



STATE OF WASHINGTON DEPARTMENT OF NATURAL RESOURCES
WILDLAND FIRE INVESTIGATION REPORT

Case File Number
 20-V- AKV
 Other Related No.
 WA--NES--2151

INCIDENT INFORMATION

Incident Name: Babb	WildCAD Incident No. 2151	Incident Date: 09/07/2020
Program Index: <input checked="" type="checkbox"/> 221 <input type="checkbox"/> 222	Project Code: AKV	Region Fire No. 522
Acres Burned: 15,266		Reporting Office: Northeast
Investigation Report By: G. Margheim		Case Ref. No.
Other Agents/Officers: Eugene DuPrey INVf(t), John McDonald INVf, Terry Liebrecht INVf		

Origin Location

Region: Northeast	District: Arcadia	County: Spokane
Lat. (D° dM'): N 47° 16.317'	Long. (D° dM'): W -117° 23.370'	Twp: 21 N Rng: 43 <input checked="" type="checkbox"/> E <input type="checkbox"/> W
Sec: 33 ¼	Ownership: <input checked="" type="checkbox"/> Private <input type="checkbox"/> DNR <input type="checkbox"/> WDFW	Federal: <input type="checkbox"/> USFS <input type="checkbox"/> USFW <input type="checkbox"/> BLM <input type="checkbox"/> NPS <input type="checkbox"/> BIA <input type="checkbox"/> Other:
Jurisdiction: <input checked="" type="checkbox"/> WA DNR <input type="checkbox"/> Federal <input checked="" type="checkbox"/> WFS: SCFD3 <input type="checkbox"/> Other:	Protection: <input checked="" type="checkbox"/> FFPA <input type="checkbox"/> N/A	

Regulations and Restrictions

Burn Ban in Effect: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Fire Danger Rating: <input type="checkbox"/> Low <input type="checkbox"/> Moderate <input type="checkbox"/> High <input checked="" type="checkbox"/> Very High <input type="checkbox"/> Extreme
IFPL Zone: 674 <input type="checkbox"/> N/A	IFPL: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
Violation: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Fire Tool Inspection: <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Type: <input type="checkbox"/> IFPL <input type="checkbox"/> Burn Ban <input type="checkbox"/> Burn Permit <input type="checkbox"/> Other:	
Citation Issued: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Citation Number: Issued By:
Referral: <input type="checkbox"/> Yes <input type="checkbox"/> No	Referral to: Date: / /20

Fire Behavior Conditions

Red Flag Warning: <input checked="" type="checkbox"/> Yes (attach Red Flag Warning) <input type="checkbox"/> No	Lightning: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Weather Source: <input type="checkbox"/> On-Scene Observations <input type="checkbox"/> WildCAD	<input checked="" type="checkbox"/> RAWS Station: Turnbull <input type="checkbox"/> Other:
Temperature °F: 72	Relative Humidity %: 29
Wind Direction: NE	Wind Speed (mph): 18
Aspect: N	Slope %: 0
Elevation: 2180	Gusts: 34
Fuel Type at Origin: Grass, brush & trees	
Character of Fire: <input checked="" type="checkbox"/> backing <input type="checkbox"/> creeping <input type="checkbox"/> smoldering <input checked="" type="checkbox"/> running <input checked="" type="checkbox"/> torching <input checked="" type="checkbox"/> spotting <input type="checkbox"/> crowning	

Sequence of Events

Estimated Ignition: / /2020 at : <input type="checkbox"/> AM <input type="checkbox"/> PM (For Incendiary Cases only)
Fire Reported: 09/07/2020 at 11: 59 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM
Reported by: Douglas Swiger
Origin Protected: 09/07/2020 at : <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM
Protected by: Spokane Fire District 3
Investigator Notified: 09/07/2020 at 4: 30 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM
Requested by: DJ Greene
Origin Released: 09/09/2020 at 4: 03 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM
Released by: G Margheim

SUMMARY

On September 7, 2020, at approximately 11:59 a.m., a wildfire was reported to the Northeast Washington Interagency Communications Center (NEWICC) in the area of East Babb Road in south Spokane County (T 12, R 43, S 33). The fire was located approximately 5 miles northeast of Malden, Washington. The wildfire was designated as the Babb Fire.

Firefighting personnel and resources from Spokane County Fire District 3, Whitman County Fire District 7 and the Washington State Department of Natural Resources (DNR) responded. Additional resources consisting of fixed and rotary wing aircraft, dozers and additional engines were requested due to the wind driven fire and the numerous homes threatened. The region was under a red flag warning for high winds and low relative humidity. The Babb Road Fire continued to grow until a Type 2 Incident Management Team was deployed. The fire has burned approximately 15,266 acres including a majority of the town of Malden, WA.

The DNR wildland fire investigation determined that the Babb Fire started due to a branch from a multi-dominant Ponderosa Pine tree came into contact with an Avista Utilities power distribution line causing a fire to start in the seasonally dried grasses, bushes and timber. Approximately 121 primary residences, 8 commercial buildings and 94 other structures were destroyed in this fire.

Cause Determination

Code:	E = Excluded; I = Included; P = Possible (if Included or Possible is used, further explain in the Details Section below).	
E	Lightning	Strike activity. No lightning activity in the area at the time of the fire
E	Campfire	Uncontrolled/Unattended/Escaped/Rekindle. No evidence of camping in the area at the time of fire
E	Smoking	Tobacco: Cigarette, Cigar, Pipe; Cannabis; Paraphernalia: Matches, Pipes, Filters, Clips, etc. No evidence of smoking in the area
E	Debris Burning	Agricultural, Burn Barrel/Incinerator, Dumpsite, Garbage, Pile/Slash, Prescribed, Holdover, Unattended/Uncontrolled. No evidence of debris or agricultural burning in the area
E	Incendiary	Arson: Matches, Cigarette, Lighter; Time-Delay Ignition Device: Rope, Rubber Band, Candles, Wire. No evidence of incendiary devices in the area
E	Equipment Use	Operation Of Mechanical Equipment, Brakes, Catalytic Converter, Exhaust/Exhaust System Particle, Sparks, Fuel, Fluids, Lubricant, Friction, Electrical, Grading, Harvesting, Land Clearing, Logging, Mowing, Rock Strike, Mechanical Breakdown/Malfunction, Vegetation Buildup on Hot Surface. No equipment was seen in the area by a witness that day.
E	Railroad	Railroad Operation/Personnel/Rolling Stock: Brakes, Equipment, Exhaust/Carbon Particle, Track/Right-Of-Way Maintenance. No railroads in the area of the fire. Milwaukee – John Wayne Trail is a right-of-way only
E	Children	Ignition Activities Associated with Children – 12 Years of Age or less: Matches, Lighter. No evidence of children in the area of the fire.
I	Miscellaneous	Power Line, Fireworks, Cutting, Welding, Grinding, Firearms Use, Exploding Target, Spontaneous Heating, Coal Seam Fire, Electric Fence, Refraction/Reflection/Magnification, Blasting, Flare, Flare Stack/Pit Fire, Flying Lantern, Wind Turbine, Outdoor Wood Burning Furnace, Structure. A power distribution line transects the fire’s origin that showed damage and discoloration on two of the three top lines and the lower line adjacent to a down branch of a Ponderosa Pine tree

INVESTIGATION

DETAILS

On Sunday, September 6, 2020, the National Weather Service issued a Red Flag Warning for much of eastern Washington including the Spokane and Palouse areas. Red Flag Warnings are issued for weather events which may contribute to extreme fire behavior. The Red Flag Warning was for Monday, September 7, 2020, from 11 a.m. to 8 p.m. The predicted weather warning was for winds northeast 20 to 35 MPH with gusts 40 to 50 MPH and relative humidity’s of 12 to 22 percent. Impacts of this type of weather conditions are rapid fire spread with any new or ongoing fires are expected.

The National Weather Service describes a Red Flag Warning as: “A Red Flag Warning is issued for weather events which may result in extreme fire behavior that will occur within 24 hours. A Red Flag Warning is the highest alert”.

On Monday, September 7, 2020, several wildland fires were reported in eastern Washington. A few of these fires spread in excess of 1000 acres due to the high winds and low humidity before being contained and controlled. This is noted in the satellite map provided by the US Forest Service showing a time-lapse video of fires starting and spreading from the wind event.

On Monday, September 7, 2020, I learned of several fires being reported in the Arcadia District of the Northeast Region. I called Arcadia Fire Management Officer DJ Greene at approximately 4:19 p.m. and left a voice message requesting a return call inquiring if they needed assistance in investigating wildfires in his area. A short time later Mr. Greene returned my call and asked that I coordinate the investigation of the Babb Road Fire in the south Spokane County area that had burned structures. I advised him that I, and Senior Wildland Fire Investigator (SWFI) Eugene DuPrey, would respond the following day to conduct the investigation.

On Tuesday, September 8, 2020, SWFI DuPrey and I arrived in the general vicinity of East Babb Road located north of the fire at about 3:25 p.m. This area is in a rural part of south Spokane County near the Whitman County line. I stopped to talk to a gentleman, later identified as Mr. Douglas Swiger, sitting outside of a 5th wheel trailer on the south side of Babb Road near a barn. I asked him if he had seen where the wildfire started, and he said he did. He advised he had been sitting outside of his 5th wheel trailer most of the day on Monday keeping an eye on the property due to the high winds when a friend stopped by. While talking with his friend he saw smoke to the south of his location in the trees below the Milwaukee Railroad Corridor – John Wayne Trail. Mr. Swiger pointed to the south of his location across an agricultural field to where he saw the first smoke. As his cell phone does not work well in the area he had his friend use their cellular phone to call 911 to report the fire. At the time of the 911 call he advised the fire was just inside the tree line at the base of the hill that leads up to the John Wayne Trail, which he estimated the size of the fire to be about 40 foot in diameter and growing quickly moving towards the south. I asked him if he saw anyone in the area when he saw the fire, he said he had not seen anyone in that area all day. SWFI DuPrey obtained a written statement from Mr. Swiger.

Mr. Swiger suggested we speak to the landowner of the property, Mr. Bill Widman, who had just returned home. I walked across the road and met Mr. Widman outside his residence. I asked him if he knew anything about the fire. He said that he had been over to an area that he believes is the area of the origin as there was a tree with a yellow ribbon around it next to the power lines. Mr. Widman advised he was retired from Inland Power and Light Company, but the distribution line where the fire started belonged to Avista Power which feeds the natural gas station located on Babb Road west of his residence. By this time SWFI DuPrey joined in on the conversation and later obtained a written statement from Mr. Widman. Mr. Widman provided directions on how to access the fire where he believed it started.

Following the directions provided by Mr. Widman and the location pointed out by Mr. Swiger, SWFI DuPrey and I arrived at the area at approximately 4:08 P.M.. I noted the access road to the origin area is off of Morrow Road to the west, which consisted of a small two-track dirt/gravel road that separates a barley field to the north and feral timber land with Ponderosa Pine trees, grasses and shrubs to the south. The dusty road appears to be primarily used for agricultural purposes. A power distribution line also parallels the dirt access road to the south until a southerly jog of the road then it parallels the road to the north. Further to the south and mid-way up a hill is the Milwaukee Railroad Corridor, also known as the John Wayne Trail managed by the Washington State Parks, which crosses eastern Washington.

Upon entering the fire area I began assessing the surrounding area ruling out potential causes. The area is far from residential homes and I saw no signs of children in the area. I considered equipment use in the area, the barley field had not been harvested and Mr. Swiger said he had not seen anyone in the area that day. Railroad was considered, although there is an old Rail line on the hillside south of the access road, it no longer supports railroad operations. Campfire/Recreation was also considered, this area does not have established places to camp or campgrounds nearby. Debris burning was considered, however I did not observe any signs of timber harvest, land clearing, agricultural clearing or signs of any debris piles in the area.

Upon further observation, on the south side of the access road there was a flagged off area with yellow fire line barrier tape. Inside the flagged off area was a multi-topped Ponderosa Pine tree with a portion of the tree bent to the south in the direction of the power lines with the top resting on the ground under the power distribution lines. There was also a second Ponderosa Pine adjacent to the first noted tree to the north northwest with very little separation. The power distribution lines adjacent to the tree were still intact and attached to the east and west power poles. Photo Log #8 Photograph Cropped (right). Just east of the flagged area was, what appeared to be, a recently created access point I believe was created by suppression crews accessing the power line right-of-way to the east.



The power pole to the west of this section of power lines was resting on the ground partially suspended by the power lines and the lower portion of the wood pole was missing. I noticed the mild predominate wind was out of the northeast at the time of our arrival, which is consistent with the previous day's expected high winds.

Shortly after we arrived, a representative from Avista Utilities drove up to our location and introduced himself as Brian Bothman. We spoke with Mr. Bothman about the distribution line, he told us this line fed the natural gas pump station northwest of our location. I asked Mr. Bothman when this section of the right-of-way had been inspected as part of their vegetation management assessment. Mr. Bothman said that Asplundh Tree service had just been through the area in May or June of this year. I asked him what the right-of-way clearance was for this section of distribution line, he thought it was 10 feet each side of center making it a 20 foot wide right-of-way. Prior to leaving, I observed Mr. Bothman obtain photographs of the tree using his cellular phone. Mr. Bothman also confirmed that the distribution lines we were working around were de-energized.

Just west of the yellow flagged off area on the south side of the road I observed an area of wood chips typically seen where vegetation management work has been performed. This observation would support Mr. Bothman's report of Asplundh Tree Experts conducting vegetation management operations.

The overhead power distribution lines in the area consisted of four overhead lines supported by wood poles. There were three lines that were roughly parallel (same height above the ground) supported by a cross arm, with the fourth line being lower. The top three lines appeared to be non-insulated twisted aluminum cables. These electrical power distribution lines are often referred to as conductors as the electrical power passes through from one point to another.

I visually inspected the overhead conductors using binoculars. I observed two of the top three conductors had sustained damage to the conductors. The damage appeared to be missing portions of the twisted wires. The two lines were the north two lines. I also noted dark/black discoloring on those same lines near where the damage occurred on the conductors. I also noted similar damage and discoloration on the lower conductor in line with the other two upper conductors.

Both power poles on either side of the noted conductor damage remained upright and none of the conductors/wires involved appeared to come to ground. The power pole to the west of the damaged lines was pole number 045355.

Next we focused our attention to determining the area of origin. As SWFI DuPrey is currently in training status, I tasked him with the origin determination under my supervision. Not knowing who put up the yellow tape around the pine tree, SWFI DuPrey and I walked around the area to determine if the yellow flagging was placed there to protect the general area for investigative purposes as is typically done on scene. We walked the dirt access road to the west of the flagged tree reviewing the macroscale fire pattern indicators along the road and south to hillside. I noted a large Ponderosa Pine tree located near the base of the south hill that is southwest of the flagged off area that showed advancing macroscale fire pattern indicator of angle of scorch indicating the fire progression was in a southwest direction at that point. I walked south in a counter-clockwise direction towards the large Ponderosa Pine tree west of the flagged area from the road. At this point I started to see the backing fire pattern indicators change to lateral fire pattern indicators, mostly observing angle of char, protection and grass stems. As we proceeded along observing the fire pattern indicators, we marked the various vectors using pin flagging; red for advancing, yellow for lateral and blue for backing. SWFI DuPrey was also taking photos as we progressed.

We continued south where I observed advancing fire pattern indicator of damage differential, or the lack of grass stems by where the grass fuels were consumed more heavily than other areas. At this point we were between the flagged off area and the large Ponderosa Pine tree that displayed the angle of scorch. In about a 10 foot area we observed two advancing runs separated by lateral transition zones. These transition zones had standing grass stems and angle of char. As we proceeded southeast in the counter-clockwise direction we began observing lateral fire pattern indicators transitioning to backing fire pattern indicators. We stopped at the barbwire fence that ran from the south side of the access road in a southeast direction. Once at the fence, we turned around and verified the fires progression based on the fire pattern indicators observed. Looking south southwest towards the John Wayne Trail, the two advancing runs merged.

I then walked the access road east from the flagged area looking at fire pattern indicators. The indicators along the road north northwest of the flagged area showed a backing fire based on the light burn, protection on grasses and small bushes and lack of angle of char. I then walked up the recently created access road just east of the flagged off area reviewing the burn indicators on both sides of the access point. Fire pattern indicators in this area all indicated the fire was backing into this area. I continued south observing more backing fire pattern indicators, mostly consisting of protection around grass clumps and grass stems. I turned to the southwest towards the barbwire fence where I started seeing lateral fire pattern burn indicators, these indicators were protection, angle of char and grass stems. Once at the fence I stopped and walked back verifying the indicators I observed.

At this time we were confident the fire progressed out of the flagged off area noting that as our general origin area (GOA). From this point we went back to the main advancing part of the fire southwest of the fence line. Working from the advancing portion of the fire, we worked in a zig-zag pattern noting advancing indicators until we located lateral fire pattern indicators and we did this working towards the general origin area of the fire. We did this for both advancing runs. When we got to the fence we checked the wires with our fingers to see if we could determine the fires progression through the fence wires. We did observe sooting on the barbwire fence on the side of the flagged off area, also indicating the fire advanced through the area from northeast to the southwest. We also checked the fence wires in other areas and did not see the amount of sooting on the northeast side of the wires where backing or lateral zones were noted.

We crossed the fence line and took up the zig-zag pattern where we left off. We quickly found the fire pattern indicators became microscale indicators meaning we were getting close to the origin area. We moved to the north area of the fire just south of the access road and began reviewing the fire pattern indicators in this area working back towards the advancing indicators. We continued reviewing the fire pattern indicators, such as protection, cupping and grass stems, to the south to about where the top of the branch rested on the ground. At this point we felt we were in the Specific Origin Area (SOA), which was approximately a 6' – 8' area.

During the review of the GOA, we continued to eliminate potential causes. We found no evidence of foot trails coming off the John Wayne Trail or dispersed camping areas with rock campfire rings. Due to the distance from the dirt access road to the GOA, the slight elevation gain and location of the trees, I could eliminate equipment use in the GOA. We did observe foot prints in the GOA on top of the ash, which I believe were done when the yellow flagging was placed.

While reviewing the SOA, we had to work around the tree branch on the ground. Due to limited room available for both us to be working this area, I had asked DuPrey to review the fire pattern indicators and to keep me apprised of his findings. In this area, the fire pattern indicators were microscale indicators, mostly relying on protection, cupping, grass stems and sooting/staining on rocks.

While SWFI DuPrey worked the Specific Origin Area (SOA), I began looking at the Ponderosa Pine tree. I did not observe any marks consistent with a lightning strike. I did note on the upper portion of the failed branch was a strip of peeled bark hanging down from a branch. The bark appeared to be stripped from the bottom up as though it had contacted something as it was pulled across an object. The picture to the right (photo log picture #14) shows hanging bark and its location to the bare branch above it. Photo log picture #19 (IMG0074) also shows the hanging bark after the top had been removed.



A short time later SWFI DuPrey asked me to look at a few of the indicators as he felt he was near the origin area in a couple different areas. The area he was looking at had sustained a light burn where the flashy fuels had not been fully consumed. This is an indication we were in the ignition area as the fire had not yet fully established itself into an advancing fire. This was found in different areas of the SOA leading us to believe there had been more than one ignition area in the SOA. This area was below the power distribution lines and slightly south which aligned with the wind direction at the time of the fire's discovery.

SWFI DuPrey continued reviewing the SOA for any signs of a cause and using a magnet to sweep the area for ferrous metals. SWFI DuPrey could not locate any incendiary devices, or device remnants or carbon particles. No items related to smoking were observed. Several miscellaneous causes were also considered and ruled out such as fireworks, grinding/cutting, firearms use, electric fence, spontaneous heating, refraction/reflection, flares and structures to list a few. The only miscellaneous cause that could not be excluded at this time was power line. As the power distribution lines transect the origin area and a nearby tree with striations on the upper portion of the branch lying on the ground could not be disregarded.

Having seen trees react when coming into contact with overhead electrical power distribution lines, they tend to shower sparks from the power lines to the ground in a wide area. These showers of sparks consisting of burning organic material and aluminum would be a competent heat source to ignite the light flashy fuels below, which could cause more than one ignition point. Fine fuels such as grass (cellulosic fuel) will ignite between 500 degrees to 700 degrees, aluminum melts at approximately 1200 degrees, well above the ignition point for grass.

NFPA 921 section 9.9.5.2 states in part, "When aluminum is involved in faulting, the particles may actually burn as they fly and continue to be extremely hot until they burn out or are quenched by landing on some material. Burning aluminum sparks, therefore, may have a greater ability to ignite fine fuels than do sparks of copper or steel."

When SWFI John McDonald arrived on scene, I asked him to see if he could contact DNR Forest Pathologist Dan Omdal to have him respond to the scene to inspect the tree. Unfortunately Mr. Omdal was on a fire assignment and not available. SWFI McDonald suggested calling Ms. Melissa Fischer who is the agency's entomologist assigned to the DNR's Northeast Region. I asked him to contact her and have her respond to the scene if available, she was available and would be at the scene in a couple hours.

Later that day Mr. Bothman returned to the area along with Avista Foreman Jeff Murto who was conducting an inspection of the transmission distribution lines and power poles that needed to be replaced. I advised them I wanted to obtain any segments of the conductors for evidentiary purposes they were planning to remove due to extensive damage. These items were adjacent to the partially failed tree as part of the required maintenance to bring the system back up and operational. I offered to stay on scene until the crew arrived to obtain any possible evidence they cut out, but the foreman said it would be sometime between 8 p.m. tonight until sometime tomorrow morning. We agreed they would provide whatever parts of the conductor they removed, would be placed on the ground inside the yellow flagged off area.

On September 9, 2020, at approximately 8:34 A.M., Senior Wildland Fire Investigators (SWFI) McDonald, DuPrey and I arrived at the origin area. I noted that two of the four overhead power line conductors had been spliced. Upon further observations I found two segments of conductor in the flagged off area near the top of the tree at approximately 8:42 A.M. I collected the two segments of wire conductor, tagged each with a corresponding evidence number (E-1 & E-2) and placed them inside my assigned work vehicle. Both segments of wire showed damage to the twisted wires along with discoloration on both sides of the damage.

Shortly after we arrived at the scene, Avista Utilities Area Representative Brian Bothman arrived at the scene. He advised that Line Foreman Jeff Murto's crew had placed two segments of power line conductor within the flagged off area and wanted to ensure we found the items, I advised him we did and thanked him for their help in obtaining them. Mr. Murto had also stopped by to verify we found the items his crew left for us.

As SWFI McDonald was documenting the Ponderosa Pine tree, he noted the distance from the centerline of the right-of-way power line to the tree trunk was approximately 29 feet 9 inches. With an approximately 20 foot wide right-of-way, 10 feet either side of the centerline, puts this tree approximately 20 feet outside of the right-of-way.

Mr. Bothman also advised that one of their managers had responded to the scene earlier this morning to obtain photographs of the tree.

Later that morning DNR Forest Health Specialist Melissa Fischer arrived on scene to inspect the tree that had a branch fail into the power line. Ms. Fischer specializes in entomology and works in the DNR's Northeast Region in the Landowner Assistance program assessing timber stands. Ms. Fischer inspected the tree and noted that it appeared to her the tree was initially damaged by Porcupines at a young age. She explained that Porcupines will climb a tree and girdle the tree near the top of the tree causing it to die. She pointed out other trees in the vicinity that showed similar damage causing co-dominate tops to form. Ms. Fischer advised she located, what she believed to be, the original tree top/leader when it died at an early age, and

three other branches that were attempting to become dominant leaders. Ms. Fischer noted areas where the tree had experienced stress in the past along with signs of Gall Rust disease.

At about 11:22 A.M., I called Mr. Brian Bothman and explained to him that I needed a crew to cut down the tree located near the power lines as I was concerned with its proximity to the power lines and the potential for the tree to fall into the lines. He said he would see if he could locate a crew to remove the tree. Moments later I was advised By SWFI DuPrey that SWFI McDonald had contacted the Avista Utility crew leaving the area and they agreed to fall the tree for us.

Once the tree was on the ground, SWFI McDonald and I measured the length of the failed branch from tip to ground and found it to be 54 feet 10 inches. DNR Forest Health Specialist Fischer was then able to conduct a better inspection of the tree. Once she completed her review of the tree we asked her what parts of the tree we needed to remove to be held as evidence, besides the top. She requested the section where the branch joins the main trunk of the tree to above where the failure of the branch occurred. SWFI McDonald requested a sawyer from the local strike team assigned to the division, a member of Lincoln County Fire District 1 arrived to assist with our request.

During the initial falling of the tree by Avista Utilities, the top of the Ponderosa Pine tree broke off, however I wanted two more whorls below the break. At my direction, the sawyer cut off the section requested (Evidence #'s E-3A & E-3B). Next the sawyer cut out the section noted by Ms. Fischer. This was removed in two sections (Evidence #'s E-4 & E-5) for lifting and transporting purposes.

Upon further inspection of the top portion of the branch, we observed marks or striations perpendicular on the branch that did not appear to be natural. These marks appeared to similar in size to the conductors we obtained by the Avista Utility crew. The photo to the right shows the striations on the branch. Photo log #18 (IMG0073) cropped and rotated.



The evidence, consisting of the two powerline conductors and four sections of the tree, were collected and placed in the back of my assigned work vehicle and transported to the DNR Evidence Storage facility near Tumwater, WA the following day where they were logged into the evidence system.

On Wednesday, September 16, 2020, while I waited for DNR Forest Pathologist Dan Omdal to arrive, I contacted a DNR engine parked along Morrow Rd. I spoke to the DNR Engine Lead, Scott Polley, to see if he had information on the Babb fire. He said he was dispatched to the fire in the early afternoon and assigned to the north side of the fire. I asked him if he knew who had placed the yellow flagging around the pine tree near the access road. He said he didn't know but thought he may have heard something over the radio about it, but added that it was pretty hectic that day. Mr. Polley thought it may be either Spokane Fire District #3 or #12. As most of his engine crew had already been released for the season, he would see what he could learn.

A short time later, I met DNR Forest Pathologist Dan Omdal alongside Morrow Rd where he followed me to the origin area for him to conduct an inspection of the tree that had a branch fail and came into contact with the overhead power distribution line. Mr. Omdal wanted to inspect the tree before he looked at the section of the tree that was being held as evidence in Tumwater, WA. Mr. Omdal pointed out this tree had many lateral branches/Leaders (LBL) vying for dominance due to the initial tree top death at an early age. He also pointed out numerous small holes created by insects and disease. Further, Mr. Omdal pointed out a failure of a branch that had failed some years earlier as noted by the scarring being created to protect the

tree along the edge of the break. Mr. Omdal felt this break was due to either high winds or heavy snow loading. I advised Mr. Omdal that the break he pointed out looked similar to the damage I observed on the segment of tree we took as evidence.

On Saturday, September 19, 2020, I met Forest Pathologist Dan Omdal and US Bureau of Alcohol, Tobacco and Firearms Electrical Engineer Michael Abraham at the Tumwater Evidence Facility located on Jones Road SW south of Tumwater, WA. I had requested both subject matter experts to review the evidence obtained during the investigation of the Babb fire investigation. Mr. Omdal inspected the tree segments while Mr. Abraham inspected the conductors obtained from Avista Utilities of the power distribution lines (Both agreed to provide a report of their findings for this report).

On Wednesday, September 30, 2020, Senior Wildland Fire Investigator Terry Liebrecht and I drove to the area of the origin to forensically map the area using a total station system. I assisted Liebrecht with capturing data using a prism when needed. I also asked Liebrecht if he could determine the distance for Mr. Swiger's trailer to the area of the origin, he was able to capture the distance noting it was just under 500 yards across the open field.

During our time on scene I borrowed Liebrecht's assigned metal detector to sweep the area of the origin. In doing so I observed what appeared to be melted aluminum droppings on the east side of the wire fence located under the south edge of the overhead power distribution lines. These items were photographed, location documented and collected as evidence, items E-6 & E-7. I transported the items to the DNR Evidence Facility in Tumwater and placed into the evidence system.

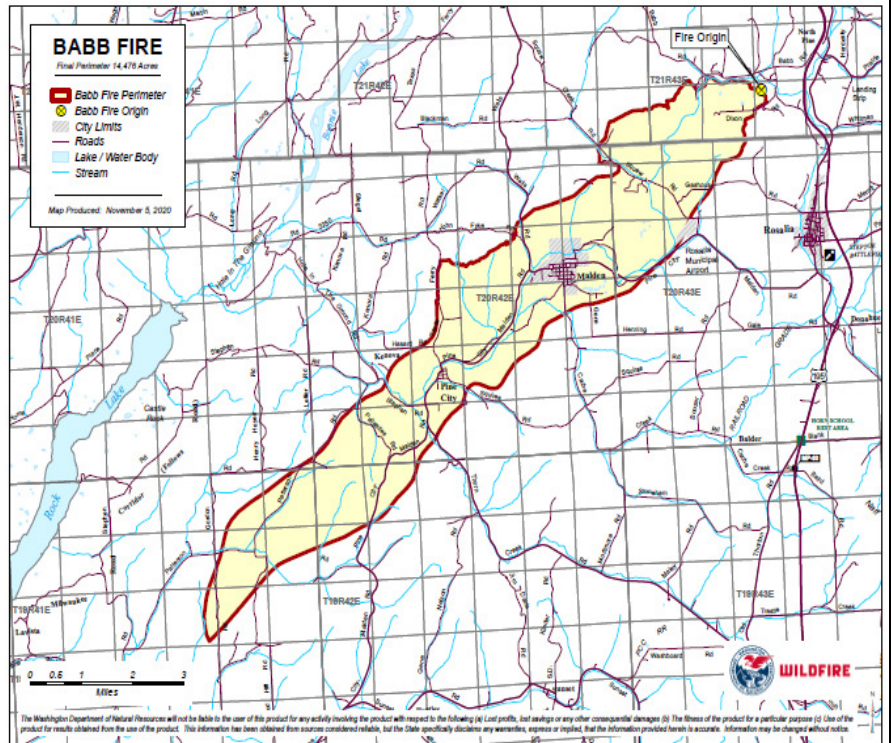
On Wednesday, November 4, 2020, I sent a request for information mailed to Avista Utility in Spokane, WA requesting distribution line data related to fluctuations of voltage, amperes and related data indicating line disruption. This request was for 30 days prior to September 7, 2020 to the time the circuit was opened, either automatically or manually. As of the submission of this report, no response to the request for information have been received.

On November 5, 2020, I received a supplemental report from DNR Engine Lead Scott Polley stating he believed the yellow flagging may have been put in by Spokane County Fire District #12 (SCFD12). However, according to SWFI McDonald, SCFD12 was not in that general area the day the fire was reported, but instead further south. Furthermore, the power pole Mr. Polley noted in his statement as being down in the trees was a separate power pole that have burned off at the base west of the origin area.

On Tuesday, March 2, 2021, I submitted a request for public records from Spokane Regional Emergency Communications (SERC) center for the Computer Aided Dispatch (CAD) log and audio call of the reporting party involved in the Babb fire. I received a call from their public records person advising they no longer had the audio recording requested. They also advised that I would have to contact the Spokane County Sheriff's Office to obtain the CAD log for the Babb fire as they are not handled by the their department. Spokane County Sheriff's Office was called and a request for requests was made to them.

On Monday, March 8, 2021, I requested Ms. Fischer's documented observations of the pine tree suspected in starting the Babb fire. On March 9, 2021, I received her report, which reflected what she advised me during her initial review of the tree.

The weather for September 7, 2020 recorded at the Turnbull remote automated weather station showed the winds begin to pick up around 8 A.M. with average wind speed of 8 MPH with gusts to 21 MPH. Near the time of fire start, the average wind speed was 18 MPH with gusts to 34 MPH out of the north northeast with an relative humidity of 29 percent and fuel temperature of 72 degrees. Historically the winds in this area are out of the southwest this time of year. The picture to the right depicts the Babb fire as a wind driven fire based on the long narrow fire perimeter. The towns of Malden and Pine City were southwest of the origin for this fire.



The Babb fire consumed approximately 15,266 acres, including residential homes, commercial businesses, local government buildings, out buildings, agricultural crops, timber, etc. The towns of Malden and Pine City were in the path of the wind driven fire on September 7, 2020, and were severely damaged.

I reserve the right to change my opinion or conclusions based on any additional information or data received.

EVIDENCE / PROPERTY

All evidence was obtained by G Margheim and is being stored at the Jones Rd Evidence Storage Facility.

- E-1 Segment of power line
- E-2 Segment of power line
- E-3A Top of Ponderosa Pine tree – Part 1 of 2
- E-3B Top of Ponderosa Pine tree – Part 2 of 2
- E-4 Segment of tree trunk – Lower Section
- E-5 Segment of tree trunk – Upper Section
- E-6 Molten piece of Aluminum located on fence
- E-7 Molten pieces of Aluminum located on ground near fence

CONCLUSION / FINDINGS

The Babb fire was observed in its early stage by a witness across from an open field who reported the fire and smoke to be approximately 40' in size at the base of trees progressing south up the hill. Upon arrival to the area I found a Ponderosa Pine tree branch on the ground under the power distribution lines with a tree flagged off.

Upon completion of the origin area examination and witness interviews, I was able to eliminate several cause categories. The National Wildfire Coordinating Group has identified nine general fire cause categories according to the ignition source or the general human activity in the where the fire originated. The nine categories are; lightning, campfire, smoking, debris burning, incendiary, equipment use, railroad, children and miscellaneous.

All nine categories were considered and using a systematic approach, a process of elimination was used, based on the known facts and details. There was no report of lightning activity on the day of the fire. There was no evidence of recreational camping or outdoor activities in the area. No evidence of smoking or similar devices were found. There were no operational railroads in the immediate area, and no evidence of incendiary devices were found. The location of the fire was not near any residences with children. No evidence of debris burning was found or reported. There was no evidence of equipment use in the immediate area of the fire. The only other cause category is miscellaneous, which includes several sub-causes. All could be eliminated except for Power lines.

An Avista Utilities power distribution line transected the origin area. A multi-dominate Ponderosa Pine tree just north of the noted power lines was found to have a large branch laying on the ground under the power lines. A branch on this tree had striations on the upper part of the branch and the upward peeling of the bark where it appeared the branch was pulled across a hard surface, such as a power line.


DNR Forest Pathologist Omdal reviewed the tree noting several multi-dominant tops, signs of stress, both previous and recent, as well as insect infestation. Forest Pathologist Omdal summed up finding as; "It is my opinion that because of the unusual configuration of this tree, and its proximity to the powerline, a closer inspection was warranted. A nearer inspection of the tree should have revealed the cut LBL ends and its previous failure, and necessitated determination of the failure potential of the adjacent LBL, implicated in starting the Babb Road Fire".

Attachments (check all that apply)

<input checked="" type="checkbox"/> Burn Ban Order	<input checked="" type="checkbox"/> Weather Observations RAWS	<input checked="" type="checkbox"/> Fire Perimeter Map	<input checked="" type="checkbox"/> Photograph Log(s)
<input type="checkbox"/> Burn Permit	<input type="checkbox"/> Fire Weather Watch	<input checked="" type="checkbox"/> Fire Origin Location Map	<input checked="" type="checkbox"/> Statement(s)
<input type="checkbox"/> Citation(s)	<input checked="" type="checkbox"/> Red Flag Warning	<input checked="" type="checkbox"/> Fire Scene Sketch	<input type="checkbox"/> Field Notes
<input type="checkbox"/> Incident Narrative	<input checked="" type="checkbox"/> WildCAD Incident Card	<input checked="" type="checkbox"/> Lightning Detection Map(s)	<input checked="" type="checkbox"/> Contacts (list)
<input checked="" type="checkbox"/> Other: Property/Evidence Control and Chain of Custody (Transfer) Form			
<input type="checkbox"/> Other: IFPL (Tool Inspection)			
<input checked="" type="checkbox"/> Other: Supplemental report from; SWFI J. McDonald, SWFI T. Liebrecht, SWFI E. DuPrey, Forest Pathologist D. Omdal, Entomologist M. Fischer			
<input type="checkbox"/> Other:			

Signatures

I, the undersigned investigator, certify under penalty of perjury under the laws of the State of Washington that the foregoing is true and accurate to the best of my knowledge.

Investigator (print): Gary Margheim, Sergeant	Signature: 	Date: 04/28/2021
Reviewed By (print): Terry Liebrecht, SWFI	Signature: 	Date: 04/23/2021
Approved By (print): Larry Raedel, Chief	Signature: 	Date: 04/26/2021