



Air Resource Advisor Factsheet For the Confederated Tribes of the Colville Reservation

The goal of this document is to provide Air Resource Advisors from out of the area information that will make their duties easier and help them understand the Reservation and the air quality program (AQP).

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Reservation Description

Confederated Tribes of the Colville Reservation (CTCR) is a federally recognized Indian Tribe located in north central Washington State (Figure 1). The Colville Reservation land area of 2,100 square miles, or 1.4 million acres, is slightly larger than the total acreage of the entire state of Delaware (1,954 square miles). The Reservation is bounded on the east and south by the Columbia River, on the west by the Okanogan River and on the north by the line separating townships 34 and 35 of the Willamette Meridian. Both the Columbia and Okanogan Rivers are international waters that originate in Canada. The San Poil River dissects the Reservation just east of the Ferry County western line. Two of the Country's largest generating hydropower dams; Grand Coulee and Chief Joseph are located on the Columbia River and are partially on the Reservation. The east half of the Reservation lies within Ferry County, the west half within Okanogan County. Approximately 80% of the Reservation area is in trust status with the remaining area being fee land (20%). Within this diverse landscape are 2,755 miles of streams; 430 lakes, 7,672 acres of surface water, 28,500 acres of wetland.

Figure 1: Colville Reservation in Washington State



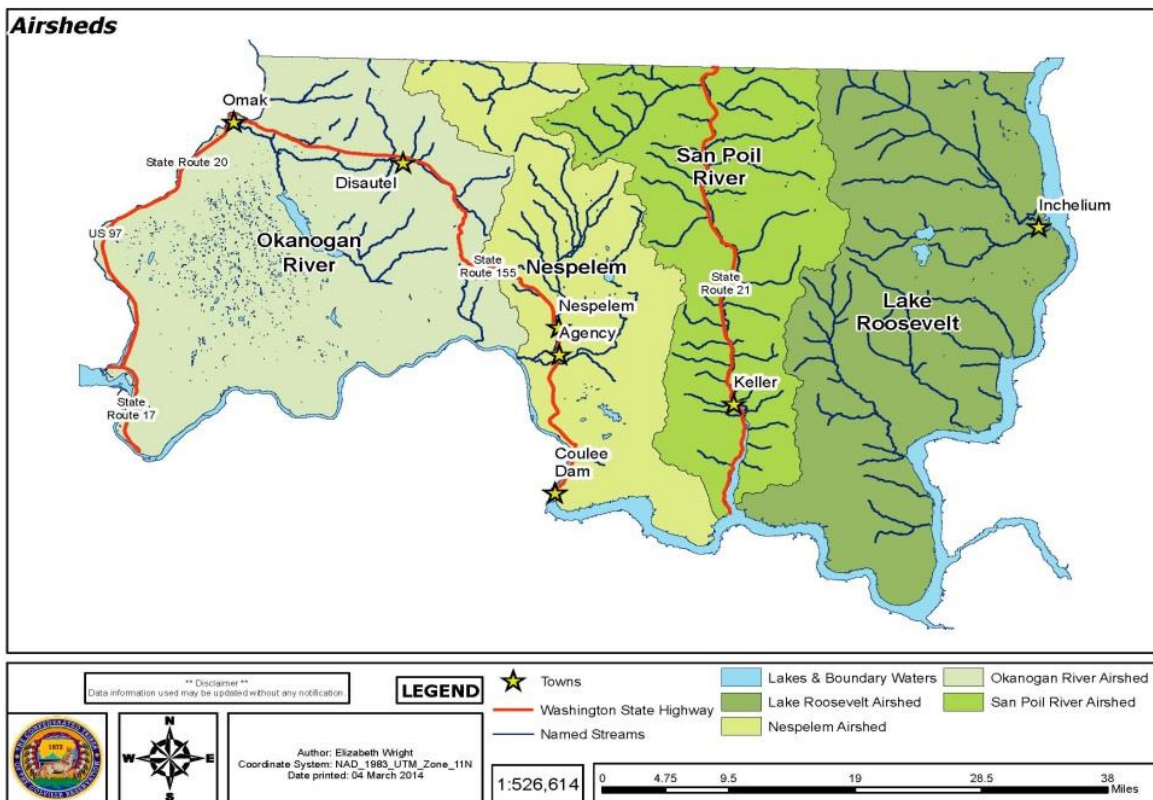
Land can be broadly describes as forests lands at 902,622 acres; 455,276 acres of rangelands and 25,500 acres of agriculture land. All this is crossed by 7000 miles of roads that occupy approximately 30,000 acres.

The AQP divided the Reservation into four airsheds for management purposes based on geographical areas where local topography influences air movement and emission dispersion. Table 1 provides a comparison of airshed size in acres. Topographical features may concentrate emissions such as smoke into localize areas of the airshed. The airsheds shown in the map below (Figure 2) were delineated based on 15 Resource Management Units (RMU) and knowledge of local meteorological conditions. The four airsheds represented here are a small portion of the possible area if the borders were carried outside the exterior boundaries of the Reservation.

Table 1: Airshed Size

Airshed Name	Size in Acers
Lake Roosevelt	395,553
San Poil River	288,705
Nespelem	251,046
Okanogan River	427,269
Total Reservation	1,362,573

Figure 2: Airsheds of the Colville Reservation



Air Quality Regulation pertaining to the Reservation

The Environmental Protection Agency (EPA) established a Federal Implementation Plans (FIPs) under the Clean Air Act (CAA or Act) (42 U.S.C. 7401 to 7671q) for 39 Indian reservations in Washington, Idaho and Oregon. This resulted in the Federal Air Rules for Reservations (FARR); 40 CFR Parts 9 and 49, taking effect on June 7, 2005. The FARR ensures that basic air quality regulations are in place to protect health and welfare on Indian Reservations located in the Pacific Northwest and to fill the gap left by omissions in the Clean Air Act. A complete text of the FARR can be found on the EPA Region 10 website: <http://www.gpo.gov/fdsys/pkg/FR-2005-04-08/pdf/05-6367.pdf>.

The Washington Department of Ecology (WDOE) regulates air quality in all areas adjacent to the Reservation. WDOE does not have permitting, regulator or compliance authority within the exterior boundaries of the Reservation. However the EPA and the AQP do interact with WDOE on issues of concern to all parties.

EPA delegated several parts of the FARR to CTCR to administrate:

Section 49.124 Rule for limiting visible emissions – determine if an emission source fails to meet a 20% opacity limit.

Section 49.131 General Rule for open burning – declaration of burn bans for health reasons

Section 49.137 Rule for air pollution episodes – issuing air stagnation advisories, air pollution alerts, air pollution warning or air pollution emergencies

Air Monitoring Sites

The Tribal air quality program operates three monitoring sites that measure particulate matter 2.5 micron or smaller (PM_{2.5}). Each site has a variety of meteorological sensors. These permanent continuous monitoring sites have EPA approved Quality Assurance Project Plans with data available remotely.

Omak monitoring site: located near the corner of 8th avenue east and the Okanogan-Omak/ East River Road on the west end of the Omak Wood Products property. The site was established in October of 2010 in cooperation with Washington State Department of Ecology. A Radiance Research Nephelometer M903 is located at this site. Standard Operation Procedures (SOP) is provided in Washington Department of Ecology (WDOE) Nephelometer Operating Procedures, December 2008, Publication 01-02-001(rev.12/2008).

Nespelem and Inchelium Monitoring Site:

Permanent sites were established at the Nespelem School District facility and the Inchelium EMS building in 2012. Beta Attenuation Monitor 1020 (BAM) are measuring PM_{2.5} at both sites following an EPA approved Quality Assurance Project Plan, monitoring SOP and meteorological SOP for the network in May 2012.

Figure 3: Omak Monitoring Site



Figure 4: Inchelium and Nespelem Monitoring Sites



If you need additional information or clarification of data please contact the Air Quality Program Manager 509-624-2418 or 509-978-8025.

The data available varies slightly by location and all are viewable on these website:

Nespelem and Inchelium - <http://67.205.96.124/airvision/>

Omak - <https://fortress.wa.gov/ecy/enviwa/Default.ltr.aspx>

All sites - <http://www.airnowtech.org/> ; air quality data only

Washington State Smoke Blog - <http://wasmoke.blogspot.com/>; includes an AQI map and local postings.

Table 2: Data Available at Monitoring Site

Site	PM _{2.5}	Wind Speed	Wind Direction	Ambient Temperature	Relative Humidity	Barometric Pressure	Precipitation
Omak	X	X	X	X			
Nespelem	X	X	X	X	X	X	X
Inchelium	X	X	X	X	X	X	X

Places to consider installing temporary monitors see Figure 5 map:

1. Keller – located in mid Reservation on the south end of the San Poil River Valley
2. Disautel – small community located 18 miles east of Omak, just off Highway 155
3. Coulee Dam – located on the southern boundary near Grand Coulee Dam
4. Bridgeport – the town is located off Reservation but a sizable population lives in the surrounding area.
5. Brewster – South West of the Reservation near the confluence of the Columbia and Okanogan Rivers.
6. Malott – located south of Okanogan on the western boundary of the Reservation along the river.
7. Republic – located north of the Reservation on State Route 21
8. Conconully – A small community west of Omak

The Tribal Air Quality Program has experience with many types and models of monitors and possesses the capability to operate or help operate any temporary units installed in the area surrounding the Colville Reservation.

AQI VS WAQA

The air quality program utilizes the EPA air quality index (AQI) within the exterior boundaries of the Reservation. Washington State Department of Ecology uses the Washington air quality advisory (WAQA) which uses the same categories with different break points. Note the Washington Smoke Blog presents monitoring sites as AQI. The two indexing system causes some confusion about which level of concern the area is in but the messaging is consistent within categories.

Table 3: AQI - WAQA Comparison Chart

Air Quality Index (AQI) Values	Levels of Health Concern	AQI PM2.5 (µg/m3) 24 - Hour Average	WAQA PM2.5 (µg/m3) 24-Hour Average	Levels of Health Concern
0 to 50	Good	0.0-12	0 to 12	Air quality is considered satisfactory and air pollution poses little or no risk.
51 to 100	Moderate	12.1-35.4	12 to 20.4	Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.
101 to 150	Unhealthy for Sensitive Groups	35.5-55.4	20.5 to 35.4	Members of sensitive group may experience health effects. The general public is not likely to be affected.
151 to 200	Unhealthy	55.5-150.4	35.5 to 80.4	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
201 to 300	Very Unhealthy	150.5-250.4	80.5 to 135.4	Health warnings of emergency conditions. The entire population is more likely to be affected.
301 to 500	Hazardous	250.5+	> 135.4	Health alert: everyone may experience more serious health effects.

Figure 5: Community Location Map, North Central Washington

