rotation grazing system to increase the retention of soil moisture and increase the duration and magnitude of stream flow.
  - o Collaborate with natural resource programs to develop and manage riparian grazing areas adjacent to designated lakes and streams to protect fish, wildlife, water quality, recreation, and cultural resources.
- Coordinate efforts with the Fish & Wildlife Department and tribal membership to minimize the overall impact of feral horses on the Reservation.
  - o Monitor damage resulting from unmanaged horse herds.
  - o Implement Feral Horse Management Plan strategies to reduce impacts through herd management and/or removal.

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

Objectives:

- Assess ecological site trends and biotic integrity through monitoring to assess or classify plant community composition, change in vegetation, forage utilization, soil and site stability, and 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 to protect 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.

Cattle Guard on Reservation rangeland

Goal 4: Use Livestock Strategies to promote rangeland health.

Objectives:

- Calculate the carrying capacity of rangelands through monitoring to determine the amount available forage, and then adjust stocking rates to accommodate wildlife.
- Prepare individual range unit Conservation Plans to promote rangeland health, encourage good grazing practices, and protect natural resources.
    - o Evaluate Best Management Practices on each range unit
    - o Assess each range unit to determine if increased infrastructure will need to be installed to encourage a deferred-rotation system.
    - o Develop off-site water points, salting practices and more effective livestock rotation as needed to achieve more effective utilization of available forage through the distribution of livestock, as well as reducing livestock impacts in sensitive areas.
- Install cattle guards on key access routes as needed.
- Implement management practices to minimize the impact of livestock and wildlife to tree seedlings and native grass re-planting areas.

GOAL 5: Control the Spread of Invasive Species on Rangelands

Objectives:

- 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 best management practices 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, use Washington State USDA biological weed control agents for control 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 control and reduce the occurrence of invasive species.

GOAL 6: Fire Management on Rangelands

Objectives:

- 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 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.

North Star Fire

Forests

Overview

The Forestry Program is charged with overseeing all forestry related activities for the Colville Indian Reservation. It is a unique department that is comprised of both BIA and tribal employees that work together under a cooperative agreement. Management of the Reservation's natural resources is governed by a variety of statutes, including the Colville Tribal Code, the National Environmental Policy Act, the Endangered Species Act, the Clean Air Act, the Clean Water Act and the Tribal Forest Protection Act.

The National Indian Forest Resources Management Act requires the Secretary of Interior to manage reservation lands for permanent forest production; however, such management must also be in accord with sustained yield principles. The Act requires that management of reservation lands protects watersheds, regulates stream-flow, provides for recreation facilities and contributes to the economic stability of local communities and industries.

The Tribes, however, have discretion to determine how to manage the forest on a sustained yield basis that provides for permanency of timber production over a long-term period. The Tribes must necessarily make informed judgments about what kind of management will lead to permanent forest production that satisfies the principle of sustained yield.

Progress Made Implementing the 2000 IRMP

The Forestry Program made substantial progress implementing the Tribes' first IRMP. Timber sale projects, guided by the IRMP harvest schedule, were proposed on a yearly basis to provide timber volume for the tribal mills and revenue to the Tribes. Several large salvage projects, not included in the original harvest schedule, provided substantial volume to mills and revenue for the Tribes. Fulfilling the harvest schedule was disrupted by the housing market recession and the Tribes' mills were closed in 2009. As the economy has improved the demand for forest products, harvest volumes have nearly returned to the level proposed in the IRMP.

Colville Precision Pine is now closed, but was supplied wood from timber sales implemented by the Forestry Program.

During this time, nearly 50,000 acres of the commercial forest were harvested and regenerated to ponderosa pine and western larch, either naturally or by planting. Thousands of acres were also commercially thinned or salvaged, further improving forest health and ensuring sustained harvest volume and revenue for the future. The Forestry Program also imple-

mented more than 15,000 acres of non-commercial treatments such as pre-commercial thinning, weeding, tending treatments, forest health protection, and special insect and disease work.

Collectively, all of these activities helped to achieve the Tribes' Desired Future Condition of "managed landscapes that more closely resemble those created by the activities of historic disturbance agents". These activities also provided numerous jobs and income to the Tribes, tribally owned businesses, and surrounding communities, meeting the Tribes' desired condition of a "landscape producing viable short term and long term economic stability for the tribal membership."

Legacy Issues Affecting Forest Management

The management strategy of the 2000 IRMP was designed to address a host of forest health issues resulting from past management practices such as selective harvesting and fire exclusion. Species composition, vegetation structure and density (number of trees) of the Colville Reservation forests has changed dramatically over time.

This change was largely brought about by a 100-year legacy of land management practices and influences from European settlers moving into the area. Practices such as fire suppression, timber harvesting and grazing have changed the vegetation communities that originally existed.

Much of the Reservation forest was at one time described as having open and park like stands of ponderosa pine and western larch with grass growing in the understory. Fires burned frequently through these stands, influencing and shaping the species composition, structure and density of the forest stands. With the initiation of practices such as fire suppression, timber harvest and grazing, the open park like forest began to change to a multi-layered canopy Douglas-fir and grand fir dominated forest.

Historic 23 Mile Cabin

Many of the Reservation's forest stands that were once composed of ponderosa pine and western larch are now primarily composed of Douglas-fir and/or grand fir. These stands tend to be denser than the historic stands and have a multi-layered structure. Many of the large ponderosa pine trees are gone and the shift in species composition, structure and density makes these stands more susceptible to attack by insects and disease.

In dense stands, trees compete with each other for sunlight, nutrients and water. If they have insufficient growing space, their health will decline and they will die or be attacked by insects and/or disease. In the Reservation's dense stands, increased insect populations of bark beetle and spruce budworm have attacked and killed many trees across the landscape in recent years.

Diseases such as dwarf mistletoe and root rot also kill many trees each year. The historic stands of ponderosa pine and western larch were much more resistant to attacks by dwarf mistletoe and root rots than are the Douglas-fir and true firs that grow on much of the Reservation today.

Past management practices promoted diseases such as dwarf mistletoe that deforms trees and eventually kills them.

Selective harvest timber practices are largely to blame for this change in the forest structure. For several decades, the forest was managed to harvest individual trees using subjective standards that allowed loggers to harvest the older, largest diameter trees that provided the highest economic value to the Tribes. This left small openings in the forest that quickly filled in with Douglas-fir and true firs.

These management practices also led to the removal of the dominant ponderosa pine and western larch trees. Many stands now have a species composition that is dominated by second growth Douglas fir or other true firs, and no healthy trees are left to help naturally seed the site back to the more desirable ponderosa pine and western larch species.

The absence of fire on the landscape has also contributed to the decline in forest health. In the 1920's, aggressive fire suppression policies were adopted that effectively removed fire from the ecosystem. The removal of fire contributed to the shift in species composition and the development of multilayered stand structures and increased stand densities.

Species that would have burned during the frequent fires, such as Douglas-fir and other true firs, became established in the understory. The absence of fire has allowed the quantity of needle litter and dead woody fuels on the forest floor to increase over time. These changes have created a forest condition that is much more susceptible to catastrophic fire. When fire occurs there is an increased likelihood that the fire will burn with more intensity and be more destructive then would have occurred historically.

Management Under the IRMP

The ecological change in the forest created numerous management challenges for the Tribes' natural resource programs. Desired species such as western larch and ponderosa pine, that are more resistant and resilient to fire, require a lot of sunlight (as they are shade intolerant) to establish and grow. In order to restore the forest to a more historic species composition, an even-aged management strategy was prescribed in the IRMP.

A fast growing plantation of western larch near Roaring Creek. This stand was previously dominated by decadent and dying subalpine fir.

Many of the large, scattered ponderosa pine and western larch that would have dominated the landscape have been removed, died or have severe dwarf mistletoe infections. Consequently, there is not enough western larch and ponderosa pine left on the landscape for these tree species to naturally regenerate. A significant portion of the landscape must be planted with seedlings in order to re-establish these desired tree species. Tree planting can be very expensive, but is necessary to establish trees on many sites.

As foresters began to recognize the need to shift management away from selection harvesting in the 1970's and 1980's, they began implementing regeneration harvesting on a relatively small scale across the Reservation. Throughout the 1980's and 1990's, regeneration harvesting became much more common.

Clear cut with no retained trees.

Eventually, however, the tribal membership became concerned about the clearcut method of harvest. While clearcutting was very successful at establishing the desired tree species, it dramatically changed the landscape visually. Consequently, the Council passed a tribal resolution that requires a minimum of 2 large trees per acre be left.

During development of the first IRMP and public meetings, the planning team recognized that implementing an even-aged strategy would require the retention of some

large trees. They also recognized the need to incorporate other ecologically important principles into the Forest Management Plan.

Regeneration harvest treatment with tree retention near Cody Lake.

These ideas were integrated into the IRMP and led to a fundamental change in how the Tribes' forests are managed today. Many large diameter trees are left scattered across the site when implementing regeneration harvesting and growing new young trees. Not only is this visually more appealing, it also resembles what much of the Reservation forest would have looked like historically, with open "park-like" stands of large diameter trees.

Leaving large trees and habitat patches has been the primary strategy for regenerating the forest under the 2000 IRMP. Although this strategy reduced the available harvest volume, it more effectively fulfilled the economic goals of the Tribes' forest products industry while maintaining a visually appealing landscape that would meet the Desired Future Conditions developed with input from the tribal membership for the IRMP.

Management of Young Trees

The Forestry Program also involves tending young non-commercial stands to ensure adequate stocking, species composition, and density. These treatments do not involve logging and are usually conducted as a pre-commercial thinning operation. If there are too many trees on a site, the individual trees will eventually stop growing and many trees will die and fall over.

An old stand of trees that was never precommerically thinned. Notice the dead and down trees, due to overcrowding.

Managing young stands of timber is one of the most critical objectives in the Forestry Program. Pre-commercial thinning involves removal of some trees to create adequate space for the remaining trees while they are still young, thereby allowing maximum growth that creates more valuable large diameter trees for future generations. These treatments also provide employment opportunities for tribal members, contributing to the economic stability of the Reservation community.

Logging Systems and Forest Roads

Under the IRMP, the Forestry Program has been responsible for designating logging systems, planning new forest road construction and managing the existing forest roads that are used as part of a timber sale contract. There is a legacy of past management practices that have created several challenges for the Forestry Program in relation to road systems and harvest planning.

Historic, damaging logging road built in a stream.

Historically, there was very little planning and engineering involved in the building of forest roads. Roads were built to "get the wood out" and were placed near streams or in locations that caused ecological damage. At the time, water quality and other ecological concerns were not considered and harvest systems involved the use of large dozers to haul logs down the hill to the nearest road. Usually, the nearest road was placed in or near the stream at the bottom of the hill because this was the easiest place to build the road. In many cases, culverts were not even used and dirt or logs were placed in the stream to provide a crossing.

Water quality policies and the emergence of cable logging on the Reservation in the 1980's fundamentally changed harvest planning and road design on the Reservation. While change has been slow to come, the IRMP and the Tribes' subsequent Forest Practices Code incorporated many ecological principles and recognized the need to address many of these legacy road issues. It also directed the Forestry Program to utilize more cable logging techniques on the steeper slopes to further protect soil and water quality.

Cable road built appropriately upslope and away from the creek in the Inchelium District.

The new approach to harvest planning made many of these old, damaging roads unusable. Consequently, new roads are required to access areas with minimal impact to streams. This is especially true with cable logging, where roads must be located at the ridge top. This can be costly, but is necessary to facilitate harvest operations. Cable logging is fairly new to the Reservation, and many pre-IRMP project areas have very few or no roads that are designed to facilitate cable logging.

Accommodating cable logging of steep slopes and the closure of old, damaging roads, required the construction of replacement roads designed to reduce environmental impacts. Substantial funding from timber sale contracts provided upgrades to existing roads and the installation of new culverts, resulting in improved water quality and fish habitat.

New 84" culvert on Owhi Creek

Many problem roads still exist in the forests of the Reservation, but the Forestry Program has made significant progress under the IRMP in replacing legacy problem roads with newer, better designed roads. Forestry will continue to collaborate with other resource programs to ensure forest roads are maintained to a proper standard and in compliance with Tribal Codes.

Forest Inventory and the Annual Allowable Cut

The Forestry Program is responsible for maintaining a Continuous Forest Inventory (CFI) and conducting routine data analysis to determine trends in forest growth, mortality, standing volume and other important attributes. The present CFI system was installed in 1958, and re-measurements of the plots occurred in 1965, 1972, 1980, 1994, 2004 and 2013. Changes in plot design and the total number of plots have occurred over time but the data provides the Forestry Program with long term forest trends. A Continuous Forest Inventory Report summarizing the inventory data is prepared after each measurement.

The Continuous Forest Inventory includes thousands of sample plots

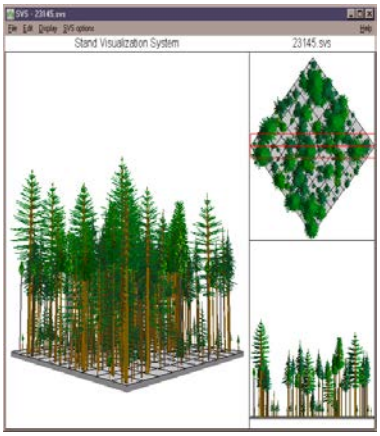
Lumber at the mill awaiting processing

This data is important in determining the appropriate annual allowable cut. The National Indian Forest Resources Management Act requires the Secretary of Interior to manage Reservation lands for permanent forest production; however, such management must also incorporate sustained yield principles.

Sustainable forest management is defined as the practice of meeting the forest resource needs and values of the present without compromising the similar capability of future generations. This means that in the long term, the Tribes should not harvest more volume than can be grown. The concept also integrates reforestation, managing, growing, nurturing, and harvesting of trees with the conservation of soil, air and water quality, wildlife and fish habitat, aesthetics, and cultural plants.

In order to achieve sustainable forest management, analysis is conducted with the CFI data to determine the sustained yield for the Reservation's commercial forest. Sustained yield is the yield that a forest can produce continuously at a given intensity of management. In other words, we must determine the level of volume that can be harvested into perpetuity without running out of trees.

The data is modeled using various software programs to determine how much volume the Tribes can sustainably harvest, given the management practices being used on the Reservation. In older analyses, the focus was predominantly on timber production. This is still important, but newer software packages and modeling methods now allow other resource needs to be incorporated into the annual allowable cut calculation.



Computer software is used to analyze inventory data to determine growth, mortality and other attributes. Data can also calculate the annual allowable cut.

Under this IRMP, the Forestry Program will utilize the most advanced analysis techniques available and will incorporate state-of-the-art inventory methods into the Continuous Forest Inventory. Routine inventory analysis will also be conducted to ensure that harvest levels are sustainable and that the forest is being managed to meet the needs of current and future generations of tribal members.

Fire Management

Fire management is an important function of the Forestry Program. The Fire Management program is charged not only with putting fires out, but also in using prescribed fire as a tool to manage forests and rangelands on the Reservation. Fire Management responsibilities include:

- Fire suppression.
- Fire prevention.
- Prescribed fire and fuels management.
- Burn permits.
- Activity fuels burning for timber sale and planting operations.

Broadcast burning

Forestry Programs and the Project Planning Process

Forestry's primary role in the Project Planning Process is to propose timber sales and other forest management projects to the planning team, allowing other disciplines and the public an opportunity to make site specific recommendations for protection or enhancement of other resources. The Forestry Program collaborates as a member of the Project Planning Process team on all projects, providing a detailed project description with maps, silvicultural prescriptions, harvest plans, and other detailed information. Project review includes field trips, tours and organized public meetings to obtain input for project development.

Numerous mitigations and project design features are incorporated into forestry projects to reduce potential impacts to other resources. Implementation of the 2000 IRMP included a variety of design features, for example:

- Seasonal restrictions and exclusions to protect bird nesting sites for species such as Red Tailed Hawks, Goshawks, Eagles and Owls.
- Incorporation of no harvest habitat patches and movement corridors for big game wildlife species.
- Protection measures for culturally important native plant species occurred on several projects.
- Seasonal restrictions on skidding and hauling to protect soil and prevent erosion. Harvesting on frozen ground or snow cover can reduce the impacts of machinery on sensitive soils.
- Replacement of undersized culverts to improve fish passage and water quality. This was funded by stumpage deductions in timber sale contracts.
- Harvest exclusions and restrictions to protect archeological sites and culturally important sites, including gathering areas.

Additional Forestry Program Responsibilities

The Forestry Program has additional responsibilities, many of which are not timber sale related. These include:

- Administration of the Tribes' Timber Use Policy to issue Free Use permits for the collection of forest products such as firewood, posts and poles, and houselogs.
- Fiscal responsibilities related to tracking all forest products that are removed from the Reservation. Every log that leaves the Reservation is scaled and accounted for. This requires a team of log scalers and accounting staff to track all products.

- Oversight and implementation of forestry activities on tribal allotments. There are numerous allotments both within and outside the Reservation boundaries. The Forestry Program works with allottees to manage their forest resources.

Community Concerns

The 2014 Community Survey asked respondents how they felt about the Tribes' management of the forested lands of the Reservation. Respondents agreed significantly that the forests of the Reservation provide an essential revenue source (47%) for the Tribes and jobs (52%) for tribal members and the community. Many respondents indicated that they now work or have worked in forest related positions, including the tribal and BIA forestry programs or other natural resource programs at the Tribes, as well as timber harvesting, milling and manufacturing, and fire management.

The strongest response to the question on forest management (54%) prioritized forest-wide thinning of insect and fire prone tree stands to restore forest health. In addition, five alternative management approaches for the Tribes' forest and rangelands were presented and respondents were asked to choose which management approach should be adopted.

Question 42

Which of the following approaches do you think should be the management focus for the Reservation's forests and rangeland?

	Responses	*Percentage*
Continue the current management strategy.	153	15%
Enhance and improve the current management strategy.	543	53%
Concentrate on forest and rangeland health problems.	458	45%
Expand forest and cattle production.	74	7%
Eliminate timber harvesting and livestock grazing.	102	10%

The majority of respondents (53%) preferred a management approach that would enhance and improve the Tribes' current management strategy. The second largest response (45%) was for an approach that would concentrate on forest and rangeland health problems. Although most respondents chose only one alternative, 291 chose more than one. The majority of them (203) chose a combination of the Enhance & Improve and the Forest & Rangeland Health alternatives.

The responses to questions concerning the importance of controlling insects and disease were almost unanimous (97%) in stating that controlling insects and disease was very important (83%) or somewhat important (14%). Fire protection and fuels management also received near unanimous support (97%).

Only 7% of respondents want to see a management focus that expands forest and cattle production. More respondents (10%) would prefer to entirely eliminate both timber harvesting and livestock grazing on the Reservation. Accelerating timber harvesting was supported by only 13% of respondents. Interestingly, even returning to the harvest level prior to the recession only received support from 13% of respondents.

Approximately one-third of respondents feel that not enough has been done to reduce the environmental impacts of timber harvesting and other forest practices, and that timber harvesting involves too much clear-cutting.

Respondents were asked how they use forest access roads and their feelings about the impact of the roads. Significantly, 70% of respondents acknowledged that the forest roads provide access for hunting, fishing and gathering.

The importance of forest access roads for fire protection was indicated by 58% of respondents. The need to maintain these roads to prevent environmental damage is supported by 50% of respondents and 39% believe that, lacking maintenance, many roads have caused soil erosion that degrades fish habitat and water quality. Only 23% of respondents feel that there are too many forest access roads. Uncertainty as to whether a forest access road was open or closed was expressed by 58% of respondents and 34% indicated they have knowingly driven on a closed road to access forest resources.

New forest road on the Reservation

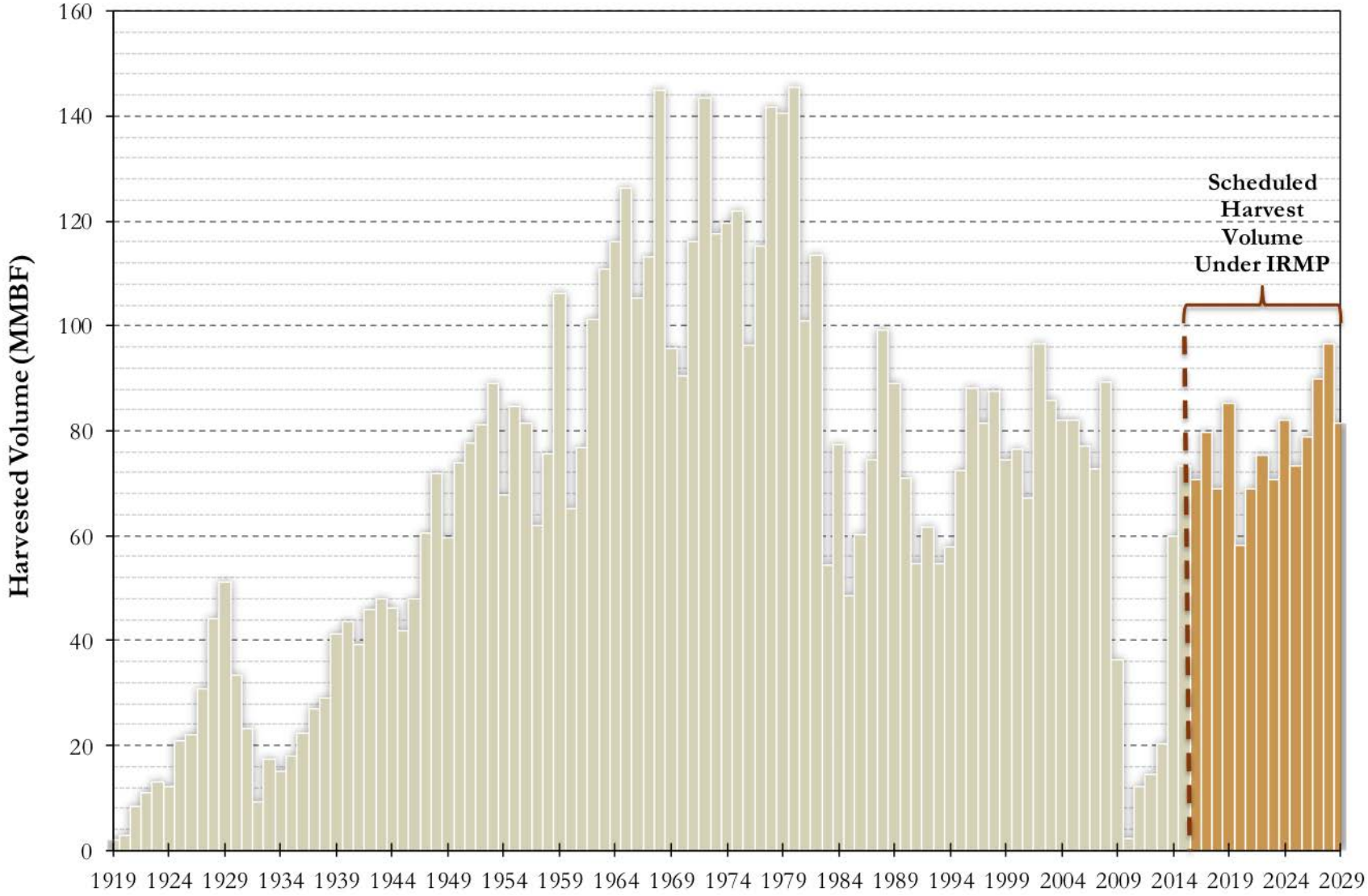
Timber Harvest Schedule

Prior to 1920, timber harvesting on the Reservation was relatively insignificant. Harvest after that time gathered momentum, peaking in 1980 when over 145 million board feet (MMBF) was harvested from the last stands of virgin sawtimber. Subsequently, the Omak mill was retooled for smaller diameter Douglas-fir trees and harvest levels since the 1980's have typically been well below 100 MMBF.

Market conditions affect the demand for forest products and the annual harvest. Since 1990, annual harvests have varied from a high of 96.7 MMBF in 2002 to a low of 2.2 MMBF in 2010 following the severe economic downturn in 2007 that resulted in closure of the Tribes' timber mills and forestry products businesses in Omak. The resulting average annual harvest during this time was 63.2 MMBF.

Historical and Future Harvest Volumes, *1919-2029*

Millions of Board Feet (MMBF)



In developing the 2015 IRMP, the Forestry Program developed a harvest schedule for the period 2015 - 2029. The harvest schedule is based on an annual allowable cut of 77.1 MMBF and was expected to average 76.8 MMBF during those years with annual levels ranging from 69 MMBF to 96.6 MMBF. Timber sale projects were designated with harvests occurring each year in the Omak-Nespelem, Sanpoil and Inchelium districts.

As shown in the Historical and Future Harvest Volumes 1919 - 2029 graph, the projected harvest volumes for the next fifteen years would be similar to the previous planning period 2000 - 2014.

Planned Harvest Schedule 2015 - 2029	
Harvest Year	Volume (MMBF)
2015	73.3
2016	70.6
2017	79.8
2018	69.0
2019	85.1
2020	58.2
2021	69.0
2022	75.4
2023	70.7
2024	82.0
2025	73.4
2026	78.9
2027	89.9
2028	96.6
2029	81.4

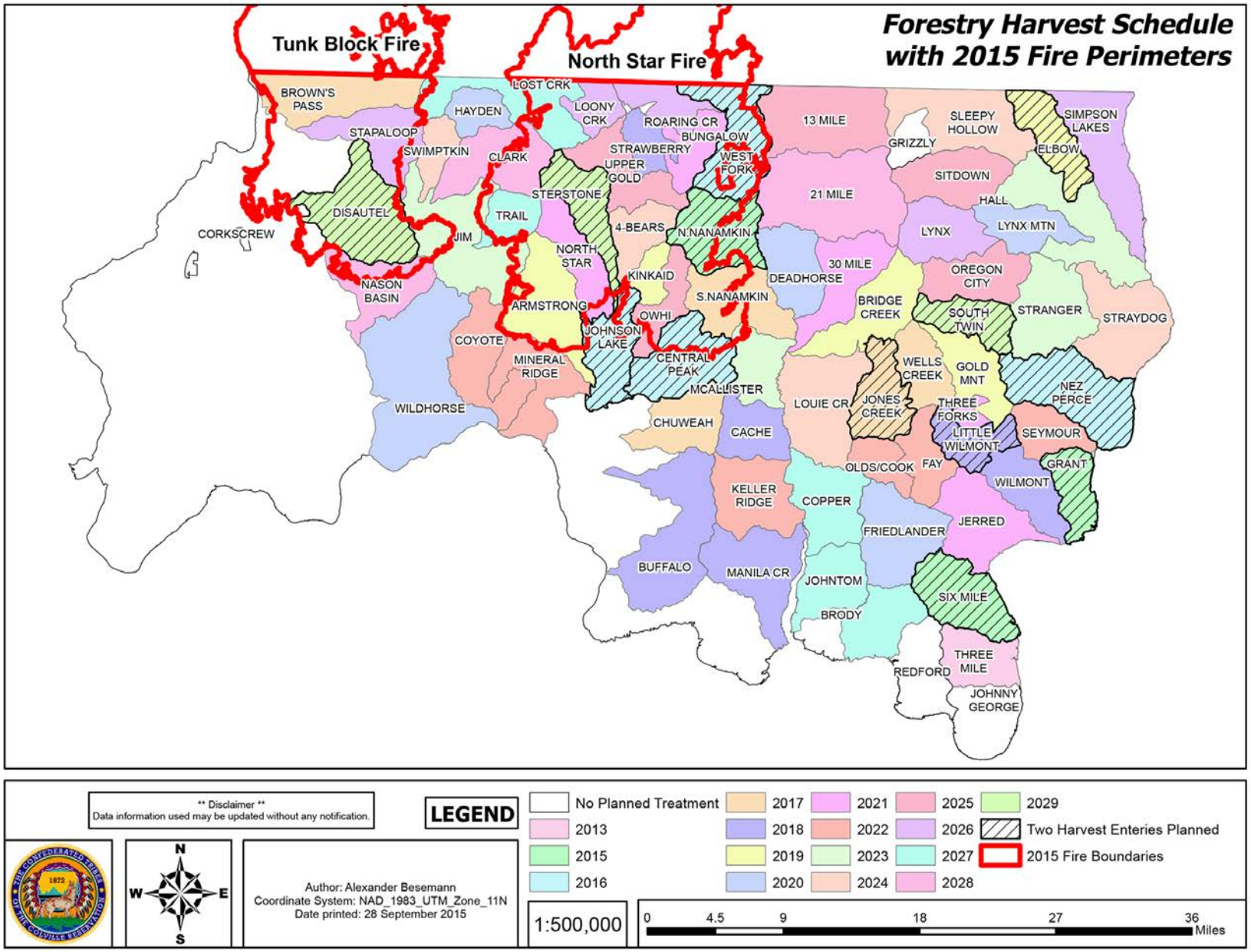
Wildfires and the Harvest Schedule

The North Star and Tunk Block wildfires that began in August 2015 burned over 380,000 acres, much of it on the Reservation's range and timberlands. Preliminary estimates indicate that about 161,000 acres of commercial timber were damaged by the fires, impacting as many as 26 of the planned timber harvest projects, requiring salvage operations and extensive reforestation efforts. Potentially, up to 1 billion board feet of timber was destroyed by the fire. Measurement plots for the Continuous Forest Inventory measurements in the burned areas were destroyed as well.

The Forest Harvest Schedule map shows the forest project areas and the originally anticipated harvest years. The map also shows the fire perimeters for the Tunk Block and North Star fires indicating the project areas that were affected by these fires.

New measurements will be required in order to develop a new harvest schedule that will allow the Tribes to regain the 77.1 MMBF annual harvest level. The Forestry Program estimates that it will take about a year to develop a new harvest schedule. It is likely that in the near term, the harvest level will be 50 – 60 MMBF and will involve adjustments to the harvest schedule. The Tribes have a contractual obligation to provide logs to the mill and harvest activity will focus on fulfilling this obligation.

The harvest schedule has been impacted by wildfires in the past and will likely be impacted by future wildfires. Adaptive harvest planning is necessary to respond to fires with expeditious salvage, reforestation and adjustments to the the harvest volume and schedule that will ensure sustainable harvest levels, economic stability, and the achievement of forest health objectives.


Forestry Harvest Schedule
with 2015 Fire Perimeters
Tunk Block Fire
North Star Fire
BROWN'S PASS
HAYDEN
LOST CRK
LOONY CRK
ROARING CR
BUNGALOW
13 MILE
SLEEPY HOLLOW
SIMPSON LAKES
GRIZZLY
ELBOW
STAPALOOP
SWIMPTKIN
CLARK
STRAWBERRY
UPPER GOLD
WEST FORK
SITDOWN
STERSTONE
21 MILE
HALL
DISAUTEL
TRAIL
4-BEARS
N.NANAMKIN
LYNX
LYNX MTN
CORKSCREW
JIM
NORTH STAR
30 MILE
DEADHORSE
OREGON CITY
KINKAID
NASON BASIN
S.NANAMKIN
BRIDGE CREEK
SOUTH TWIN
STRANGER
STRAYDOG
ARMSTRONG
OWHI
JOHNSON LAKE
COYOTE
CENTRAL PEAK
WELLS CREEK
GOLD MNT
MINERAL RIDGE
MCALLISTER
NEZ PERCE
LOUIE CR
JONES CREEK
THREE FORKS
WILDHORSE
CHUWEAH
CACHE
LITTLE WILMONT
SEYMOUR
OLDS/COOK
FAY
GRANT
WILMONT
KELLER RIDGE
COPPER
JERRED
FRIEDLANDER
BUFFALO
MANILA CR
JOHNTOM
SIX MILE
BRODY
THREE MILE
REDFORD
JOHNNY GEORGE
** Disclaimer **
Data information used may be updated without any notification.
LEGEND
No Planned Treatment
2013
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
Two Harvest Enteries Planned
2015 Fire Boundaries
N
W
E
S
Author: Alexander Besemann
Coordinate System: NAD_1983_UTM_Zone_11N
Date printed: 28 September 2015
1:500,000
0
4.5
9
18
27
36
Miles

Forestry Program Goals and Objectives

Manage the Reservation forestlands with forest management practices that integrate protections for water quality and quantity, fish and wildlife, soils, vegetation, cultural resources, recreation and scenic beauty. Maintain a sustainable forest products industry to provide revenue for the Colville Tribes and economic benefits for the people of the Reservation.

Goal 1: Improve Forest Health

Objectives:

- Prioritize and treat stands that are potentially at risk or are currently affected by insects and disease.
- Implement thinning, manage stand structure, and shift species composition to make stands more resistant & resilient to insects and diseases.
- Prioritize treatment of stands in the Douglas-fir and grand fir zones to restore historical ecological systems.
- Plant or naturally regenerate diseased stands to a variety of conifer species, especially those that are disease resistant such as western larch and ponderosa pine.
- Utilize prescribed fire as a tool to manage fuels, improve vegetation health, and plant community resilience.
- Develop science-based information and tools to enable the Tribes to plan for climate change.

Goal 2: Maintain a sustainable forest products industry to provide revenue for the Colville Tribes and economic benefits for the people of the Reservation.

Objectives:

- Maintain the Continuous Forest Inventory and conduct analysis to determine trends in forest growth, mortality, and standing volume to ensure that harvest levels are sustainable.
- Establish an annual allowable cut based on long term, sustainable harvest levels.
- Provide timber volume in support of contractual obligations with tribal enterprises.

- Generate a consistent revenue stream to the Colville Tribes from timber harvesting.
- Ensure employment opportunities are compliant with Colville Tribal Code Title 10, Employment and Contracting for Tribal Employment Rights.

Goal 3: Harvest as much timber mortality as practical in a timely manner.

Objectives:

- Capture the value of dead, dying and damaged trees before they deteriorate, to contribute volume towards the annual allowable cut.
- Ensure timely timber salvage by collaborating with other programs to expedite permitting.
- Incorporate snag and leave tree retention requirements into salvage operations.

Goal 4: Utilize logging systems that balance environmental protection with economic feasibility.

Objectives:

- Ensure harvest operations are compliant with tribal code requirements for timber harvesting and reforestation, road design and maintenance, vegetation management, and the protection of riparian zones and threatened and endangered species.
- Designate logging systems that will minimize damage to residual trees that will be maintained for the future stand.
- Prescribe the most appropriate logging system based on terrain and access, harvest treatment objectives, environmental impacts, cultural resources,economic feasibility and other resource concerns.

Processor

Goal 5: Develop a forest road system that is safe, minimizes environmental impacts, and facilitates harvest operations.

Objectives:

- Design and maintain a forest road system to provide safe vehicle passage consistent with Tribal Code requirements, including rolling dips and other drainage features, properly sized culverts, and road watering to reduce dust and road surface displacement.
- Develop transportation plans for each project area that identify all access routes for current and future harvests.
- In coordination with the Land and Property Management Department, update the forest road system by identifying roads that are not viable or are not needed for future harvest operations.
- Target total tribal forest road miles to 3.5 miles per square mile during harvest.
- Target open tribal forest road density of 1.5 miles per square mile post-harvest.
- Develop road closure plans for each project that occur after all harvest, fire management and planting projects are completed.
- Ensure effective road closures in project plans for projects in special emphasis areas.
- Target a net decrease in forest road density in 15 years.
- Collaborate with CDOT, BIA Roads and Environmental Trust to upgrade all forest roads within the Lake Management Areas to meet Forest Practice Codes.

Goal 6: Promote ecological diversity and retain large diameter trees across the landscape.

Objectives:

- Leave an average of 4 large diameter (2 dominant, 2 co-dominant) trees per acre across the landscape.
- Provide a variety of age classes and structural diversity across the landscape.
- Maintain a diversity of tree species appropriate to individual sites.
- Move the forest toward an historic ecological condition with a mosaic of forest life stages, including old growth and new growth tree stands and a diversity of native plant communities and wildlife habitat.

- Develop silvicultural prescriptions that support down woody debris and snag recruitment targets.
- Manage young trees through pre-commercial thinning in order to develop healthy, large diameter trees in the future.

Goal 7: Reduce the risk of destructive wildfire.

Objectives:

- Manage fuel loadings to reduce the potential for wildfires that result in severe resource damage.
- Prioritize and implement treatments designed to protect life and property from damaging wildfires.
- Reduce the occurrence of unwanted human caused fires.
- Provide effective fire suppression response.
- Collaborate with all natural resource departments to rehabilitate wildfire disturbed areas to minimize further damage or destruction to resources such as soil, water, forest, wildlife, roads, fauna and flora and cultural plants.

North Star Fire

Fire Management and Prevention

Fire on the Colville Reservation can either destroy or enhance resources. The Tribes' management of fire includes both suppression of wildland fire to protect resource values, and the use of prescribed fire to protect and enhance other resource values. Natural resources such as forests, rangeland, fish and wildlife, water and air quality, are integral parts of the culture and economics of the Reservation and both aspects of fire management can be used to protect these valuable resources. Historic, archaeological and other cultural resources of the Reservation can be irreversibly damaged by uncontrolled fire and need to be protected whenever possible.

Over the last century, fire suppression and selective harvesting have changed the structure, composition and density of the Reservation's forest. Historically, wildfires were a primary source of natural thinning in forests. Eliminating this natural process resulted in an accumulation of fuels in increasingly dense forest stands with an ever greater threat of catastrophic wildfires. The increased risk of valuable timber loss brought about the use of more intensive and often mechanized forms of suppression actions. This has added to the cost of fire suppression and resulted in greater impacts to other resources.

Climate change is generally expected to bring drier conditions, which will likely increase the threat of wildfire and extend fire season length. Drier conditions will stress vegetation communities and increase the incidence of insect and disease problems, which will result in more plant mortality and an increase in the buildup of fuels.

Wildfire Impacts

Fire can play a duel role in natural resource management because it can destroy a valuable revenue resource with significant environmental and economic impacts. Fire can also be used in forest management to remove unwanted fuels and prepare forest sites for natural and artificial regeneration. Range and agricultural lands can suffer a short-term impact involving crop loss or loss of grazing forage, however fire can also provide long-term benefits to rangeland by reducing shrub cover, recycling nutrients, increasing biomass production, stimulating seed production and retarding conifer encroachment.

Smoke from wildland fires can contribute to short-term and intermediate health effects. The health effects are generally reversible but long-term exposure has the potential to cause or exacerbate a wide range of health problems. Individuals with asthma, allergies, or the capacity to develop reactive airways are more likely to be susceptible to the effects of smoke.

Haze From Wildfire Smoke

Reduced visibility from wildland fire can impact scenic vistas and create hazards along transportation routes. Of particular concern are low-lying areas near bodies of water (e.g., lakes, stream and river corridors) that are prone to the development of fog. These same areas can be geographic locations where smog can form, a mixture of smoke particulates and fog moisture droplets.

The potential for fire damage to prehistoric cultural resources varies with the type of resource and the intensity of the fire. Hot and deep burning fires have the capacity to fracture stone tools found in campsites, and hot fires may damage pictographs painted on granite because the heat can cause the rock to "exfoliate" or lose thin slabs of material near the surface. Peeled trees are obviously at risk to damage from fires.

Fire Damaged Petroglyph

Historic sites, particularly abandoned homesteads, are particularly subject to fire damage because they often contain wooden structures that burn rapidly. Historic and archaeological sites are more subject to fire damage than prehistoric sites because they lay closer to the surface where glass and ceramic items can easily be fractured by heat.

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

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

Water can be impacted by fire since large fires tend to change the timing, duration, and volume of spring runoff. The change in timing can have an impact on how much water is available downstream during the spring irrigation season. Surface erosion may also be increased, transporting more silt and debris into water systems, altering aquatic habitats.

A primary concern of fisheries after a wildfire is the increased delivery of sediment and the loss of riparian habitat. Fire may exacerbate the unstable nature of some streams and adversely impact spawning habitat and water quality. The loss of large and small woody debris and riparian vegetation that contributes shade to the stream, can result in a loss of rearing habitat and an increase in downstream water temperatures.

The increased use of roads, particularly in riparian zones during suppression and salvage have a high potential to deliver sediment to streams and lakes. These risks are increased if buffering vegetation between roads and aquatic areas have been lost in the fire.

Wildfires generally affect wildlife by modifying habitat. A reduction in habitat diversity resulting from fire tends to result in fewer wildlife species, or decreasing population levels of some wildlife. Potential risks to wildlife from wildfire include:

- Loss of threatened or endangered species and their habitat within the fire area.
- Loss of wildlife, habitat and associated winter range within the fire area.
- Loss of travel corridors and increased fragmentation of habitat.
- Damage to riparian and wetland functions and habitat within the fire area.

Fire Policy and Management

Fire policy and fire management on the Colville Indian Reservation has been guided through the years by national fire policy direction and trends. Fire policy has been modified substantially during the last century. The first national fire policy came after several years of severe fires between 1910 and 1935. In the context of the ecological theory of the time, fire exclusion was believed to promote ecological stability. In addition, fire exclusion was intended to reduce commodity damages and economic losses.

Prescribed Burn

By 1935, the objective was to prevent all human caused fires and contain any fire started by the following day. By the 1960's fire management costs were increasing exponentially. Research was also demonstrating that some positive benefits could be derived from natural and prescribed fire, and some leeway was granted for early and late season fires.

In 1977, prescriptive fires became a tool of fire management. The 1988 Yellowstone fires illustrated the positive benefits of fire, but also identified the inherent risks and liabilities of using fire and recommended greater planning, preparation, cooperation, and management oversight.

By 1994, it became apparent that fire was part of a larger problem, one of several symptoms of natural ecosystems becoming increasingly unstable due to altered regimes. The *1995 Federal Wildland Fire Management Policy & Program Review* documented the need for landscape level resource management, the integration of fire into land management planning and implementation, and the involvement of all affected landowners and stakeholders.

This direction was reviewed following the 2000 fire season with a report prepared by the Secretaries of Interior and Agriculture, *Managing the Impact of Wildfires on Communities and the Environment: A Report to the President in Response to the Wildfires of 2000.* The report focused on several key points: restoring landscapes and rebuilding communities, undertaking projects to reduce risks, working directly with communities, and establishing accountability.

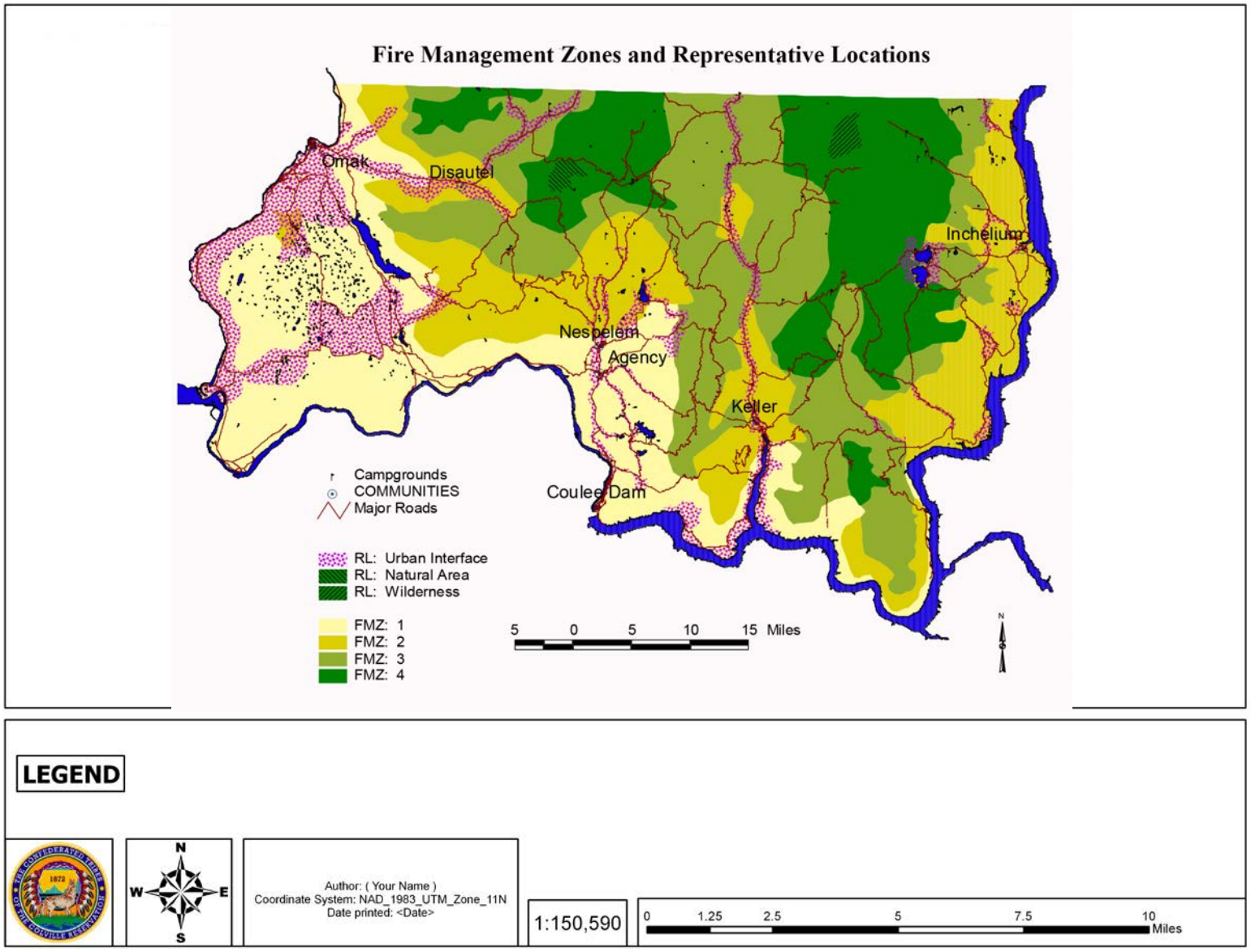
Congress expressed its support in the *National Fire Plan* with substantial new financial resources as well as new directions for aggressive planning and implementation to reduce the risks of wild-land fire interfacing urban areas.

Fire Management Program

The Fire Management Program is tasked with the management of wildland fires on the Reservation. The program is not authorized to participate in the suppression of structural or car fires, however, in wildland fire situations, it is not uncommon for structural fire protection to be necessary. Currently there is minimal structure protection capability in some areas of the Reservation. The communities of Inchelium, Desautel, and Keller have little protection capability. Currently, there is no tax-based funding for fire districts or additional fire protection.

Population growth and the increase of homes in wildland settings increases the number of fires caused by people and the potential for damage to both natural resources and residential structures. The damage caused by a wildland fire may be so extensive that homes, and other structures may be destroyed, causing significant financial burden on property owners.

The Fire Management Program is authorized by federal law to regulate fire activities such as burning piled yard waste, campfires and meat drying. The Tribes regulate timber harvest slash burning on fee property within the Reservation. The Air Quality Program recently began issuing permits for agricultural burning.


Fire Management Zones and Representative Locations
Omak
Disautel
Inchelium
Nespelem
Agency
Keller
Coulee Dam
Campgrounds
COMMUNITIES
Major Roads
RL: Urban Interface
RL: Natural Area
RL: Wilderness
FMZ: 1
FMZ: 2
FMZ: 3
FMZ: 4
5 0 5 10 15 Miles
N
LEGEND
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S
Author: (Your Name)
Coordinate System: NAD_1983_UTM_Zone_11N
Date printed: <Date>
1:150,590
0 1.25 2.5 5 7.5 10
Miles

Fire Management Zones

The Reservation's fire management zones are based on plant association groups, natural fire regimes, natural ignition patterns, and expected fire behavior given current fuels conditions. Acreage by zones are:

- Zone 1: 397,256 acres of low elevation grassland
- Zone 2: 318,070 acres of low elevation timber
- Zone 3: 319,950 acres of mid elevation timber
- Zone 4: 255,480 acres of high elevation timber

FMZ 1 is low elevation grass and is predominant on the western portion of the Reservation. The vegetative fuels consist of sagebrush, bitter brush and grasses, with scattered pockets of timber in valleys and creek bottoms.

FMZ 2 is low elevation timber and is scattered throughout the southern and eastern portions of the Reservation. This is a transition zone between the FMZ 1 low elevation steppe and FMZ 3 mid elevation timber. The vegetative fuels consist of timber over story and grass, sage brush, woody debris, and understory.

FMZ 3 is mid elevation timber. This FMZ predominately covers the Reservation where the overstory consists of a mixture of Ponderosa pine and Douglas-fir. The under story is a mix of brush, grass, and downed woody debris.

FMZ 4 is considered the high elevation timber region. This region is where the overstory includes more of the fir species with scattered Ponderosa pine and Western Larch. The vegetation consists mostly of downed woody debris, needle litter, and grass.

The Wildland-Urban Interface (WUI) is a component of the first three FMZs and is characterized by homes intermixed or adjacent to wildland areas. This component is scattered across the Reservation. It is predominantly found on the lower one-third of hillslopes or in valley bottoms. The fuels mixture consists of vegetation associated with the FMZ, plus household trash, vehicles, wood piles, and anything else homeowners may have collected around their homes.

Fire Lookouts

The Mt. Tolman Fire Center manages seven lookout towers on the Reservation to discover and accurately locate fires before they are one acre in size. Not all these lookouts have been manned in recent years due to lack of staff and poor living quarters in two of the lookouts. The lookouts are located at the following locations:

- Omak Mountain
- Whitmore Mountain
- Keller Butte
- Cody Butte
- Gold Mountain
- Whitestone Mountain
- Johnny George Mountain

Cooperative Fire Management Agreements

The Fire Management program is party to agreements with five fire districts (Fire Districts 2, 3, 5,7,8) to provide logistical and operational support during a wildland fire. There is an additional agreement with the town of Coulee Dam. The Master Cooperative Fire Protection Agreement expands cooperative fire suppression capabilities and includes the United States Department of Interior (Bureau of Land Management), the National Park Service, the United States Department of Agriculture (U.S. Forest Service), the Oregon Department of Forestry, and the Washington Department of Natural Resources.

Morning Briefing for the North Star Fire

Fire Prevention Program

Wildfire prevention involves four essential activities:

- **Education** is aimed at changing people's behavior by awareness and knowledge. This is accomplished with printed materials, social media, one-on-one contacts or group presentations. Information is also delivered through signs, displays, fairs, and parades.
- **Engineering** is used to design shields from ignition sources or the removal of fuels that could ignite from a spark or firebrand. Fuels management and hazard reduction help to reduce the risk of wildfire and loss of valuable natural resources.
- **Enforcement** is used to ensure community compliance with fire regulations and ordinances.
- **Administration** includes management planning, budgeting, and training.

Fuels Management

The fuels management program is managed by the Mount Tolman Fire Center and provides fuel treatments for the 1.4 million acres of the Reservation. The program conducts fuel treatment on tribal trust and fee lands located on the Reservation

Forest residue and fuel management practices can be effective in lowering the fire hazard on particular sites. Effective fuel management treatments include the removal of light surface fuels with prescribed fire and the thinning of crown fuels by mechanical means. These treatments are only temporarily effective and require repeated treatments over time. Considering the overwhelming buildup of hazardous fuel on the Reservation, the Tribes are faced with an enormous long-term challenge.

There are 16 Wildland Urban Interface areas designated across three forest planning districts on the Reservation. These communities were assigned a 1.5-mile buffer to identify areas where fuel treatments should be prioritized. A variety of hazardous fuel reduction treatments that include thinning, piling, and prescribed burning, have taken place around these communities at risk.

The recommended fuel treatments in fire management zones include mechanical thinning, hand thinning, mechanized-piling, hand piling, and prescribed burning. Fuels treatments vary in how long they are effective, depending upon the local conditions.

Fire Management & Prevention Goals and Objectives

Manage a wildland fire program that provides for firefighter and public safety, is cost-efficient, is responsive to land stewardship needs and to other resource management goals and objectives. Reduce the danger of wildfire to people as well as structural damage in the Wildland Urban Interface.

Goal 1: Every firefighter, every fire line supervisor, every fire manager and every Agency administrator will take positive actions to ensure compliance with established safe firefighting practices.

- Firefighter and public safety are the first priority in every fire management activity.
- Provide for a safe working environment by strictly adhering to national standards for qualifications, physical fitness, and personal protective equipment as outlined in Wildland and Prescribed Fire Qualifications System Guide (PMS 310-1).

Goal 2: Recognize the role of wildland fire as an essential ecological process and natural change agent and incorporate applicable knowledge into the fire planning process.

- Develop fire management plans, programs, and activities that will support tribal land and resource management plans and their implementation when attainable.
- Actively participate in interagency fire management operations through planning and sharing of resources under formal agreements.
- Utilize "Light-Hands-on-the-Land" fire tactics whenever feasible.
- Continue to utilize Fire Management Planning Analysis for program planning.
- Fire will be used for protection of resource benefits under approved plans and acceptable conditions.

Goal 3: An effective fire suppression capability will be maintained with minimum funding requirements and the utilization of suppression methods least damaging to the Reservation's resource values and environment.

- Maintain a fire management program that is economically viable, based on values to be protected, costs, and land resource management objectives.
- Aggressively suppress all wildland urban-interface wildfires.
- Life and property values will be protected from damaging wildfires.

Goal 4: An aggressive wildland fire prevention program will be supported.

- Maintain a responsive prescribed fire management program.
- Maintain a wildland fire prevention program that will strive to reduce all human caused wildland fires. Reduce unintentional human caused ignitions by ten percent (10%) within the jurisdictional boundaries of the Colville Confederated Tribes Reservation over the next ten years.
- Maintain a comprehensive fuel management program that addresses multi-disciplinary fire applications.
- Conduct a fuels inventory that will integrate with the GIS database and provide for long term trend monitoring. Attend district meetings and general membership meetings of the Colville Tribes to keep the membership informed.

Goal 5: Utilize only trained and qualified personnel on wildland and prescribed fire assignments.

- All wildland fire personnel will be trained to those standards listed in the Wildland and Prescribed Fire Qualifications System Guide (PMS 310-1).
- Foster Federal, State, Tribal, and Local interagency coordination and cooperation.
- Maintain a training program that will provide sufficient numbers of trained and qualified firefighters to support the wildland fire and prescribed fire programs.
- Promote tribal contracting and employment opportunities when available.
- Air quality impacts will always be considered in the prescribed fire planning process.

Goal 6: All wildland fires will be rehabilitated to minimize further damage or destruction to soil, water, forest, wildlife, roads, fauna and flora.

- Support and maintain a responsive and effective Burned Area Emergency Rehabilitation team.
- Rehabilitate all wildland fires according to standards and guidelines outlined in the BAER Handbook.

Mt. Tolman Fire Crew

Forest Roads

Forest access roads on the Colville Reservation have been constructed over many years, primarily for timber and fire management purposes. These roads are not part of the road network maintained by the Bureau of Indian Affairs and the Colville Department of Transportation. The majority of forest roads are built to transport equipment to logging sites and logs to the mill. Their construction and use during timber sales is managed by BIA and the tribal Forestry program. In the past, forest roads received maintenance only during timber harvest and up to three years afterwards as specified in timber sale contracts.

Landing with grazing and thistle infestation.

Legacy Roads and Environmental Impacts

Between 1919 and 1960, almost 280,000 acres were commercially harvested on the Colville Indian Reservation forest. The construction of logging roads into timbered areas was accomplished primarily by timber operators. Many of those roads became seriously deteriorated due to the lack of sufficient drainage structures or the failure of those structures to function properly. This resulted in extensive erosion and stream sedimentation. In the 1961 Forest Management Plan, it was noted that as logging progressed into more rugged terrain with steeper and sometimes unstable slopes, steep road grades should be avoided and that roads should be properly drained and maintained.

Unstable road fill eroding into stream. (Sleepy Hollow)

However well intended, road location and construction practices changed very little. Roads continued to be constructed solely for facilitating tractor skidding at the least possible cost. They were constructed in drainage bottoms, very near the streams with little or minimal drainage devices, and with no maintenance after the logging sale was completed. Eventually, except for a few small watersheds, the entire forest was accessed in this manner.

Road eroding into headwater. (Sleepy Hollow)

Commercial timber harvest has impacted almost the entire forest of the Reservation. Initially, harvest was accomplished with horses and railroad transportation. Tractor skidding became the primary means of moving logs from the stump to either the railroad or logging roads during the early 1930s. Thereafter, the type of slopes available for timber harvest were limited only by the contractors aversion to having equipment damaged and the bravery of the individual equipment operator. This ultimately lead to logging on almost every acre that supported commercially desired timber.

Roads, the link between harvest sites and the drainage system network, can degrade streams as they are a primary source of sediment from erosion. They greatly increase sedimentation rates to streams above normal levels. Field observations have shown that channel condition and the amount of fine sedimentation in streams are increased with road density and the associated ground area disturbed by skid trails and landings.

Partially plugged culvert.

Excess sedimentation in streams degrades fish habitat and contributes to the decline of the Reservation's fisheries. Improperly constructed or faulty culverts prevent fish passage through streams.

The amount of available habitat that is used by big game is affected by roads and road density. Road location, traffic volume, road speed and sight distance are factors affecting habitat effectiveness, in addition to whether the road is open or closed to general travel. In general, habitat effectiveness declines with increasing road density.

Other road-associated factors that affect fish and wildlife habitat effectiveness include road locations in relation to water, the availability of cover adjacent to the road, road alignment (straight or winding), and the absence of security areas as a result of road construction. Road access to game habitat increases the vulnerability of big game to mortality from human hunting, vehicle impacts, and stress. Hunting, whether legal or poaching, has a significant impact on big game populations on the Reservation.

Current Conditions

The forest road network consists of an estimated 5,000 miles of road. These roads were primarily built to support logging trucks and heavy equipment. Generally the roads are 12-18 feet in width, constructed of native soil and rock, without gravel surfacing. The location, design and construction of new roads must be consistent with best management practices specified in the Tribes' Forest Practices code.

Road washout at Beaver Dam Creek.

When a road is reused for a new timber sale or after a wildfire, maintenance and design upgrades for runoff management may be required. Between timber sales, roads are largely left unmaintained and some are closed and blocked from traffic. The period between use may extend up to thirty years. During this time, roads may become revegetated with grass and trees. Weather events and public use, however, can cause a variety of impacts, including surface erosion, mass wasting and stream crossing washouts, all of which degrade stream channels, water quality, and fish and wildlife habitat.

A road maintenance inventory, conducted by the Environmental Trust Department between 2004 and 2013, provides a good assessment of the extent and condition of the Reservation road network, including forest roads. The inventory also allowed the measurement of road impacts to the watershed by collecting information on stream crossings, erosion, landslides, fish barriers, and road location relative to stream corridors.

Community Concerns

Forest access roads, which are largely constructed to facilitate forest maintenance and timber harvesting, are also used by the community for a variety of purposes. In the 2014 Community Survey, respondents were asked how people use these roads and their feelings about the impact of the roads. Significantly, 70% of respondents acknowledged that the forest roads provide access for hunting, fishing and gathering.

There are over 5,000 miles of forest access roads on the Reservation. How do you feel about these roads? (Check all that apply):	*Responses*	*Percentage*
The roads are necessary to manage the commercial forest.	451	44%
The roads are important for fire protection.	594	58%
The roads provide access for hunting, fishing and gathering.	720	70%
The roads should be maintained to prevent environmental damage.	512	50%
Lacking maintenance, many roads have caused soil erosion that degrades fish habitat and water quality.	397	39%
There are too many roads in the forest.	240	23%
I don't use the roads.	49	5%

Respondents described how they use the forest access roads, with hunting receiving the most responses (72%), followed by gathering (66%), fishing (55%) and firewood gathering (51%). Only 5% of respondents indicated that they do not use forest access roads.

Do you use forest access roads for any of the following? (Check all that apply):	*Responses*	*Percentage*
Hunting	736	72%
Fishing	566	55%
Gathering plants and other natural resources	681	66%
Off-road and all-terrain vehicles	214	21%
Firewood gathering	522	51%
Other	144	14%

These uses are important to a significant majority of survey respondents as corroborated in later questions. Asked whether they hunt, 66% responded affirmatively. Fishing was indicated by 73%, and gathering is practiced by 69% of respondents.

The importance of forest access roads for fire protection was acknowledged by 58% of respondents. The need to maintain these roads to prevent environmental damage is supported by 50% of respondents and 39% believe that, lacking maintenance, many roads have caused soil erosion that degrades fish habitat and water quality.

Only 23% of respondents feel that there are too many forest access roads. Uncertainty as to whether a forest access road was open or closed was expressed by 58% of respondents and 34% indicated they have knowingly driven on a closed road to access forest resources.

Forest Roads and Natural Resource Restoration

Under the Tribes' Natural Resources Restoration Plan, forest access roads are the primary focus for watershed restoration. Roads with drainage problems are to have drainage structures installed. The plan identifies roads in streamside riparian zones as well as unused or duplicative roads that need to be decommissioned. Stream crossings and culverts that are eroding or inadequately constructed are to be replaced or removed.

An important goal of the Restoration Plan is to develop a management plan for forest access roads that protects watersheds and improves access for resource management and tribal member use. Funds from the 2012 trust claims settlement were set aside to develop the Forest Roads Management Plan and begin restoration activities. The Colville Business Council is evaluating revenue sources that could provide long-term funding for forest road maintenance and closure.

Erosion of unprotected road fill into stream.
(Sleepy Hollow II)

Forest Roads Goals and Objectives

Manage and maintain a tribal forest roads network in support of natural resource management objectives and to provide safe access to Reservation trust lands by the tribal membership for traditional activities and enjoyment.

GOAL 1. Establish a Forest Roads Management Program within the Natural Resource Division under the direction of the Land & Property Management Director.

Objectives:

- Develop a Forest Roads Management Plan.
  - o Develop goals and objectives to achieve natural resource, public access and safety objectives.
  - o Coordinate Land & Property Management, Planning Department and Department of Transportation programs to integrate resource goals and objectives.
- Determine the forest access roads to be incorporated into the forest road management system.
- Determine the transportation system design, construction, and maintenance standards for forest access roads, maintenance and closure.
- Update the Tribal Code to incorporate standards.
- Coordinate with the Colville Business Council to establish long-term funding sources to implement the Forest Roads Management Plan.

Properly constructed road in Inchelium District.

GOAL 2. Provide safe access to trust lands for the tribal membership and the Reservation community for traditional activities and recreation.

Objectives:

- Maintain access to resource locations that are culturally important to the Reservation community.
- Provide access and transportation management maps to the membership and community with road status information.

- Seek input from and be responsive to the membership regarding their access needs.
- Provide public information about road system management, responsible use, and the care of roads.

GOAL 3. Maintain a dynamic forest road system that meets current needs, plans for future needs, and achieves resource protection objectives.

Objectives:

- Maintain an accurate road inventory and map to inform resource land access and analysis.
- Conduct periodic evaluation of forest access, maintenance needs, and funding availability in determining and prioritizing which roads will be open, closed, deactivated or decommissioned.
- Coordinate with tribal programs to identify and resolve conflicting management objectives.
- Collaborate with the Reservation community to identify management priorities concerning forest access roads use and resource management objectives.

Forest road

Fish, Wildlife and Habitat

A variety of habitats vital to fish and wildlife are present on the Reservation, including rivers, streams, lakes, riparian zones, wetlands, shrub-steppe, and forest. These habitats include features such as snags, cliffs, woody debris, and old growth trees that are necessary to support a wide variety of fish and wildlife species. Some of these species are endangered, threatened or of special concern under the federal Endangered Species Act and Washington State law.


Aspen Habitat


Stream Habitat


Riparian Habitat


Shrub-steppe Habitat

The ecosystems of the Reservation have been altered and shaped by multiple human activities and natural occurrenttces that have impacted the quantity and quality of fish and wildlife habitat. As a result, the Fish & Wildlife Department is challenged to utilize best available science to achieve the desired future conditions for this landscape.

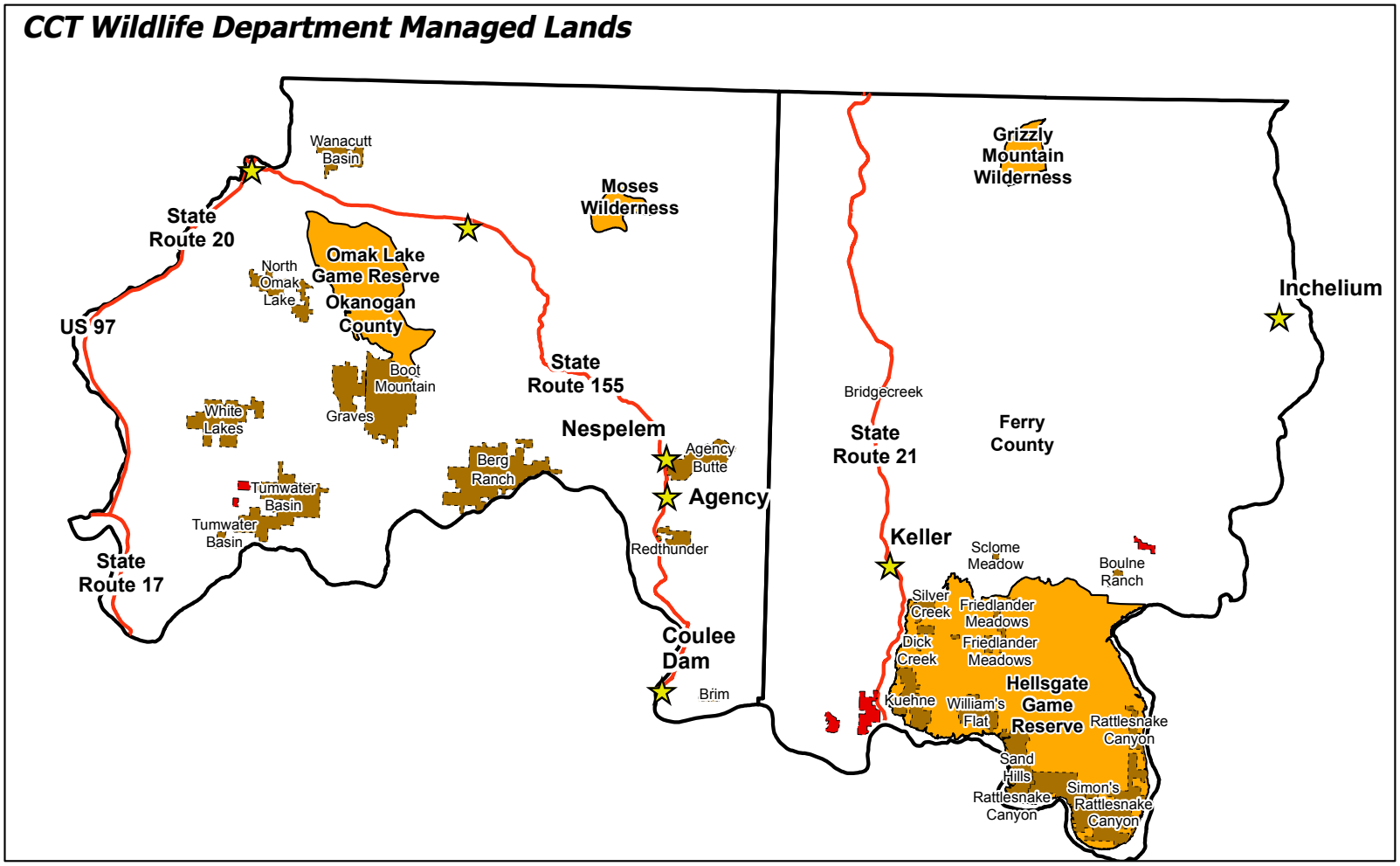
The Colville Reservation provides habitat for over 300 species of birds, mammals and herptiles. These include a variety of game birds and big game animals that provide subsistence food and recreation for tribal members. The Fish and Wildlife Department actively monitors many of these species and has management programs for species that are important as game or due to their sensitive status.

The completion of Grand Coulee and Chief Joseph hydropower facilities brought an end to a way of life and numerous cultural practices that had existed continuously in the area for thousands of years. Grand Coulee Dam, and subsequently Chief Joseph Dam, abruptly stopped the movement of salmon to the Upper Columbia and in addition destroyed critical habitat of terrestrial species including mule deer, sharp-tailed grouse, and other species important to the Native American tribes in the region. Over 40,000 acres of critical low elevation wildlife habitat were lost.

Game Reserves, Wilderness and Mitigation Lands

Beginning in 1972, the Tribes began designating areas to protect wildlife during all or part of the year, and the first deer hunting season was established. The Hellsgate and Omak Lake game reserves were established (130,000 acres) as well as the Moses and Grizzly Mountain wilderness areas (8,000 acres). The Tribes created a Fish and Wildlife Department in 1976.

CCT Wildlife Department Managed Lands



** Disclaimer **
Data information used may be updated without any notification.

LEGEND

- Towns
- Wildlife Areas
- Wildlife Managed Lands
- Washington State Highway
- Wildlife Mitigation Properties 2012
- Reservation Boundary

N W E S

Author: Kodi Jo Jaspers
Coordinate System: NAD_1983_UTM_Zone_11N
Date printed: 24 July 2014

1:500,000

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In 1980, the Northwest Power Planning Act was passed, requiring mitigation of fish and wildlife losses due to hydropower development. The first wildlife mitigation properties on the Reservation were purchased in 1993 and are managed by the Fish and Wildlife Department. The mitigation lands are managed to provide protection, restoration, and enhancement of 62,300 acres of critical wildlife habitat. Many of the managed areas are located adjacent to or near the Columbia River (Lake Rufus Woods and Lake Roosevelt) and are surrounded by Reservation lands with habitats ranging from shrub-steppe to coniferous forests. These lands contain a wide diversity of vegetative types and habitats that can support a large variety of wildlife.

Threatened and Endangered Species

The Colville Indian Reservation provides suitable habitat for a number of federal and state-listed threatened or endangered fish and wildlife species. The U.S. Fish and Wildlife Service provides a species list of threatened, endangered, candidate and proposed plants and animals that might be present on the Reservation.

The Endangered Species Act requires that all resource management actions planned for the Reservation evaluate potential impacts to federally listed species through biological assessment reports. Resource management projects that may negatively affect habitat for these species must consider mitigation measures that will avoid further decline in the populations of candidate, sensitive and species of concern.

Sharp-tailed Grouse

Canada Lynx

The Fish & Wildlife Department seeks to restore or maintain terrestrial species habitat so that they can move freely within and between blocks of habitat for the purpose of genetic interchange, emigration, and immigration.

Restoring vegetation structure and composition that provide linkage between similar habitats of wildlife emphasis areas, reduces fragmentation of wildlife habitat, which is necessary to maintain viable populations of wildlife. Management activities also provide habitat patch sizes consistent with the needs of desired wildlife species.

Steelhead trout

Feral Horse Management

The Feral Horse Management Plan directs the management of wild, feral, and abandoned horses on the Colville Indian Reservation. Current populations are causing significant damage to the areas they inhabit. These areas are overgrazed, which contributes to the spread of invasive species, compaction, and erosion. Horses also compete with local big game animals and permitted range animals for forage. Horse populations have exceeded the carrying capacity for the areas they inhabit, which in turn, impacts the health of the feral horse herds themselves.

The goal of the Feral Horse Management Plan is to minimize the negative impacts of feralhorses while maintaining a healthy and desirable horse population of approximately 50-200 of the highest quality, most desirable animals for use by the tribal membership. A regulated population can function in balance with other resources of the Reservation ecosystem.

Feral Horses

Each year, the Fish & Wildlife Department performs aerial surveys of game populations in critical areas of the Reservation and these have also been used to monitor feral horse populations over the last nine years. The 2014 horse survey counted approximately 1,500 horses. This was up from 723 in 2010, 309 in 2009, and 148 in 2007.

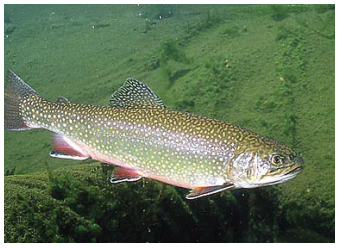
Fish Management

The composition of fish species on the Reservation has changed from historical conditions, when anadromous fish and resident species like bull trout and rainbow trout were dominant. Anadromous species like Chinook, sockeye and steelhead are still present in accessible boundary waters of the Reservation.

Resident fish populations are currently dominated by eastern brook trout, with some native rainbow and cutthroat trout present. Rainbow trout persist in most rivers and streams of the Reservation. Bull trout have not been observed in recent history and are assumed to be extirpated from Reservation waters. The Reservation's lakes contain mostly warm water and trout species. Over 31 lakes on the Reservation are non-fish bearing due to high alkalinity levels.

Cutthroat trout

Eastern brook trout have been stocked in Washington state since the late 1890's and are found in most flowing waters of the Reservation. Owhi Lake provides brood stock for eastern brook trout egg collection. Brook trout prefer cool headwater ponds and spring-fed streams in their native waters, however, populations on the Reservation appear to have adapted well to warm water temperatures and high levels of sedimentation.



Brooktrout

Other fish species currently found on the Reservation include brown trout, kokanee, largemouth bass, smallmouth bass and numerous native minnows including redside shiners and northern pikeminnow. Several of these have been stocked on the Reservation since the 1930's.

Most of the Reservation's streams in the forest zone have been impacted by a century of timber harvest activities. Road building with improper drainage structures and sloping have caused high sediment loading into streams. Improperly functioning or constructed culverts prevent fish passage through streams. Large woody debris is lacking due to harvest activities in riparian areas, and pool/riffle ratios are low in a majority of the streams.

The Fish and Wildlife Department works to restore and conserve native fish populations and to assert tribal rights in the ceremonial and subsistence harvest of fish in the Okanogan River (including British Columbia), the Methow River, Wenatchee River (including Icicle Creek), Chelan River, Entiat River, the main stem of the Columbia including Wells Pool/Tailrace, Chief Joseph tailrace, and the blocked area above Grand Coulee Dam in Lake Roosevelt and its tributaries.

Tribal Hatcheries

Tribal hatcheries operate to enhance subsistence and recreational fisheries and to contribute to natural fishery production on the Reservation. Current tribal stocking activities include sub-catchable, and catchable sized fish.

Chief Joseph Fish Hatchery

The anadromous fish program of the Fish and Wildlife Department plays an important role in providing ceremonial and subsistence fisheries for the tribal membership. The goals of the anadromous fish program are to restore natural spawning populations of salmon and steelhead to their historic habitats on the Reservation and ceded lands, and to mitigate the loss of anadromous fish runs caused by the construction and operation of Columbia River System dams.

Hatchery-origin, summer Chinook salmon, are harvested for tribal utilization and to reduce the proportion of hatchery-origin fish on the spawning grounds. Reducing the number of hatchery Chinook will allow natural-origin fish to spawn in the wild and help create a more locally-adapted population of fish. Sensitive salmon stocks listed under the Endangered Species Act, such as bull trout, spring Chinook salmon and summer steelhead, and other non-target species, including white sturgeon, are released unharmed.

The Colville Tribal Fish Hatchery produces a minimum of 50,000 pounds of trout annually. The hatchery staff distributes rainbow, eastern brook, and lahontan cutthroat trout throughout Reservation waters. All fish that are produced are released into Reservation and boundary waters, in an effort to provide a successful subsistence and recreational fishery for Colville tribal members and provide sport fishing opportunities for nonmembers.

This all requires effective artificial production techniques that provide fishery benefits while minimizing adverse impacts on the long-term productivity of naturally spawning fish and their ecosystems.

Fisheries, Habitat Restoration and Climate Change

The Fisheries Program conducts monitoring, evaluation, and habitat improvement programs in the Okanogan and Sanpoil subasin and other Columbia River tributaries. Properties and water rights have been purchased for habitat protection and stream flow restoration, and construction projects have been implemented for salmonid spawning and rearing habitat improvement. Additional habitat restoration and protection activities, such as mitigating fish passage barriers, riparian fencing, riparian planting, stream bank and habitat restoration have been implemented and are monitored.

Oxygenation System at Twin Lakes

The Fish and Wildlife Department and Washington State University (WSU) have been working in a cooperative effort to improve water quality and fisheries at Twin Lakes. Additional programs focus on white sturgeon recovery and the reduction of non-native predators of trout and kokanee.

Predictions of future climate change forecast warmer and drier conditions in the Pacific Northwest. This may generally result in increases in water temperature, lower streamflow, and transitions from snowmelt to rainfall-dominated hydrographs. The Tribes' Fisheries Program continues to implement actions such as water rights transactions, improving riparian conditions through fencing and planting, improving the transportation network and otherwise restoring natural functions of the environment and the viability of the native fishes in it. These actions increase the buffering capacity of the environment under a changing climate and increase the hydraulic and spatial connectivity of streams, which will benefit cold-water fisheries into the future.

Wildlife Management

The Wildlife Program works to support and maintain abundant wildlife populations through annual wildlife surveys, habitat restoration and population augmentations. These efforts promote a balance of biodiversity important to the Reservation community.

With expertise in habitat protection and restoration, the program staff provides fencing, planting, and maintenance of native vegetation throughout the Reservation. In addition, the staff protects and monitors vital native vegetation to ensure essential wildlife habitat such as big game winter range, fawning and calving habitat and travel corridors.

White-tailed deer

Along with habitat protection and restoration, the Wildlife Program has expertise in biological and physical process interactions within Reservation ecosystems and their role in wildlife and habitat management.

Maintaining wildlife populations and habitat is greatly affected by past management practices and the legacy of fire suppression, timber harvesting, road density, un-managed grazing and habitat loss from development.

California Bighorn Sheep

Over the past several years, the program has succeeded in re-establishing sharp-tailed grouse and California bighorn sheep populations, which has led to the first tribal member hunt of bighorn sheep on the Reservation. During this time the first gray wolf has naturally returned to the Reservation. After a 70 year absence, at least two known packs have been established.

Habitat protection and restoration has occurred on over 65,000 acres throughout the Reservation by fencing, planting, and maintenance of native vegetation that supports native wildlife species. These efforts ensure that big game populations will continue to meet the subsistence requirements of tribal membership.

Project Proposal Process

The Fish & Wildlife Department participates in the Project Proposal Process. Biologists review all land management activities within the bounds of the Reservation in order to ensure that key fish, wildlife and associated habitats are adequately protected. For example, wildlife biologists survey timber sales and provide vital wildlife population data and the potential impact these projects may have on forest associated wildlife species and their habitats.

Coordination with tribal foresters has helped to protect and preserve important wildlife travel corridors, fawning and calving areas, foraging and wintering habitat through reserve patch and travel corridor delineations. In addition, coordination with the Range Program has benefitted wildlife on the Reservation by reducing grazing levels in overused habitats to facilitate recovery.

Community Concerns

The Colville Reservation has a wide variety of wildlife habitats as well as streams, lakes, and rivers with a variety of fish species. Community survey respondents were almost unanimous in their concerns about managing these resources. Asked how important it is for the Tribes to monitor wildlife populations, habitat conditions and harvest data, 97% indicated that it is either very important (81%) or somewhat important (16%).

Protecting threatened, endangered or sensitive species of fish and wildlife is almost unanimously supported by respondents. Only 1% of respondents feel that this protection is not important.

Whereas, 75% of respondents feel that lakes, rivers and streams are adequately stocked with fish, significant concern was expressed about wildlife conditions, especially for game animals. Respondents indicated (52%) that, in general, the habitats of the Reservation adequately support the wildlife species important to them. However, 46% either feel that they don't (16%) or aren't sure (30%).

Game animals and fish are an important source of food for tribal families, with 73% indicating game animals and 52% indicating fish as an important food source. The resilience of game animals on the Reservation, however, is a significant concern. The largest percentage (39%) of respondents feel that the number of big game on the Reservation has declined in number over the last 15 years. Over half (52%) of respondents reported seeing big game animals wasted or taken for antlers or other body parts.

Rocky Mountain Elk

The Tribes have designated over 200,000 acres of Reservation land as game reserves, wilderness areas and other lands dedicated primarily as wildlife habitat. Survey respondents were virtually unanimous (95%) in stating that it is important to manage these lands for wildlife values.

Fish & Wildlife Goals & Objectives

Wildlife Goals & Objectives

Maintain and protect viable populations (numbers and distribution of reproductive individuals) of native and desired non-native species of fish and wildlife, and their supporting habitats, while providing sufficient numbers to meet the cultural, subsistence, recreational and economic needs of the tribal membership.

Goal 1. Maintain healthy, self-sustaining game and non-game populations for subsistence, cultural and recreational use by the tribal membership on the Reservation, North Half and Aboriginal Territories.

Objectives:

- Create population objectives and management strategies for harvest of game species and determine if population objectives are being met under current structure.
- Determine the number of tags and permits available for hunting and trapping for game and non-game species using current population status, trend and harvest data.
- Conduct annual population surveys, setting annual/seasonal composition targets for select populations and assessing habitat use and availability for desired species.
- Prioritize and implement population assessments, management strategies, and monitoring plans for threatened and endangered, and tribal priority species in partnership with local tribal and non-tribal organizations, and federal and state agencies.
- Species listed as threatened or endangered by the State of Washington will be managed per state recommendations except where tribal or federal agencies have developed more stringent recommendations.
- Minimize mortality of wild animals on the Reservation, North Half and Aboriginal Territories due to disease and contaminants by participating in organized federal and state wildlife disease surveillance.

Moose

- Conduct surveillance monitoring to identify sources of mortality associated with potential disease or contamination.
- Follow state and federal procedures for reporting wildlife disease occurrences and update associated wildlife management plans.
- Maintain a diverse suite of wildlife species on the Reservation, with specific management plans, best available sciences, and habitat targets identified for individual species as time and funding allows.

Black Bear cub

Beavers

Goal 2. Protect, maintain, and restore desired habitats to support healthy productive forest/plant communities, and dependent wildlife populations associated with these ecosystems.

Objectives:

- Improve, develop and restore habitat quality for those wildlife species.
- Implement the use of wildlife-friendly fencing techniques under NRCS specifications on all wildlife managed lands and encourage other tribal departments to utilize these techniques.
- Utilize mapping techniques to identify key critical and priority habitat areas in order to protect, enhance and restore the quantity of habitats.
- Identify and maintain wildlife corridors and adequate habitat patch sizes within and between habitat areas to ensure genetic exchange and adequate utilization of core habitats utilized by wildlife species.

Herd of mule deer

- Maintain a diverse cross-section of healthy wildlife habitat throughout the Reservation, with specific management plans, best management practices and targets identified for each forest series and priority habitat as time and funding allows.
- Monitor sensitive habitats on the Reservation to assess habitat condition for key priority wildlife species and evaluate management efficacy in moving towards desired future conditions.
- Identify, prioritize and restore and enhance wildlife habitat, preferably to native grasses, forbs, shrubs, and trees in areas where appropriate throughout the Reservation.
- Continue implementation of the Fish and Wildlife Integrated Invasive Species Management Plan within the Wildlife Management Areas.
- Work with other natural resource programs to identify and protect sensitive habitats and areas on the Reservation where detrimental impacts may threaten wildlife and their habitats.
- Support and assist in development and implementation of land management planning and compliance efforts for roads, forestry, land acquisition, fire and fuels, and mitigation to ensure wildlife and their habitats are adequately represented in land management planning.
- The Wildlife Program will continue coordination with other natural resource programs through the Project Proposal Process (3P) to ensure the protection of resources.
- Assess land use activities for their impacts to critical and sensitive wildlife areas and populations and reduce these impacts where possible.
- Manage the approximately 130,201 total acres in the Hellsgate and Omak Lake Game Reserves in order to support healthy and self-sustaining wildlife populations of game and non-game species.
- Provide special, wildlife-specific, habitat and harvest recommendations within the bounds of the game reserves in order to restore and improve priority habitats and species populations.

White-tailed doe

Goal 3. Establish special emphasis management areas that will benefit tribal members, enhance habitat for wildlife, restore regional connectivity, and restore functioning ecosystems across the Reservation.

Objectives:

- Coordinate with other natural resource programs to define critical and priority wildlife habitat that maintains connectivity between these areas to help support viable populations of culturally significant wildlife and traditional cultural plant species
- Develop special emphasis management areas that improve and restore the quality of habitat required to sustain communities of terrestrial and aquatic fish and wildlife, plants, soils, and natural resources at a watershed scale for the following priority habitats/ecosystems:
  - o Older Moist Forest
  - o Ponderosa Pine Forests
  - o Riparian
  - o Shrub-steppe
  - o Grassland and/or Meadow
  - o Critical Big Game Summer and Winter Range

Black bear cub

Goal 4. Increase overall visibility and engagement of the Wildlife Program in promoting regional wildlife management activities and projects, cultural and subsistence use of wildlife and habitat resources, and effective natural resource science education.

Objectives:

- Use local media (newsletters, newspapers, social media online, and schools) to promote and create a culture of pride and support towards wildlife, wildlife habitat, wildlife conservation and wildlife management activities on the Reservation, the North Half, and within the Tribes' aboriginal territories.
- Provide regional representation by Fish and Wildlife Department biologists to ensure that tribal interests pertaining to State and Federal resource management activities on the Reservation, the North Half, and within the Tribes' aboriginal territories are adequately represented.

- Participate in the Washington State Timber, Fish and Wildlife process and coordinate cooperative surveys with the Washington Department of Fish & Wildlife, the US Fish & Wildlife Service, the US Forest Service, the British Columbia Ministry of the Environment, the Okanogan Nation Alliance, and other tribes in the region.

Goal 5. Maintain and minimize the wildlife related threats to public health, safety and property of Colville Reservation, North Half and Aboriginal Territory.

Objectives:

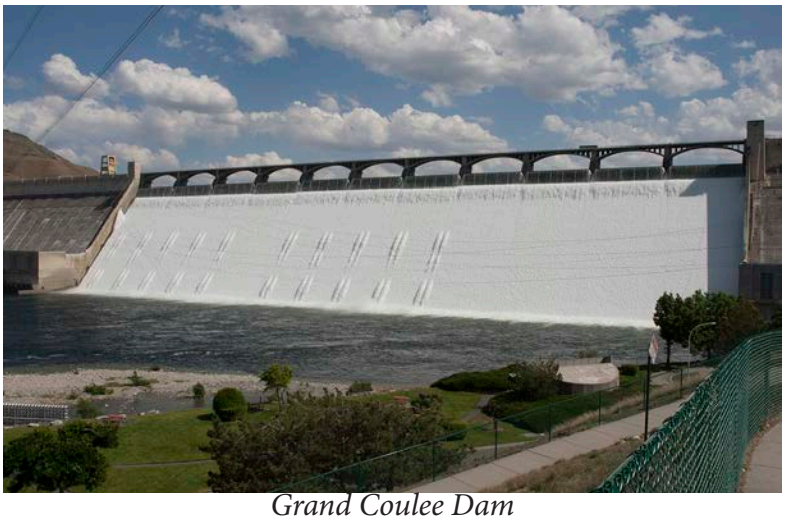
- Provide wildlife disease and "living with wildlife" fact sheets, in order to educate the public on wildlife safety.
- Nuisance wildlife will be monitored using various techniques and a timely response will be provided to nuisance and dangerous animal complaints.

Raccoon in trash

Goal 6. Determine and begin to mitigate for the terrestrial wildlife impacts related to the operations and secondary effects of Grand Coulee Dam and Chief Joseph Dam.

Objectives:

- Determine the operational and secondary impacts from Grand Coulee and Chief Joseph Dams related to terrestrial wildlife species.
- Mitigate for operational and secondary impacts on the Colville Reservation based on the Grand Coulee Dam and Chief Joseph Dam Operational and Secondary Wildlife Loss Assessment.



Grand Coulee Dam

Goal 7. Maintain resilient ecosystems in response to climate change and disturbance events.

Objectives:

- Collaborate and coordinate with all other tribal agencies and regional partners to learn as much as possible about the effects of climate change on the modification of disturbance regimes.
- Through coordination efforts with multiple agencies, monitor changes occurring in relation to climate change and habitat connectivity and wildlife populations.
- Work with all other tribal agencies and regional partners to plan the appropriate responses to ensure that ecosystems on the Reservation are managed to be as resilient as possible to an increase in large-scale disturbance events.

Fish Goals & Objectives

The surface waters of the Reservation should have an abundance of anadromous and non-anadromous salmonids (trout, whitefish, steelhead and salmon) and other species the Tribes desire. The fisheries on and around the Reservation shall be self-sustaining or supplemented when applicable to provide sustenance, cultural and recreational value for the tribal members within a naturally functioning landscape.

Goal 1: Regional Planning. Work cooperatively and establish relationships with internal and external stakeholders to provide the best possible resource management of fish populations for the tribal membership throughout the Reservation and aboriginal territories.

Objectives:

- Participate in Columbia River basin activities, committees and other natural resource management venues including fish and wildlife habitat conservation plans, settlement agreements and harvest agreements.
- Implement actionable items in habitat conservation plans, settlement Agreements, harvest agreements and sub-basin plans.
- Participate in coordinated tribal natural resource management efforts through Project Planning Process to effectively manage resources and meet tribal goals and objectives.

Goal 2: Hatchery. Use stable, cost effective artificial production techniques to provide significant fishery benefits while minimizing adverse impacts on the long-term productivity of natural origin fish and their ecosystems.

Objectives:

- Promote tribal, cultural and sustenance fisheries through natural reproduction and hatchery supplementation both on and off the Reservation consistent with conservation of natural-origin fish populations.
- Protect, rehabilitate and reestablish naturally spawning populations using integrated principles of genetic conservation, ecology, and hatchery production and fish management.

Brook Trout

- Produce Lahontan cutthroat trout, Rainbow trout, and Brook trout and stock into Reservation lakes and reservoirs to support tribal and recreational harvest. Augment natural-origin populations if necessary. Produce summer/fall and spring Chinook smolts from the Chief Joseph Hatchery for release into the Okanogan and Columbia River to support tribal and recreational harvest and enhancement/conservation of natural-origin summer/fall and spring Chinook.
- Hatchery or other enhancement programs will avoid significant negative impacts to wild salmonids and other native species while promoting and enhancing consumptive fisheries.

Lahontan cutthroat trout

Goal 3: Harvest. Conserve, enhance and restore native fish populations through harvest monitoring and management and provide appropriate opportunities for rightful ceremonial and subsistence harvest by the Colville tribal members.

Objectives:

- Expand tribal fishing opportunities in the Columbia River Basin, including the Reservation and aboriginal territories.
- Sustainably regulate the number of fish harvested by the tribal membership and the general public.
- Continue or improve fishery harvest opportunities by identifying surplus production through the use of various predictive models or other biologically sound techniques.

- Conduct monitoring and evaluation of habitat and fish population status and trends to adaptively manage fish populations to support harvest and long-term population viability
- The quantity and distribution of non-indigenous fish species or stocks that compete with, prey on, or parasitize salmonids and other indigenous species will be managed so as to not be disadvantageous to salmonids and other indigenous species

Goal 4: Habitat. Protect, preserve, rehabilitate or restore habitats, ecosystem function, connectivity and diversity that support the entire life cycle of important native and desired non-native fish populations.

Objectives:

- Maintain or increase the quantity and quality of habitat necessary to enhance, sustain and restore fish populations. Conserve remaining native aquatic species strongholds and high quality habitat and water.
- Maintain, enhance or restore stream, lake and reservoir habitats that are conducive to salmonid passage, rearing, adult residency and spawning. Enhance anadromous fisheries where the potential currently exists.
- Restore anadromous species and stocks that are currently extirpated and their habitat in the Upper Columbia Blocked Area under Colville tribal jurisdiction.
- Implement watershed restoration activities to perpetuate and conserve fish strongholds and habitats occupied by species of concern or federally listed threatened, endangered, and candidate species.
- Develop and implement specific management plans that restore adequate temperature, flows and habitat necessary for aquatic resources in the Okanogan and Sanpoil River systems and other Columbia River tributaries.
- Provide and maintain passage to most usable salmonid habitat for all life stages. Reduce or prevent salmonid entry into artificial channels or conduits through screening and resource planning.

Fish weir

Cultural Resources

Preserving History and Culture

The Colville Tribes are active in preserving their history and culture. The Tribes' History Program was first established in 1976 and employed one person. In 1978, the Tribes hired an archaeologist and the History/Archaeology Program was formed. In 1996, the Tribes signed a Memorandum of Agreement with the National Park Service to create the Colville Tribal Historic Preservation Officer (THPO) position. This position assumed the State Historic Preservation Officer responsibilities on the Reservation.

The Tribes value cultural resources because they represent a physical link to the history of the Tribes and because of their role in traditional beliefs and activities that continue into the present day. The Tribes' cultural preservation efforts have helped to identify and protect numerous cultural resources that could be adversely affected by projects initiated on tribal lands.

Cairns

These properties are especially important to the Tribes and are considered among their most important resources. Traditional cultural properties are often eligible for listing on both the National and Colville Registers of Historic Places. To qualify, a traditional cultural property must be a specific place and there must be some evidence that the place is important historically. This importance may lie in the fact that important events took place there in the past, or that the place has been used continuously or nearly continuously for a long time, or that the place is somehow a unique reflection of a particular aspect of tribal history, or that the place has some ongoing ability to inform tribal members about their past or to nurture or sustain their ties to it.

Traditional Cultural Plants

The Tribes' History and Archeology program established a traditional cultural plant team composed of tribal members under professional supervision to study culturally significant plants. The team has collected over 400 different culturally important plant species that are considered to be of specific importance to the Tribes for various cultural and traditional uses. The list continues to expand as more collections and oral histories are gathered. The program uses a modified version of the Rare Care protocol, used by Washington's Natural Heritage Program, to document and record the abundance and distribution of rare plants. Current knowledge indicates that most native plant species had, and continue to have, a variety of traditional uses. Although tribal elders have extensive knowledge of medicinal plants or sustenance foods and berries, young people are not always aware of them. Loss of this knowledge hinders the continuity of culture.

Community Concerns

The protection and preservation of cultural and archaeological resources is extremely important to tribal members as revealed in the 2014 Community Survey. When asked whether the IRMP should provide for protection and preservation of cultural and archaeological resources, respondents were virtually unanimous (97%) in stating that it is important.

Language preservation is also very important, and providing children with the opportunity to learn their native language is considered important by almost all respondents (96%). Only 3% of respondents feel that it is not important.

Traditional cultural plants play an important role in the lives of respondents who are almost unanimous (97%) in their desire to protect and preserve them under the IRMP. Only 1% indicated that it is not important.

Common Yarrow

Snow Brush, Tobacco Brush

Stinging nettle

A large majority of survey respondents (69%) indicated that they or their family members actively gather plants on the Reservation. Of those who gather, they were evenly divided between describing their access to these gathering sites as fairly easy (49%) or somewhat difficult (49%). Only 4% indicated that access to most sites was very difficult. A large majority of respondents (84%) have particular sites that they use regularly.

Respondents were also asked if their ability to gather plants and other natural resources have been impacted by land management practices or wildfire. The two most cited impacts were wildfire (45%) and livestock and wildlife grazing (45%). Closed roads (42%) and timber harvesting (42%) were the second most cited impacts. Loss of access to particular sites was indicated by 35% of respondents.

Respondents (66%) indicated that they use forest access roads to access gathering sites and 34% indicated that they have driven on a closed road to access gathering sites, game animals or for recreation. Tribal members desire to continue actively gathering traditional cultural plants on the Reservation.

Gathering foods, medicines and plants used for ceremonial activities represents an important aspect of tribal members' cultural identity. Traditional gathering on foot or on horseback has changed to access with vehicles and a road system. The community sees the road system as access, including community members who might not have access otherwise. Comments by some respondents also mention the need for maintenance of these roads to ensure gathering access.

The History/Archaeology Program

Since 1998, the History / Archaeology Program has grown from three employees to a staff of over 40 employees. This includes a resource archaeologist position established to work specifically on natural resource projects within the boundaries of the Colville Reservation. In 2012, the program hired a plant ecologist to assist with identification and management of cultural plants on the Reservation. Other staff members are responsible for the recordation, protection, and management of archaeological sites and traditional cultural properties found on the Reservation and elsewhere within the Tribes' traditional territories.

The History / Archaeology Program contracts with federal, state, and local agencies to provide cultural resource expertise on the Reservation, adjacent reservoirs, and multiple other locations within the Colville Tribes' traditional territories.

Prior to 1998, most projects on the Reservation had little or no review for potential impacts to cultural resources. Many natural resource projects, especially timber harvests, occurred prior to the enactment of cultural resource protection laws. Consequently, many cultural sites were destroyed or disturbed by previous natural resource activities. Natural resource projects have also affected traditional gathering and hunting areas. In some cases, plant and animal habitats identified in ethnographic records have been destroyed.

Today, the History / Archaeology Program actively works to ensure that project proponents are in compliance with cultural resource protection laws. In addition, the program provides training for tribal and federal natural resource personnel on cultural resource laws and the identification of cultural sites.

Rock art

The Tribes' History / Archaeology Program has remained a national leader among tribal cultural resource programs. The program currently employs eight professional archaeologists, two traditional cultural property coordinators, a repatriation specialist, a plant ecologist and several cultural resource technicians. The program also operates a federally approved repository in addition to the Colville Tribal Museum and the Fort Okanogan Interpretive Center.

The History/Archaeology Program has expertise in the fields of archaeological field methods, ethnography, lithic analysis, botany, faunal identification, human osteology, geoarchaeology, paleobotany, palynology, geographic information systems, spatial analysis and statistical analysis. The program's knowledge of the culture and history of the traditional territories of the Colville Tribes is unsurpassed.

Cultural Resource Management Goals & Objectives

History and Archaeology

Protect the Tribes' cultural resources, tribal rights, and sovereignty through professional cultural resource management practices in compliance with federal, state, and tribal laws, regulations, and codes. The History/Archaeology Program exists to protect and preserve cultural places and resources on Reservation lands and traditional territories so that tribal members may perpetuate traditional practices and understand the history and culture of the confederated tribes of the Colville Reservation. Work cooperatively with other tribal programs, as well as federal, state, and local agencies to ensure our history is not forgotten.

Goal 1: Maintain a strong and professional tribal cultural resources program that actively participates in protecting and managing cultural resources for the Tribes, preserves, protects places for the membership to perpetuate the Tribes' history, culture and tradition for future generations.

Objectives:

- Maintain a staff of professional archaeologists, anthropologists, plant specialists, and other cultural resource authorities.
- Interview elders and traditional practitioners regarding traditional practices, places, and tribal history.
- Maintain databases for oral histories, historic photos, archaeological sites, and traditional cultural properties.
- Maintain a repository that meets or exceeds federal standards to curate archaeological collections.
- Maintain the Colville Tribal Museum and the Fort Okanogan Interpretive Center to tell the history of the Colville Tribes.

Goal 2: Assist federal, state, tribal, and local agencies in meeting cultural resource management laws and regulations, and codes.

Objectives:

- The History/Archaeology program will continue to coordinate with other natural resource programs in the planning process and through 3P to ensure the protection of cultural resources on the Reservation
- The History/Archaeology program will coordinate with outside agencies and entities to ensure the protection of cultural resources and compliance with applicable laws.
- Contract with agencies to perform cultural resources surveys and mitiga ble laws.

Goal 3: Protect historic and precontact sites as well as Traditional Cultural Properties.

Objectives:

- Coordinate with Environmental Trust and Fish and Wildlife to protect and enhance our traditional gathering, hunting, fishing, and spiritual locations.
- Coordinate with Range to maintain the fencing around our tribal cemeteries and culturally sensitive areas.
- Coordinate with Forestry and Fire Management to reduce fuels in traditional and site locations in order to protect them from catastrophic wildfires.
- Maintain strict site location confidentiality to protect sites from looting and vandalism.

Goal 4: Educate the public about the importance of protecting cultural sites.

Objectives:

- Attend public scoping meetings.
- Provide cultural resources trainings for agencies and project managers.
- Present at conferences and local universities.
- Produce educational materials for the public regarding the Tribes' history in print and digital forms, including the Tribes' website.

Goal 5: Educate the youth about cultural resources management, which contributes to economic and professional development.

Objectives:

- Employ youth interns.
- Encourage educational opportunities for young tribal members.
- Participate in outreach programs at local schools.

Traditional Cultural Plant Community Restoration

The Traditional Cultural Plant Community Restoration Project works to protect the Tribes' traditional cultural plants and associated plant communities to assist with the continuance of an abundance of foods, medicines, and plant materials for creation of tools and traditional objects of use in gathering, fishing, hunting, weaving, ceremonial practice and everyday activities of the membership.

Goal 1: Utilize tribal traditional ecological knowledge, and work with other natural resource programs to develop and implement strategies for the protection and restoration of traditional cultural plant resources throughout the Reservation lands and traditional territories.

Objectives:

- Involve tribal members with on-the-ground efforts; this involvement will directly inform them of protection and restoration efforts.
- Train tribal members in carrying out cultural plant resource fieldwork, inventory and analysis.
- Coordinate with other natural resource programs in the planning process and through 3P to ensure the protection of traditional cultural plant communities.

Heartland Arnica

Goal 2: Collect and analyze ecological baseline information for traditional cultural plants and associated communities, in order to provide direction for future restoration and protection efforts.

Objectives:

- Conduct plant community field research and associated mapping and analysis.
- Utilize research and inventory results to implement monitoring of traditional cultural plant species, associated plant communities, health, vigor, and associated restoration needs.
- Reduce the potential of damage to traditional cultural plants and communities by integrating protection and restoration techniques into natural resource management.

Marguerite McCuen and Kathleen Burke at a First Foods Ceremony

Parks and Recreation

The Colville Confederated Tribes have numerous recreational locations and activities within the Colville Reservation. The Tribes could feasibly generate significant revenue from the recreation and tourism market by expanding recreational facilities on the Reservation. However, because of the sensitivity of the Tribes' culture, traditions, and way of life, expanding recreational opportunities are taken very cautiously with careful examination. The Parks & Recreation Program has categorized current recreational sites into seven broad areas of the Reservation. These areas include north Lake Roosevelt, south Lake Roosevelt, Twin Lakes, Sanpoil, Buffalo Lake, Omak Lake, and Rufus Woods.

Keller Park Camping Sign

The Tribes established the Park & Recreation Program in 1988. Since that time, this Program has grown and now has a staff of 27. The staff enforces tribal codes, maintains park and recreation areas, collects park fees, assists in emergency search and rescue operations, and conducts Archaeological Resources Protection Act (ARPA) patrols on the Reservoir.

Lake Roosevelt Management

In 1940, Congress authorized acquisition of Indian lands for the Columbia Basin project. The legislation recognized that the Colville Tribes have the right to hunt, fish, and boat within an area of Lake Roosevelt equal to one quarter of the entire reservoir. The lake was managed for many years by the federal government, particularly the National Park Service, however, in the 1970s, the National Park Service ceased managing the zone along the Reservation. The Department of the Interior recognized the Tribes' right to manage hunting, fishing and boating along Lake Roosevelt within the original boundaries of the Reservation.

Lake Roosevelt

Campgrounds managed by the Fish & Wildlife Program were moved to the Tribes' new Parks and Recreation Program. During this time the lake became a popular visitation area for Washington and Oregon residents, in part due to an improved fishery.

The Lake Roosevelt Cooperative Management Agreement was signed and approved in 1990 by the Bureau of Reclamation, the National Park Service, BIA, and the Colville and Spokane Tribes.

The Tribes have the potential to greatly expand tourism on the Reservation by expanding facilities for fishing, camping and boating. This is balanced by a desire to preserve remote areas from development activities.

Community Concerns

When asked about their recreational use of water resources on the Reservation, over 70% of respondents utilized these resources for fishing (71%) and swimming (75%). The second most common recreational uses indicated by respondents were cultural activities (51%) and boating (43%).

Whereas, 75% of respondents feel that lakes, rivers and streams are adequately stocked with fish, significant concern was expressed about wildlife conditions, especially for game animals. Respondents indicated (52%) that, in general, the habitats of the Reservation adequately support the wildlife species important to them. However, 46% either feel that they don't (16%) or aren't sure (30%). Of the respondents who indicated that they hunt, 92% hunt on the lands of the Reservation.

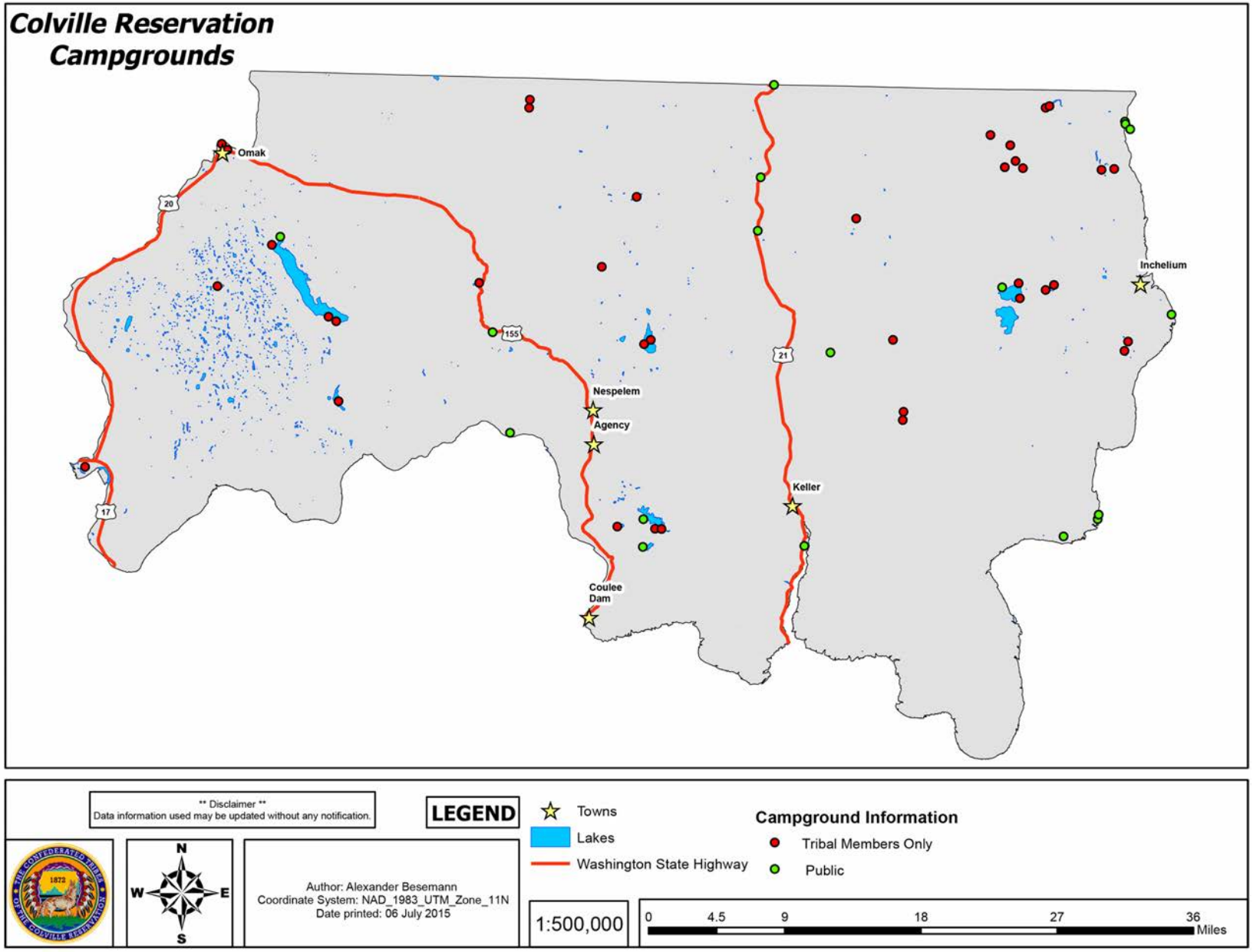
Stringer of fish caught at Twin Lakes

Parks & Recreation Management

The Parks & Recreation Program promotes the concept that people should be provided with opportunities to learn interesting aspects of the natural and cultural environment through outdoor recreation and active participation. To accomplish this, recreation professionals have a dual responsibility: protecting the environment and creating an enjoyable experience for users. Resource coordination is a necessity in successful multiple-use management.

Keller Park Campground

Wildlife watering holes and wood openings that create the edge effect beneficial to wildlife can, if well placed, enhance the aesthetics of roads and trails traveled by recreation visitors. Cover plantings of shrubs and coniferous trees for deer and upland game birds can provide screening helpful in separating conflicting recreation zones. Natural salt licks can aid wildlife as well as serve as observation points for people interested in viewing animals. Another important as-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Data information used may be updated without any notification.
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pect affecting parks and recreational activities are the sensitive cultural and traditional areas that must be preserved and protected.

The Parks & Recreation Program maintains Reservation campgrounds, providing safe and aesthetically pleasing facilities for tribal members, their families and guests, as well as visitors. The program updates facilities to meet the Tribes' cultural and recreational needs and to provide accessibility for the elderly and handicapped.

Enforcement

Tribal codes are strictly enforced within the interior boundaries of the Reservation. Fourteen enforcement officers cruise both land and water on a daily basis to ensure the safety of recreational activities within the Colville Reservation.

The Parks & Recreation Program provides enforcement of the Tribes' codes for camping, boating, off-road vehicles and natural resource codes that apply to all persons who hunt, fish, engage in recreational or related activities on the Reservation and other traditional areas. The program also enforces tribal codes regulating watercraft registration, land use and development, cultural resource protection, feral horses, as well as forest practices affecting water quality.

Boats at Twin Lakes

Parks & Recreation Management Goals & Objectives

The mission of the Parks & Recreation Program is to provide a diverse Reservation network of parks and recreational facilities which affords tribal and non-tribal members convenient access to a wide range of recreational opportunities, cultural uses, and provides for continued expansion of parks and recreational facilities as they become needed.

Goal 1: Provide natural/primitive settings for tribal members that encourage cultural and traditional balance among facilities, people and nature.

Objectives:

- Participate and encourage organizations and people that provide cultural and traditional activities.
- Traditionally used camping, hunting, fishing, gathering, spiritual and ceremonial areas are for the exclusive use of tribal members, their families, and their guests.

- Minimize impacts to traditionally used recreational areas, limit development, and restrict off-road vehicle use and motorboats. Encourage non-motorized transportation within these areas.

Goal 2: Provide a broad range of outdoor recreational opportunities and activities for tribal members and for non-members in designated areas.

Objectives:

- Provide year-round recreation opportunities that do not have negative impacts on the natural environment and make use of existing campgrounds and facilities when possible.
- Provide and enhance family oriented recreation opportunities.
- Provide facilities that meet recreation demands:
  - o Access to recreation areas (roads, boat ramps, hiking trails, etc.)
  - o Camp-sites (tents, trailers, RVs)
  - o Parking (vehicles, boat trailers)
  - o Day use areas, picnic areas, concessions, swimming areas, playgrounds
  - o Drinking water, toilets, changing areas, showers, fish cleaning areas
  - o Storm drains, sewer and/or septic facilities, solid waste disposal
  - o Marinas, moorage, gas docks, pump-out stations

Bridge Creek Campground

Goal 3: Unique natural areas such as stream courses, sandy beaches, and rock areas should be considered as possible recreation resources and be developed with the recreation facilities of a nature, which would not destroy their natural qualities.

Objectives:

- Locate recreational areas that are open to the general public along existing state, county, and tribal roads, boundary waters, and adjacent to areas currently utilized as recreation sites.
- Work within the 3P process to ensure the areas adjacent to the sites are kept aesthetically pleasing.

- Discourage all development, utility pole, and unnatural structures that would decrease the visual impact.

Goal 4: Develop or maintain recreation opportunities that are socially, environmentally, and financially sustainable.

Objectives:

- Assure the tourism opportunity fits well into the ecosystem and the natural environment.
- Development shall minimize impacts to the natural environment.
- Tourism opportunities shall be developed in concert with and supported by local and regional residents.
- Tourism opportunities shall be designed to become financially self-supporting (people are willing and able to pay).
- Construction, management, and visitation shall be designed to minimize energy usage and encourage people involved with the tourism opportunity to be environmentally sensitive.

Sanpoil Campground Campsite

Climate Change Strategy

Climate change is a global phenomenon, influencing hydrologic processes, atmospheric conditions and weather patterns. Globally, the last decade was the warmest for at least 1,500 years. Temperatures in the U.S. have increased gradually over the last 100 years, with the top ten warmest years occurring since 1990. Growing seasons have increased, and, because of higher winter temperatures, plant hardiness zones have shifted northward. Many changes are being observed in wildlife wintering ranges, pollination, hibernation times, and other phenomena.

According to the Intertribal Timber Council's assessment of climate change, precipitation has increased six percent overall in the last 100 years and has shifted to proportionately more rain than snow and the area covered by snow overall has been reduced by seven percent since 1970. Extreme events such as heat waves, downpours, droughts, and windstorms are more frequent. In the West, the current drought is one of the worst on record and has been accompanied by record temperatures. Wildfires are starting earlier and ending later, extending the average wildfire season by about 75 days since 1970.

Changes in the earth's climate are affecting the growth, mortality, and composition of forestland resources and the ecosystem qualities and services upon which people depend. Changing weather patterns are imposing new threats to important species of plants (including trees), wildlife, and cultural resources. Throughout Indian country, climate change threatens to degrade or eliminate fish, game, and wild and cultivated crops that have been used for food, medicine, and economic and cultural purposes for generations.

North Star Fire

Managers of tribal forests are observing multiple impacts of a changing climate that include increased severity of wildfires and insect and disease activity, increased frequency and intensity of precipitation events, more severe droughts, changes in the timing of plant and animal activity, and the more rapid spread of some invasive species.

The U.S. as a whole has seen a warming trend that has raised annual average temperatures by 1.3 degrees Fahrenheit over the past 100 years. This trend parallels an increase in global temperatures, which scientists think is largely the result of human greenhouse-gas emissions. But starting in 1970, the increase in temperature began to accelerate, and warming has occurred fastest in the winter season.

Regional Conditions

Washington is among the slowest-warming states with an increase of about .35 degrees per decade over the past 43 years. The average annual air temperature has increased 1.3 degrees Fahrenheit from 48.5 in 1970 to 49.8 in 2012. In eastern Washington, average annual temperatures in Republic have increased 2.0 degrees Fahrenheit from 42.0 to 44.0 in the 1950 to 2000 time period). In the Pacific Northwest, the general trend from 1989 to 2013, despite highly variable conditions from year to year and region to region, has been a gradual increase in average annual air temperatures and decrease in average annual precipitation. Climate model projections for the 21st century show dramatic fluctuations annually in average air temperatures and average precipitation across areas of the Pacific Northwest.

The combined effect of warming temperatures (higher evaporation), drier conditions (less precipitation) brought on by climate change can offset the hydrologic cycle and contribute to reduced streamflows, lake and wetland water levels and extent, and groundwater recharge.

Despite increased spring precipitation in some years, snowpack has declined by 30 to 60 percent. This is a result of higher snowpack evaporation and more precipitation occurring as rainfall rather than snowfall, particularly at the intermediate and lower elevations, due to increasing air temperatures. This situation has caused earlier, faster spring snowmelt and snow evaporation, earlier runoff and stream peak flows, and diminished dry season low flows of shorter duration in many drainages. Sparse and inconsistent seasonal rains have contributed to reduced annual streamflows in recent years.

As conditions dry out earlier in the year, summer drought is becoming longer and increasingly severe. Wildfires across the West are becoming larger and more frequent and the fire season is becoming longer. The last two decades have seen fires that are extraordinary in their size, intensity and impacts. Their erratic, unpredictable behavior has now become the expected. Model projections for eastern Washington and much of the West suggest these trends will continue.

Fighting the North Star Fire

Forest Ecosystems

Drier vegetation conditions combined with silvicultural practices and fire suppression this past century resulting in extremely overgrown forests are causing larger, more intensive fires. Rather than just clear out forests of undergrowth as in the past, today's intensive fires or megafires destroy vegetation and incinerate entire forests, leaving completely exposed, sterilized soils and ash.

The Intertribal Timber Council cites recent information from the new U.S. Global Change Research Program and the National Climate Assessment on the effects of climate variability and change in North American forested ecosystems, and lists the following observed and expected future impacts:

- Increases in temperature will reduce the growth of some species in dry forests and perhaps increase the growth of others in high-elevation forests.
- Decreased snow cover depth, duration, and extent will lead to drier conditions.
- More frequent and extreme weather events such as windstorms, especially in the West, will decrease tree vigor and increase susceptibility to insects and pathogens.
- Mortality will increase in older forests, especially those already experiencing soil moisture stress.
- Species habitats will shift, in general moving up in elevation and northward in latitude.
- Interacting disturbances will impact forest ecosystems.
    - o Wildfire will increase throughout the U.S. doubling the area burned by the mid-21st century.
    - o Insect infestations will expand affecting greater areas than wildfire.
    - o Invasive species will become more widespread, especially in dry forests after disturbance.
    - o Increased flooding, erosion and sediment movement can be expected from fire disturbance and downpour combinations especially in steep areas.
    - Tree growth and regeneration will decrease for some species, especially near the limits of their range.

Insect infested trees

- Increased drought will exacerbate the interactions of stressor complexes leading to higher tree mortality, slower regeneration, and shifting combinations of plant species that may result in changed and possibly novel forest ecosystems.
- Eastern forests will continue to serve as carbon sinks while Western forest ecosystems may transition to carbon sources because of combustion and decay associated with wildfire and insect disturbances.

Federal Climate Change Policies

The President's Executive Order in 2013 directed the administration to build on recent progress and pursue new strategies to improve the Nation's preparedness and resilience. In doing so, federal agencies were directed to promote: (1) engaged and strong partnerships and information sharing at all levels of government; (2) risk-informed decision making and the tools to facilitate it; (3) adaptive learning, in which experiences serve as opportunities to inform and adjust future actions; and (4) preparedness planning.

In response, the Department of the Interior and the Bureau of Indian Affairs developed a Climate Change Policy to effectively and efficiently adapt to the challenges posed by climate change. The policy focuses on the use the best available science to increase understanding of climate change impacts, inform decision making, and coordinate an appropriate response to impacts on land, water, wildlife, cultural and tribal resources, and other assets. It is the Department's policy to:

- Ensure that climate adaptation plans are grounded in the best available science and understanding of climate change risks, impacts, and vulnerabilities, incorporating traditional knowledge where available.
- Use the network of Landscape Conservation Cooperatives, Climate Science Centers, and other partnerships to increase understanding of climate change impacts; build upon and monitor existing response efforts; coordinate adaptation strategies across multiple sectors, geographical scales, and levels of government; and inform decision makers.
- Ensure consistent and in-depth government-to-government engagement with tribes to address climate change impacts on health, infrastructure, livelihoods, traditional practices, natural and cultural resources, and to apply adaptation strategies.
- Promote landscape-scale, ecosystem-based management approaches to enhance the resilience and sustainability of linked human and natural systems.

- Advance approaches to managing linked human and natural systems that help mitigate the impacts of climate change, including:
  - Protecting the diversity of habitat, communities and species;
  - Protecting and restoring core, unfragmented habitat areas and the key habitat linkages among them;
  - Anticipating and preparing for shifting wildlife movement patterns;
  - Maintaining key ecosystem services;
  - Monitoring, preventing, and slowing the spread of invasive species;
  - Focusing development activities in ecologically disturbed areas when possible, and avoiding ecologically sensitive landscapes, culturally sensitive areas, and crucial wildlife corridors;
- Routinely track, record, and report on the progress and results of climate change adaptation activities to help further public understanding, encourage the engagement of partners, promote the conduct of similar activities, and better inform decision making on a broader scale.

The Department of Interior has prioritized working with tribes to anticipate and prepare for climate change impacts to their lands, communities, and ways of life. They have directed the Bureau of Indian Affairs to:

- Provide tribes with the most recent climate change information and climate adaptation guidance.
- Respectfully solicit traditional knowledge from tribes, communities, and villages to complement existing scientific resources on past and present ecological and sociological changes.
- Ensure ongoing inclusion of indigenous groups in any ecosystem-based management implementation by providing avenues for participation and soliciting information on areas of cultural value.

The Colville Tribes have traditional, cultural, and spiritual ties to the land and also have subsistence rights and interests off the Reservation, making natural resource impacts a serious concern. Further, tribal governance and resource rights are tied to these lands and tribal members cannot easily migrate to follow traditional subsistence animals moving due to changing habitats.

The Department is investing in data, technical and training needs for land managers and is committed to incorporating tribal needs into that investment. The Department is also committed to respectfully and appropriately incorporating traditional ecological knowledge into the body of knowledge that will underpin adaptation management.

The BIA provides both management and technical support for tribes. Starting in 2014, BIA plans to provide support for five tribal liaison positions located at Climate Science Centers. BIA or tribal managers then develop plans, objectives and management guidelines to reach those priorities. Given the crosscutting nature of climate change, the BIA Cooperative Landscape Conservations (Climate Change) program coordinates BIA climate change funding and technical support for tribes.

> *"We are committed to providing the means and measures to help tribes in their efforts to protect and mitigate the effects of climate change on their land and natural resources."*
> - Kevin Washburn, Assistant Secretary of Indian Affairs

Adaptive Climate Change Strategy

Like many small rural communities, tribes face infrastructure vulnerabilities due to increased storm frequency and intensity, and potential social and economic stresses from indirect climate impacts. Tribes have traditional, cultural, and spiritual ties to the land, and close relationships make them especially susceptible to impacts from climate change. Moreover, as governments, tribes manage not only their land and local ecosystems, but develop plans, maintain infrastructure, address human service needs, and conduct emergency operations.

The Colville Tribes are already experiencing the effects of climate change on the Reservation and the region. Drought conditions and severe wildfires are already impacting the natural and economic resources of the Reservation and the Tribes' ability to respond.

Smoke from North Star Fire

The Tribes are currently developing a Climate Change Vulnerability Assessment that will provide a basis for a subsequent Climate Change Adaptation Plan. The Climate Change Adaptation Plan will provide up-to-date management guidance and policies for appropriate response to climate change and to ensure the protection of human health and safety. The plan will be consistent with the Department of Interior's Climate Change Adaptation Plan, the President's Climate Action Plan and this Integrated Resource Management Plan.

The Tribes' departments and programs are addressing climate change issues under the IRMP. Climate change priorities include:

- Developing and maintaining a Climate Change Adaptation Plan.
- Accessing best available science regarding climate change and regional forecasts.
- Managing natural resources utilizing state-of-the-art best management practices.
- Maintaining and enhancing wildfire prevention and response capabilities.
- Coordinating with the Department of Interior and Bureau of Indian Affairs on initiatives addressing climate change impacts affecting the Colville Tribes and the Reservation's natural and cultural resources.

North Star Fire Colville Reservation

Additional Planning Resources

This Integrated Resource Management Plan provides an overview of the management goals and objectives for the natural resources of the Colville Reservation. Underlying this plan are individual management plans for each of the natural resource departments and programs. These plans provide additional details, data, implementation actions and best management practices utilized by the Tribes' resource managers.

Resource Management Plans

- 2015 Forest Management Plan
- Range Management Plan 2015-2029
- Agricultural Resource Management Plan
- Integrated Weed Management Plan
- Forest Roads Management Plan
- Mount Tolman Fire Center Wildland Fire Prevention Plan 2016-2025
- Wildland Fire Management Plan for the Colville Indian Reservation 2016
- Fish and Wildlife Interim Five Year Management Plan 2012-2017
- Parks & Recreation Plan 2011
- Cultural Resource Management Plan 2006
- Traditional Cultural Plant Community Restoration Plan 2013
- Soil and Water Management Plan 2015
- Quality Assurance Project Plan For Water Quality Monitoring 2014
- Non-Point Source Water Pollution Management Plan 2012
- Wetland Program Plan 2012
- Wellhead Protection Plan 2000
- Wildlife Site-Specific Management Plans
    - Brim Management Area, 2014
    - Boot Mountain Management Area, 2007
    - Tumwater Basin Management Area, 2007
    - White Lakes Management Area, 2007
    - Rattlesnake Canyon Management Area, 2008
    - North Omak Lake Management Area, 2011
    - Redthunder Management Area, 2008
    - Hellsgate Big Game Winter Range Wildlife Mitigation, 1999
    - Columbian Sharp-Tailed Grouse Management Plan, 2005
    - Wanacut Basin Management Area, 2012

Natural Resource Reference Documents

The following documents and reports are among the many resources used in the development of the 2015 IRMP. They provide additional, and in some cases, comprehensive information on particular resources and most are available in digital form.

- *An Assessment of Indian Forests and Forest Management in the United States* by the Indian Forest Management Assessment Team of the Intertribal Timber Council, 2013.
- *Bitterroot and Precision Pine: Forest History of the Colville Reservation* by Mary Rellergert-Taylor, and Jack O'Dea, 1988.
- *Ethnobotany of the Okanogan-Colville Indians of British Columbia and Washington* by Nancy Turner, Randy Bouchard, and Dorothy Kennedy, 1947.
- *Federal Wildland Fire Management Policy*. 2001, by U.S. Department of the Interior, et al, 2001.
- *Final Colville Reservation Baseline Range Inventory 2013-2014 by North Wind Resource Consulting, LLC, April 2015.*
- *Forest Inventory Analysis. 2011 Review of the Colville Indian Reservation Commercial Forestlands*. Hunt, Jeremy, Bureau of Indian Affairs. 2011.
- *Handbook of the North American Indians Columbia Plateau, Volume 12.* Walker, Edward E. Jr.,and and Sturtevant, William., Smithsonian Institution, Washington. 1998.
- *Hydrology Report* by Walter Hunner, Office of Environmental Trust, 2014.
- *Soil Condition Analysis Report* by Environment International Ltd., 2013.
- *Soil Survey of Colville Indian Reservation, Washington, Parts of Ferry and Okanogan Counties. National Cooperative Soil Survey* by the Natural Resources Conservation Service, U.S. Department of Agriculture, 2002.
- *IRMP Resource Assessment* by The Center for Applied Research, 2014.
- *Results of the 2014 Colville Reservation Community Survey* by The Center for Applied Research, 2015.

Wanacut Basin