



2021 Bootleg Fire

Executive Summary

July 27-August 5, 2021





Bootleg Fire at a Glance

Location: 15 miles NW of Beatty, OR

Size: 413,765 acres or 647 mi²

Containment: 84%

Miles of perimeter: 325

Miles of dozer line: 216

Total Cost: \$86,999,088

(Including \$11.4 million cost to Oregon State Fire Marshall's Office)

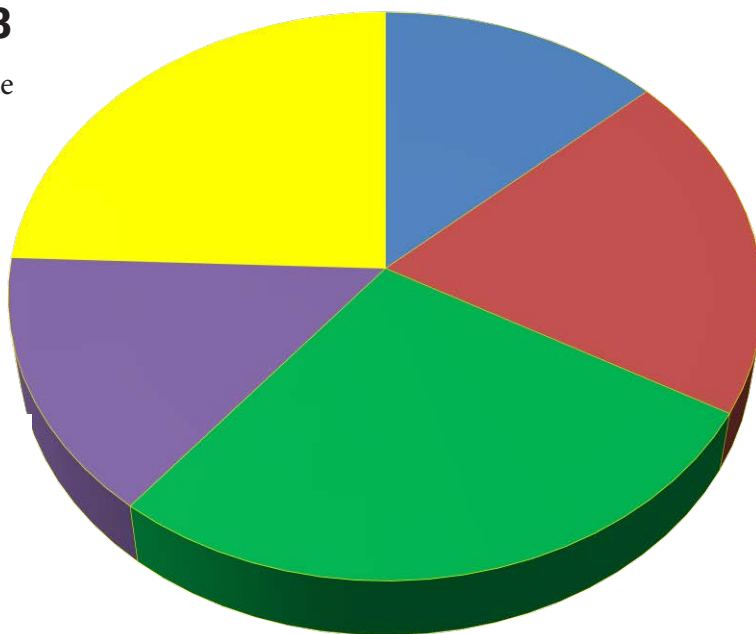
Support: 24%

Aircraft: 13%

Crews: 20%

Equipment: 26%

Personnel: 15%



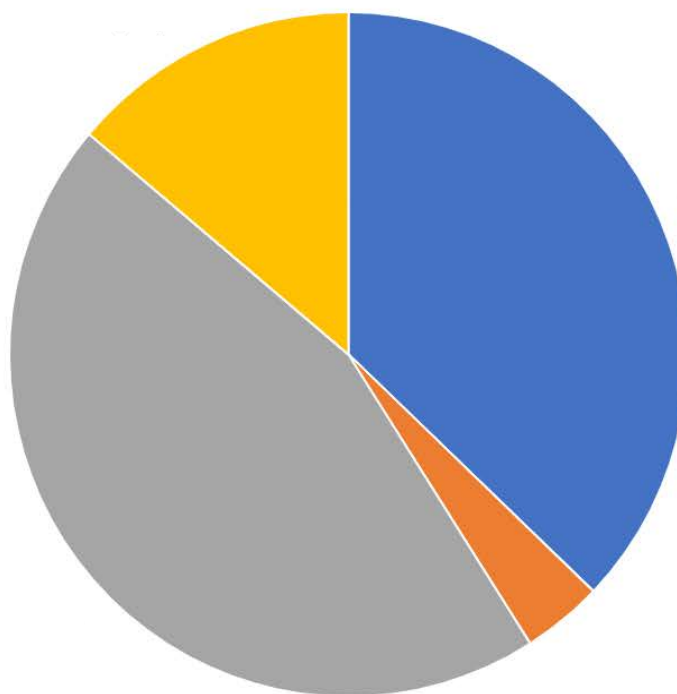
Economic Values at Risk
\$306,009,024

Grazing
\$42,429,024

Utilities / Communications
\$113,700,000

Structures
\$11,760,000

Timber
\$138,120,000





Calimus Lookout where the Bootleg Fire was first spotted.

2021 Bootleg Fire

The lightning-ignited Bootleg Fire was discovered on July 6, 2021 fifteen miles northwest of Beatty, Oregon. It quickly escaped initial attack efforts and grew rapidly with long-term local drought conditions and extremely hot and dry weather. A Type 2 IMT (NW Team 10) in unified command with the Oregon Department of Forestry (ODF) Green Team assumed command of the fire on July 8. As the fire continued to rapidly grow, agency administrators zoned the fire with ODF Team 1 and Oregon State Fire Marshall's Office (OSFM) Red Team assuming command of Zone 1 (South) and the Type 1 Pacific Northwest Team 2 (PNW2) assuming command of Zone 2 (North). On July 12, a second incident, the Log Fire, was discovered burning northeast of the Bootleg Fire which eventually merged with the Bootleg Fire on July 20.

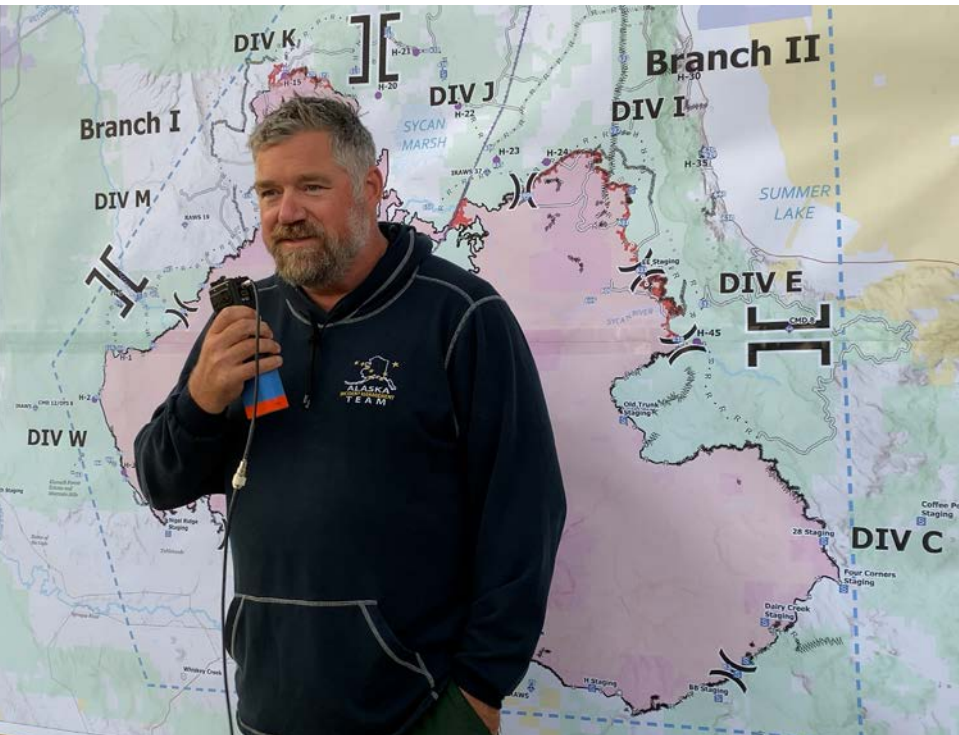
The Alaska Type 1 Incident Management Team (AKIMT) arrived at the newly established Bootleg Incident Command Post (ICP) at the Klamath Community College in Klamath Falls on July 23 and received an in-brief from the Fremont-Winema National Forest, ODF, OSFM, and PNW2. Agency administrator intent was for the AKIMT to spend three days shadowing all three IMTs currently managing the incident and assume command of the entire incident at 0600 on July 27.

With the assumption of the entire fire by the AKIMT, previous Zone 1 and 2 ICPs in Chiloquin and Lakeview were decommissioned. Suppression resources continued to be managed out of Bly, Paisley, and ZX

forward operating bases. At the time of transition, the fire was an estimated 413,400 acres, 53% contained, with 1,924 personnel at an estimated cost of \$61.5 million. Evacuations were in place in Klamath and Lake counties. OSFM had been delegated authority from the counties to manage evacuations in coordination with the AKIMT and other cooperators. The Oregon National Guard also supported the incident with personnel to support road checkpoints, and over 120 firefighters who were organized into 6 Type 2 crews.

There were multiple communities threatened throughout the incident including Sprague River, Beatty, Bly, Paisley, Summer Lake, and Silver Lake. Infrastructure such as power lines, power substations, and communication sites were at risk. A multitude of natural resources were also threatened, including commercial timber, grazing allotments, the Sycan Marsh, and critical habitat for many species.

Direct suppression actions and some limited indirect burning, combined with more favorable weather conditions allowed for limited fire growth during the AKIMT's tenure. The Team shared aviation resources with several other fires in the region and assisted the local area with several initial attack fires. Due to logistical complexity and the sheer size of the fire, PNW2 was ordered to replace the AKIMT on August 6. At the time of transition, the fire was 413,765 acres, 84% contained with 1,493 personnel at a cost of \$81.5 million.



Incident Commander Norm McDonald gives the leaders' intent at the end of a morning briefing.

Command

Mobilization

The Alaska Type 1 Incident Management Team (AKIMT) was mobilized (via NICC jet) to Boise on a National Interagency Coordination Center (NICC) preposition order on July 20. Travel destination was determined by NICC to ensure National Emergency Rental Vehicles (NERV) and rental vehicles were available. A result of the preposition was a “regular” long-team roster (58) without negotiated positions. After receiving an order for the Bootleg Fire, a negotiated roster was approved, which required a second wave to remain rostered at home in Alaska while the IMT awaited an assignment. The order to the Bootleg Fire was received on July 22.

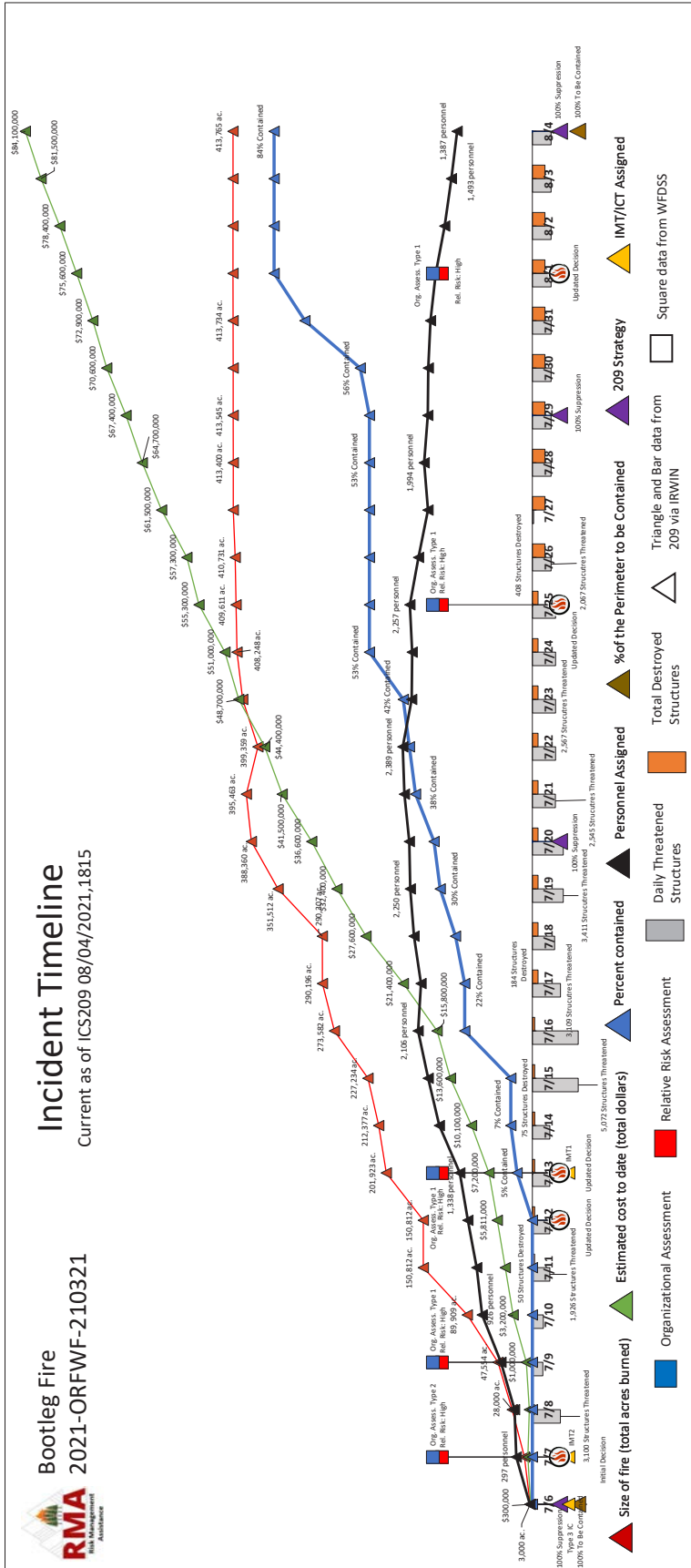
Key Decisions

- Camps were located in areas of operational emphasis to reduce driving exposure.
- Aircraft were made available for use by local agencies outside of the fire TFR.
- A COVID-19 testing group was ordered to reduce the chance of spread in camps.
- The AKIMT worked closely with OSFM and local counties to facilitate reentry of residences within the fire perimeter.
- Morning Coffee meetings with Silver Lake community leaders was instrumental in maintaining relationships with the public.
- A Resource Advisor (READ) Coordinator was ordered to be a liaison between the IMT and READs, facilitating workflow and exchange of information.
- The AKIMT carried a larger-than-normal Liason Officer (LOFR) staff to maximize contact with large cooperator group.
- COVID mitigations were implemented and reinforced at all contact points, showers, restrooms, and wash stations.
- Virtual Briefings were used to reduce COVID exposure.
- The Oregon National Guard were used for suppression and were staged out of a separate camp in Bly.
- The AKIMT, in concert with the NIMO Safety Team, implemented a beta version of the Strategic Risk Assessment tools.

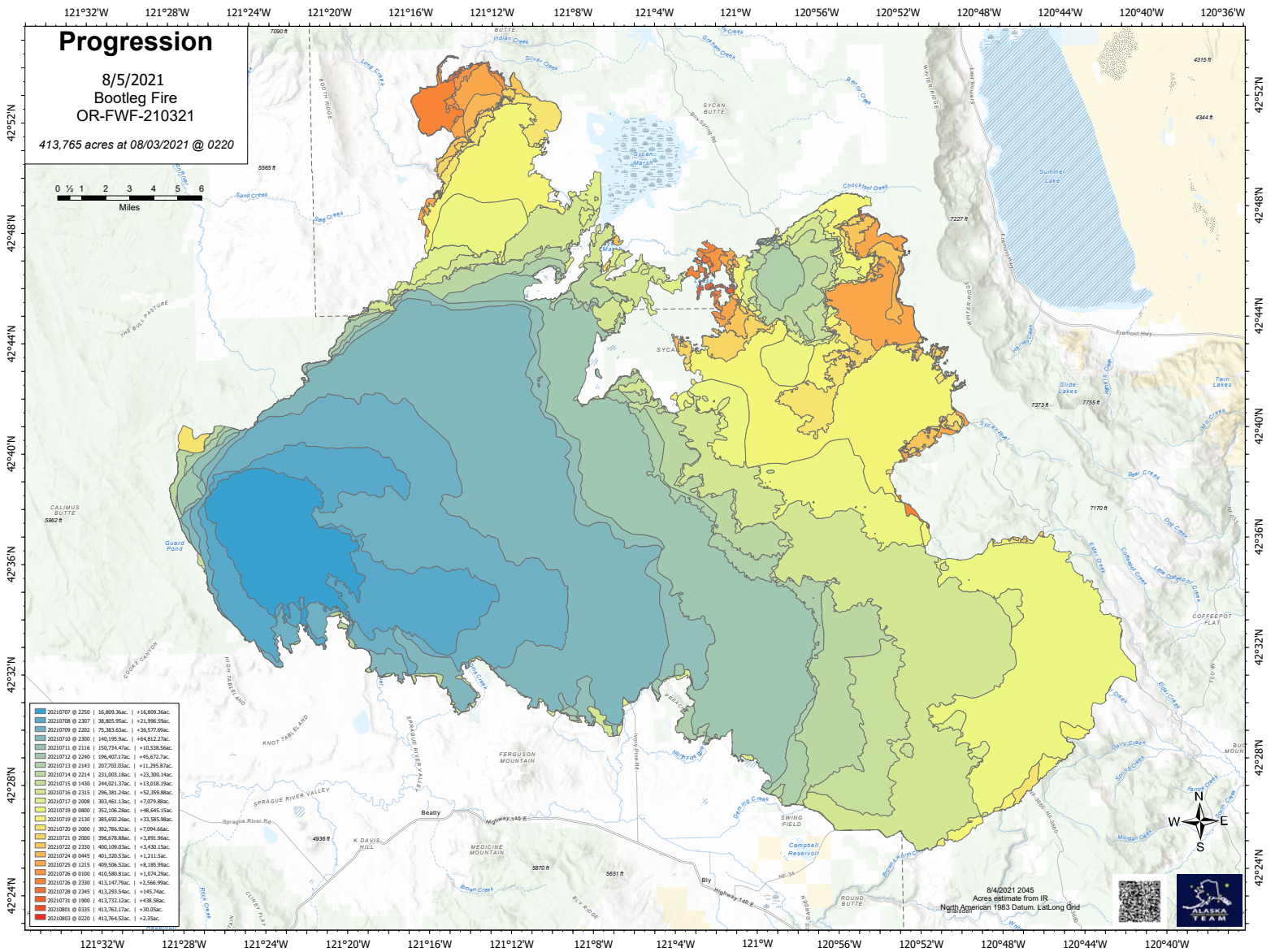
Incident Objectives

Incident objectives remained consistent over the course of the Alaska IMT's assignment as the course of action was full containment, keeping the fire to the smallest footprint possible. Incident course of action was directed towards minimizing fire spread using aggressive and appropriate suppression actions. This was due to the large number of values at risk and private property including private timber, range lands, communities, and homes. In general, operational emphasis remained focused and vigilant as the incident faced numerous days of critical fire weather. Throughout, the incident briefings consisted of COVID messaging and maintaining a healthy workforce. Daily objectives included:

- Provide for firefighter and public safety by implementing sound strategies and tactics that take into account risk and probability of success. Ensure all resources have a clear understanding of assignments and associated hazards.
 - Daily risk assessments were used to identify and mitigate hazards.
- Implement plans to protect identified values including homes, businesses, communities, infrastructure, timber, rangelands, and cultural values.
 - Used full suppression strategy and direct tactics.
- Maintain and enhance relationships with agency partners, cooperators, stakeholders, and the public through timely and accurate information exchange. Ensure long-term strategies are communicated.
 - Held daily cooperator meetings.
 - Operations met daily with Silver Lake community members.
 - Communicated daily with Green Diamond Timber.
- Provide for initial attack within the Temporary Flight Restriction Area and assist elsewhere if requested by the local unit and able to do so. Coordinating with local dispatch center.
 - Assisted with initial attack using both air and ground resources.
- Provide logistical support for identified base camps on the northeast, north, and south sides of the incident. Ensure all assigned resources have adequate sleeping, eating, and support needs met to reduce firefighter fatigue and provide social distancing.
 - Developed forward operating bases to reduce drive times and provide for separation.
- Follow CDC, local, state, and federal COVID-19 mitigation guidance, and protocols to reduce exposure and protect firefighters and the public from virus spread.
 - Enacted COVID mitigation measures including masks indoor for all firefighters.
 - Provided COVID testers in each camp.
 - Used virtual briefings to reduce close contact.
- Treat all personnel with dignity and respect by providing a harassment free, zero-tolerance work environment.
- Ensure financial and documentation packages are prepared in accordance with agency requirements and agreements are closed out when no longer necessary.



Fire Progression Map





Oregon Governor Kate Brown visited the Incident Command Post and the Bootleg Fire camp on July 29.

Liaison

Key Decisions

- Divided 4 LOFR staff responsibilities to allow focused cooperator attention and continuity given large geographical area of fire.
- Created text group of specific cooperators in Lake County to provide “real time” incident information and shared decision making for Evacuation and Structure Protection.

Significant Events

- Provided escort and fire tour for Oregon Governor Brown and Oregon National Guard Adjacent General (7/28/2021).
- Supported Lake County evacuation level changes due to changes in fire behavior.
- Conducted “ride along” with Green Diamond Timber vice president of entire fire area to discuss salvage operations and timber concerns.
- ONG deployed 120 personnel organized into 6 Type 2 hand crews in addition to Traffic Control Point personnel.

Notable Successes

- Co-located Oregon State Fire Marshal LOFR and Oregon National Guard LNO with AKIMT 1 LOFRs in ICP.
- In-person briefing for mutual aid fire departments like Lakeview Fire Department on Bootleg fire operations and contingency plans.
- Briefing by FEMA RX and USDA on programs available to timber industry and cattle ranchers through FMAG designation. Co-located Oregon State Fire Marshal LOFR and Oregon National Guard LNO with AKIMT 1 LOFRs in ICP.
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- Briefing by FEMA RX and USDA on programs available to timber industry and cattle ranchers through FMAG designation.

Significant Challenges and Resolutions

- Limited emergency management staff in Lake County required frequent in-person meetings. Resolution. Added Lake County Emergency Manager to daily morning local fire chief meeting with Operations and Structure Protection Group Supervisor.

Safety

Key Decisions

- Implemented the Beta Version for Strategic Risk Analysis (SRA) with NIMO input.
- Placed one Team Field Safety at ZX FOB to coordinate all field going safeties.

Significant Events

- Worked over 40,000 hours with no significant injuries.
- Substantial drive time and distances covered (over 300 miles of perimeter) with no reported vehicle accidents.

Notable Successes

- Coordinated with Logistics to produce Evacuation Plans for all Forward Operating Bases (FOB).
- Beta Rollout of SRA with both Agency Administrator input and operational and safety considerations.
- Continued use of SRA products to provide for incoming team.

Significant Challenges and Resolutions

- Challenge to learn and implement BETA Rollout SRA during ongoing fire.
- Steep learning curve led to lack of opportunities to complete regular order of work.
- The lack of all middle leadership roles in both Operations and Safety created span
- Used name request with experienced resources to provide mission oversight.
- Fatigue and lack of resources continue to be a challenge with no apparent resolution.



Firefighter safety is a primary concern.

The Strategic Risk Analysis (SRA) process is a strategic planning tool that is in a Beta test year and being introduced during the 2021 fire season. The Alaska Incident Management Team is one of twelve volunteer teams to participate in the Beta roll out of this tool. The SRA is designed to merge an existing operational risk and hazard assessment process (215R Hazard/Risk Worksheet) with strategic incident operational and safety considerations into a planning process that involves incident management teams and agency administrators. Teams and agency administrators discuss and weigh strategic options. Values at risk and firefighter hazards and risk inputs are calculated through discussions during this process, and primary and contingency plans can be developed and shared between multiple IMTs throughout the duration of the incident.



Liz Velasco interviews a Chilean fire fighter. The Spanish-language interview was posted on social media with English subtitles.

Information

Key Decisions

- Each morning, PIOs developed a daily summary of current and recent fire activity, suppression actions, anticipated weather and the latest evacuation and closure information. These updates (in English and Spanish) were distributed electronically to internal and external audiences through Email, InciWeb, Facebook, and Twitter. Copies of the update were also distributed by PIOs along community trapline locations provided by the Fremont-Winema National Forest.
- AKIMT PIOs expanded and reduced trapline locations based on strategies that would best serve the public and media.
- Implemented multi-lingual releases to recognize our audience and the need to provide relevant and timely information in Spanish.
- A critical tool for outreach, Facebook and Twitter accounts were established by the PNW2 Team on July 14. The AKIMT used these important social media tools from July 23-August 6. Social Media posts were shared by our partners extending our information reach.

Significant Events

- The Bootleg Fire continued to have national media interest during the period July 23-August 6 with interviews on NBC News, CNN, NY Times, NPR, Florida TV, and Tulsa TV, and the Christian Science Monitor. There was state media interest from outlets including Oregon Public Broadcasting, KATV Portland, KOBI-TV Medford, Klamath Falls Herald and News, and Jefferson Public Radio. Journalists from Insider Magazine spend two days at the ICP with the AKIMT to capture Bootleg Fire activity and work accomplished on the ground. In addition to media requests, the AKIMT conducted fireline media tours. The field PIOs filmed B-roll that could be used for video production or passed along to media partners to be used for on-air packages about the Bootleg Fire.
- The AKIMT helped to coordinate visits from Governor Kate Brown and conducted Zoom meetings with State Senators.
- Fire updates, maps, evacuation notices and smoke information were posted on PIO boards throughout the region's communities, and contact was made with individuals.

Notable Successes

- AKIMT PIOs, hosted three virtual public meetings via Zoom and streaming on Facebook Live. All meetings were filmed and facilitated by PIOs with a variety of speakers from the IMT, local and state agencies and cooperators. PIOs facilitated the question and answer portion of the live meetings, ensuring that real-time questions could be addressed by incident staff or responded to in the chat. Meetings were hosted virtually from the Klamath Falls ICP and streamed to Paisley City Hall and was attended by a small group of Paisley residents.
- Klamath and Lake County Sheriff's Office provided evacuation and closure information via press releases that the Bootleg Fire posted using social media platforms.
- Break it Down video series explained basic concepts related to the fire for the public.

Significant Challenges/Resolutions

- Challenge of portraying the impact of the fire when it is not visible from trapline. A strong social media presence shared stories from the field.
- Feeding frequent social media posts with a large team was a challenge to coordinate. We addressed it with more transparency, coordination, and role clarity.
- Internal communication gap, getting information to firefighters in the camps, is a challenge. We addressed this with the community branch located in camp and creating an internal trapline in addition to the external traplines
- Loss of line-ready (arduous) qualified PIOs was a challenge to get media to the fire line. We were able to share skills and allocate people to cover media needs.
- Managing photographic and video resources is always a challenge. We came up with systems (form submission to capture metadata) and naming conventions.



Kale Casey and Fire Behavior Analyst Chris Moore break it down for people to understand fire behavior.

SOCIAL MEDIA STATS



13,200

people reached by 3 live events
(virtual community meetings)

11,384

Total page likes

9,082

average reach of photos

4,169

average reach of videos

2,372

average reach of posts with links



373

subscribers



The Bootleg Fire experienced extreme weather events including pyrocumulus development.

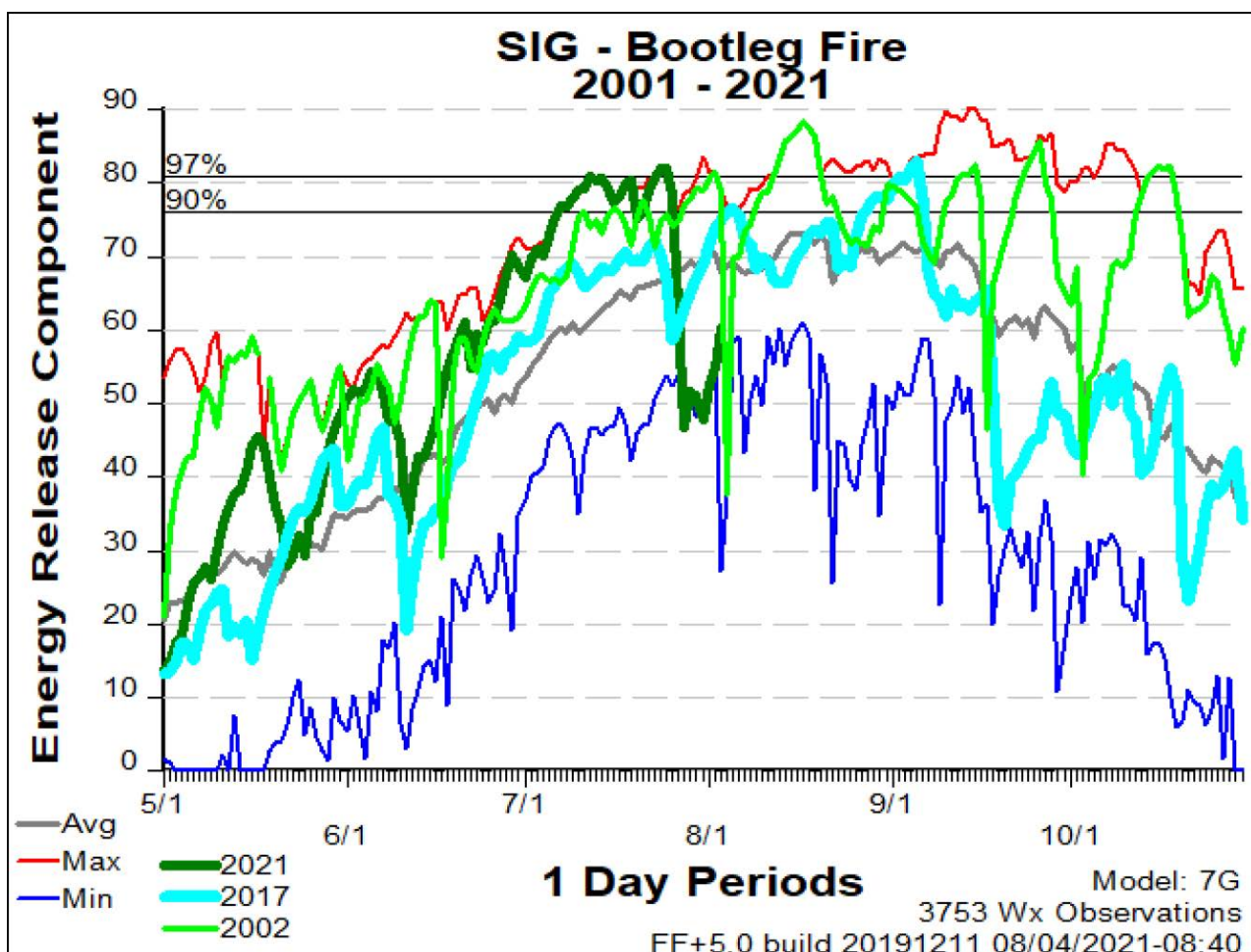
Weather and Fire Behavior

Bootleg Fire Weather Summary

- Drought conditions have worsened significantly over southcentral Oregon over the past year setting the stage for challenging fire weather conditions this year. The period from March - May 2021 was the 6th driest on record for Klamath Falls.
- A period of record heat occurred across the area in late June, further worsening conditions and setting the stage for potential wildland fire.
- A Fire Weather Watch was issued on July 4 for July 6 for strong winds and low relative humidity values, and it was converted to a Red Flag Warning July 5. Red Flag Warnings were in effect periodically from that point through the current day.
- Extreme fire weather conditions were observed from July 12 -19 with pyrocumulus development nearly every day.
- Near seasonal temperatures were observed July 20-22 before a warming trend began on July 23 as a ridge of high pressure expanded over the region.
- Showers and isolated thunderstorms occurred on July 26-27 with a wetting rain for much of the fire. This moisture proved inadequate to provide substantial relieve from the ongoing critical fire weather conditions.
- Isolated to scattered showers and thunderstorms redeveloped by August 1 with numerous lightning strikes reported across Branches I and II as well as ZX Camp near Silver Lake.
- Critical levels of relative humidity and wind returned beginning August 2 continuing through August 5. Single digit RH values and wind gusts more than 20 mph were observed.

Fire Behavior Summary

- The primary fuel models are grass, brush, and timber. There are numerous fire scars throughout the fire area. Higher elevation fire scars are inhabited with ceonothesis, snowbrush, and lodgepole pine reproduction while bitterbrush, lodgepole, and ponderosa pine reproduction are prevalent at lower elevations. Live and dead fuel moistures across all size classes are at or near record lows due to consecutive years of drought and record temperatures earlier in the summer.
- The fire area has been in an exceptional drought for the last two summers with a low snow load winter in between. ERCs were at record high but a few days of scattered precipitation and decent overnight recovery has dropped ERCs for the area to normal values, which fuel moistures are anything but normal.
- Topography has not generally been a primary agent of spread. Slopes are generally mild to rolling with a mix of buttes and scattered non-contiguous mountains except for the Gearhart Wilderness, which lies within the fire perimeter. Several creek and river drainages dissect the landscape.
- Observed fire behavior from the beginning of the fire has been extreme. Aggressive surface spread, independent crown runs, long-range spotting, high probability of ignition, and plume-dominated fire activity was occurring daily. During the last two weeks, observed fire behavior has moderated, but the potential for that type of fire spread still exists if the fire were to spot over control lines.



Energy Release Component, comparison to historical values.

Operations

Notable Successes

- Strategic Planning was imbedded as one of the Operations Sections Chiefs. This allowed for more direct impact of the strategic discussions on the operations along with providing additional support to the section. A Long Term Strategic Analysis was completed to help provide context to the fire environment and potential of fire beyond the short term.

Significant Events

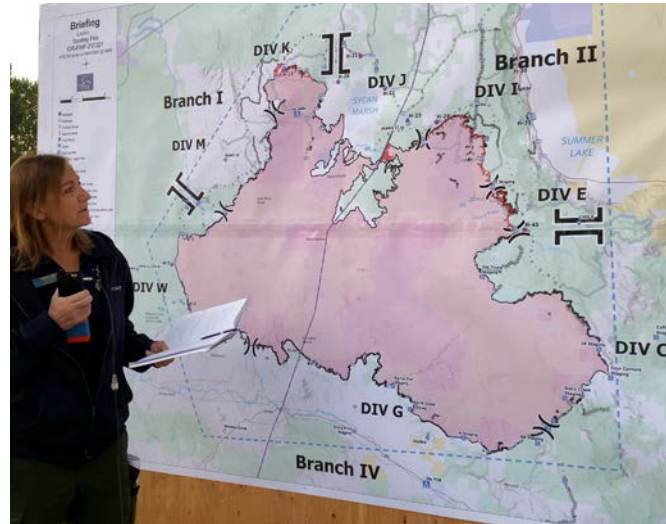
- The 400,000-acre-plus Bootleg incident was compressed from two Type 1 Incident Management Teams and the Oregon Fire Marshalls Office with four branches down to one IMT. Providing coverage for both a day and night operation and with available overhead, originally only two branches were staffed with nine divisions and structure protection. This was later expanded to staffing three branches.
- Moderating weather and changes in fuels helped to facilitate suppression actions to the fire and meeting the objective of keeping fire within the current perimeter to the extent possible while minimizing impacts to private land.

Notable Successes

- Coordination with the High Desert Rangeland Fire Protection Association, Silver Lake Volunteer Fire Department, and Oregon Fire Marshalls Office were important in setting up for structure protection and promoting long-term relationships within the fire community.
- While a three-day transition seemed long, it provided a more seamless transition for resources on the ground and other cooperating entities.

Significant Challenges and Resolutions

- Ability to obtain mid-level management of DIVS and TFLDs was impossible with unfilled orders throughout the entire assignment. Only fills on orders were through name requests. With the lack of mid-level management on the fireline, unable to provide for optimal span of control of 3-7 resources per supervisor. In some cases, supervisors are managing 10 or more resources.



Build Karen a big table, give her a coffee, keep quiet, and all will be well.

- Limited Operations roster size for a 400,000+ fire was problematic, especially with the lack of and ability to acquire mid-level management when at a National Planning Level 5.
- Working out of the ZX, Paisley, and Bly spike camps and forward operating bases was optimal for fireline resources, though it created separation with the ICP and most of the Command and General Staff. Pre- and Post-Operational Briefings via conference call bridges were used to mitigate and maintain some level of connection.

Helicopter Use

1,804,870 gallons of water delivered
5,185 pound of cargo
837 flight hours
182 passenger hours

Air Tanker Use

590,834 gallons retardant delivered
40 linear miles of line built
118 loads LAT
13 loads VLAT

SEAT Use Summary

47,100 gallons delivered



Aviation Cost Summary

\$5,734,667 helicopters
\$1,499,828 airtankers
\$257,341 tactical fixed wing
\$1,462,022 retardant
\$66,000 NIOPS IR
\$9,019,858 Total Aviation Cost



A briefing at spike camp.

Logistics

Key Decisions

- A large-team logistics roster aided in successfully assuming command of incident logistics function with a large amount of personnel and several large camps separated from ICP.
- Mobilization Coordination started several days before the resource order was received with conference calls between dispatch, duty office, warehouses, and team logistic coordinators for a smooth mobilization. In addition, having AKIMT L48 logistics personnel at arrival jet port to coordinate made for a smooth mobilization.

Significant Events

- The logistics section successfully combined a fire with two zones with two Type 1 IMTs into a one unit logistics section.

Notable Successes

- The Medical unit, in coordination with county health departments, developed a plan to handle Covid issues. The plan includes a coordination structure, testing protocols, and spread mitigations.

Significant Challenges and Resolutions

- The caterer that was serving Paisley and ZX camps became overloaded with the amount of meals that were being served. The AKIMT was able to obtain prioritization for a caterer to be moved to ZX camp, alleviating the situation.

Planning

Key Decisions

- The Planning Section decided to place representatives at the Bly, Paisley, and ZX Camps who were responsible for providing on-the-ground intel for the SITLs, RESLs, SCKN, DEMOB, and Planning Section Chiefs at Klamath Falls ICP. These representatives were overloaded at times with briefing facilitation, printing, and distribution of maps and IAPs, check-in and demob facilitation, and finance questions. Eventually, representatives from Finance were able to be placed at the camps, which helped relieve the back log. Reliable internet connectivity was also an issue at each of the camps.
- The decision to move copy trailers to the most populated camps proved to be invaluable. Maps, IAPs, and other products produced at ICP could be downloaded and printed locally, eliminating the need for hours of ground transportation to move products each morning.



Briefings were recorded for greater ability to share information more widely.

Significant Events

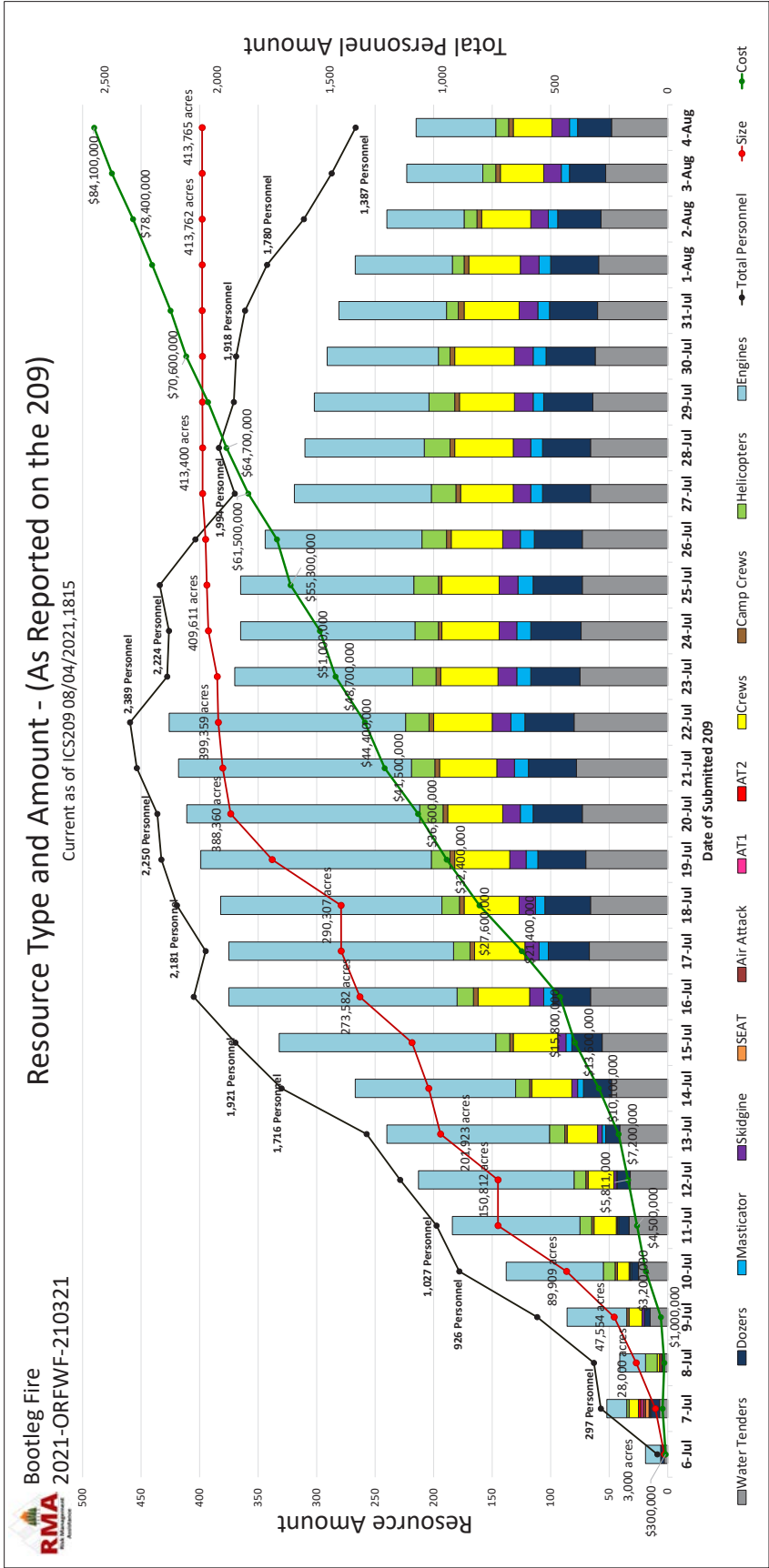
- An internet server failed at Klamath Falls ICP, resulting in a loss of network service for a day and a half in the middle of the assignment. Critical connectivity (Finance/Situations) was restored using the AT&T cradle point that is now a part of the AKIMT gear.

Notable Successes

- Resource Unit merged two IMT Incident Action Plans into one cohesive plan upon de-zoning of the fire.
- The national virtual check-in form was used and was met with positive reviews from fire personnel and resource unit staff.
- The virtual demob process has been improved from last season and was successful, though some processes needed honing.

Significant Challenges and Resolutions

- It was noted that virtual processes do not completely eliminate the need for in-person contact. There continues to be a large group of people working on fires that struggle with virtual processes and this will continue until the processes are normalized and somewhat standardized. It is frustrating for resources to have no face-to-face contact and be forced to rely solely on virtual/telephone contacts that are often tied up and unreachable. Functional representation at each of the camps largely solved this issue.
- Location of functional units within ICP were very spread out, which caused challenges in providing IT support to all units within reasonable timeframes. The addition of an extra IT Specialist was key in being able to support the fire's IT needs.
- The AKIMT and Incident resources are becoming more familiar with new documentation standards and are migrating to electronic documentation when possible.



Finance

Key Decisions

- Finance personnel were placed at ICP or at Bly Camp and ZX Camp according to skill level. The more experienced timekeepers were placed at both camps.
- Several virtual personnel were recruited to assist in moving or renaming files and posting time.

Significant Events

- E-Isuite was not operable on two days for approximately a total of 14 hours. Little production was accomplished during this time.

Notable Successes

- The finance unit was extremely short staffed to start, but eventually they were able to boost numbers to more than 30 personnel.
- The section had 3 FSCs: A lead FSC1 and a FSC2 (deputy) at ICP and a 'field' FSC1 traveling between the FOBs to assist as needed.

Significant Challenges and Resolutions

- The Finance unit was challenged with the sheer number of people on the incident, and the backlog of time to be processed.
- Electronic timesheets proved to be a challenge for fire personnel and timekeepers. The use of email to transmit timesheets clogged up Finance inboxes, and there were issues with signatures sticking on electronic CTRs. Extra personnel were required just to manage the inboxes and electronic documentation.
- There was a lack of qualified finance personnel available in the ordering system, but 11 trainees were hired and began to get experience.



Firefighting crews get a briefing.



Alaska Incident Management Team, August 2021.



Alaska Incident Management Team
2021 Bootleg Fire

August 5, 2021