

Swan Lake Incident Summary

June 17-July 3, 2019

**Alaska Type 2 Black
Incident Management Team**

**Tom Kurth
Incident Commander**



Fire Narrative

The Swan Lake fire began as a lightning strike to a dead white spruce on the edge of the Moose River flats within the Dave Spencer Wilderness Unit of the Kenai National Wildlife Refuge on June 5, 2019. On June 17th, when the Alaska Type 2 IMT Black Team in-briefed, the incident was being managed by a Type 3 organization. The AKIMT assumed command at 0700 hours on June 18th after a delegation of authority was granted from the Kenai National Wildlife Refuge Manager and the Kenai/Kodiak Area Forester.

At that time the fire was approximately 22,500 acres and had been steadily growing by one to four thousand acres daily. The Swan Lake fire was immediately seen as a threat to numerous values including the community of Sterling, the Enstar natural gas pipeline and Homer Electric transmission line and associated infrastructure, the Sterling Highway (the only access route to the western side of the Kenai Peninsula), the interagency Moose Research Center, a construction worksite, and numerous public use cabins, campgrounds, cultural and heritage resources, and important salmon-spawning habitat.

Swan Lake Fire

77,732 acres burned as of 7/2/2019

- ◆ Natural Cause-Lightning

Protecting Agency:

- ◆ Alaska Department of Natural Resources, Division of Forestry—Kenai/Kodiak Area

Jurisdictional Agency:

- ◆ US Fish and Wildlife Service, Kenai National Wildlife Refuge
 - ◆ 100% on Refuge lands
 - ◆ 10,880 Wilderness acres

A structure assessment group immediately went to work on structure triage, collecting data and photos to build a comprehensive Structure Assessment and Implementation Plan.

Crews put structure protection in place and drew up a PACE model plan to protect the Moose Research Center, despite the western perimeter being largely static. Crews worked along the Enstar natural gas pipeline, protecting valve risers, and using the right of way and a fire break from the 2017 East Fork fire with burnout operations to directly contain the southern perimeter, while the northeastern perimeter was largely allowed to burn unimpeded into the Mystery Creek Wilderness Unit.

Fuels were becoming critically dry, and fire behavior went from active with occasional torching, to very active with small group torching, to very active + / extreme fire behavior under near record temperature conditions (seeing a high of 89 F in the fire area), and a near record Build Up Index. What had at first seemed like a “routine” fire assignment was most definitely not. Evacuation plans and Ready, Set, Go management action lines were put in place. Recreational sites along Skilak Lake Road were evacuated and coordination was key as resources pulled back to the Sterling Highway corridor, the Homer Electric transmission line was shut down and de-energized, the Sterling Highway was limited to one-lane traffic with a pilot car, and crews burned off a dozer line parallel to the transmission line over three days and nights. Aviation assets were utilized for aerial firing operations and to check fire spread where needed. The crews were successful in firing and holding the line under less-than-ideal weather conditions. However, during this same period the north and northeastern fingers of the fire chewed up decadent and plentiful black spruce stands, then were largely held in check naturally by the lower Chickaloon River.

The IMT was also requested to assist the local area with initial attack activities and crews, engines, and aviation assets were called into action several times.





Weather Summary

The weather over the Kenai Peninsula was strongly influenced by persistent upper level ridging over the past two weeks, bringing above normal temperatures and a prolonged dry spell to the fire area. High temperatures were generally in the upper 60s to around 70 June 17-21 with the exception of June 18 when a stronger marine influence kept highs around 60. Minimum RHs during this time period ranged from 40% to 50%.

Strengthening ridging increased temperatures into the mid-70s June 22 and low 80s June 23 with min RHs 30 to 35%. Temperatures cooled back to the upper 70s June 24 and lower 70s June 25 with RHs 40 to 45% as weak southwesterly flow pushed into the area. As a stronger ridge built in overhead, temperatures increased into the upper 70s June 26, to around 80 June 27 and into the mid-80s June 28. Minimum RHs were around 40% June 26 and June 27 and 30% to 35% June 28. Temperatures hit a high of 89°F and minimum relative humidity of 28% June 29.

Fire Behavior

The FBAN was on site for a week before the team arrived. This enabled the one position to provide analysis support and fire behavior without much additional workload. AICC Predictive Services was fully staffed and able to provide analysis upon request. An IMET was ordered with the team. Local Anchorage forecast office personnel filled this role. Local weather patterns were difficult to forecast, but having a local meteorologist greatly improved success. Two trainees were ordered, one FBAN and one IMET.

Early in the incident fire behavior and spread was dictated by wind direction. The greatest growth was experienced under stronger southeast winds. The last significant rain was June 11 and convective in nature and did not seem to diminish observed fire behavior. As the incident continued the subsequent drying began to affect the fuels and fire behavior. As the duff layer continued to dry less wind was needed to transition the fire into the crowns. Areas that were acting as barriers to spread were beginning to become active again: white spruce and hardwood areas; marshy and muskeg areas; and even wet meadows. As fuels continue to dry, with no rain in the forecast, the entire fire line will need to be monitored until rain occurs over the fire area.

The team and Plans section would increase capacity if it would carry an LTAN or SOPL as a regular position. More incidents are requiring long term analysis and decision support. These gaps are currently being filled by current team members. As this requirement becomes a team expectation, incorporating an additional position into the Plans section will be valuable.

Incident Objectives

- **Firefighter and public safety are the highest priority values to be protected.**
 - ⇒ The incident cooperated with Alaska DOT, Alaska State Troopers, and Granite Construction to manage traffic in the Sterling Highway corridor and ensure the safety of firefighters and the public.
 - ⇒ Ready-Set-Go protocols were developed in conjunction with the Borough and communicated to the public in order to prepare them for the eventuality of an evacuation.
- **Protect the community of Sterling and infrastructure in the Sterling Highway corridor to the south and southwest of the fire.**
 - ⇒ Sixteen miles of line were burned out in two days along the Homer Electric transmission lines and northwest along the East Fork of the Moose River in order to secure the southern and southwest edges of the fire.
 - ⇒ The multi-agency Sterling Fuel Break was improved by fire fighters as a contingency option for preventing spread towards Sterling.
- **Protect Kenai National Wildlife Refuge sites to the northwest of the fire in the Swanson River Road corridor.**
 - ⇒ The northwest edge of the fire was largely confined by muskeg and wetlands. Aerial resources were used to check spread along Mystery Creek.



Incident Objectives (continued)

- **Protect the Kenai National Wildlife Refuge Moose Research Center and remote Refuge and pipeline infrastructure to the north and northeast of the fire.**
 - ⇒ Site protection was put in place and aerial resources were used to check spread towards the Moose Research Center.
 - ⇒ Site protection was planned and/or implemented for Refuge cabins, inholdings, and sites along the Enstar pipeline right-of-way.
- **Protect ecological and wilderness values within the Kenai Refuge by allowing natural fire spread where no values are threatened or where the threat has been mitigated.**
 - ⇒ Site protection actions made it possible for natural fire spread to the east and northeast to be monitored without being suppressed.
- **Support initial attack as requested by Kenai/Kodiak Area Forestry.**
 - ⇒ Swan Lake crews, engines, and aircraft responded to an Anchorage initial attack fire on 7/2. While driving to the fire, crews discovered a new fire near Cooper Landing and were able to suppress it.
- **Maintain and enhance relationships with local partners, cooperators, landowners, and other stakeholders via timely information exchange.**
 - ⇒ Daily Cooperator Meetings ensured that the Incident Management Team, Agency Administrators, and cooperators maintained a common operating picture throughout the incident.
 - ⇒ Public meetings provided opportunities for local residents to voice their concerns and be heard by the IMT. Outreach activities included traplines, updates, and social media posts, ensuring that the public had access to the most current information available.





Command

The Alaska Black IMT transitioned with a Type 3 organization and was delegated authority to manage the Swan Lake fire on June 18, 2019 at 0700. The Delegation of Authority and initial WFDSS decision provided the Team direction to make every effort to keep the fire away from the community of Sterling and the Sterling Highway corridor while at the same time allowing spread to the north within the Refuge boundaries. Sites were identified for protection to the north and northeast, and direct and indirect actions were taken on the southern edge to prevent spread to the south and southwest towards the bulk of the values. Spread to the east continued however, and efforts to contain spread using the Enstar pipeline R.O.W. and the Mystery Creek Road were eventually outflanked, forcing firefighters to fall back to the Sterling Highway corridor. A challenging 16 mile burnout operation along the Homer Electric transmission line R.O.W. and the East Fork of the Moose River was conducted over the course of two days under adverse weather and fuel conditions. Firefighters were forced to burn and hold with their backs to the Sterling Highway. Road delays were kept to a minimum with the assistance of DOT, the Alaska State Troopers, and Granite Construction pilot cars which were operating in the area prior to the fire start. The burnout was a spectacular success and allowed the IMT to secure the southern edge and southwest corner of the fire, greatly reducing risk to Sterling and highway corridor values. Early morning smoke continues to cause visibility issues in the Sterling Highway corridor and as the

day shift continues to strengthen containment lines and protect remote sites, the night shift patrols the road and alerts ICP, the State Troopers, and DOT when conditions become hazardous.

Medical & Safety Statistics

Medical Unit visits	306
Transports to ER/Clinics	12
Reportable Illness/ injuries	1
Backing Accidents	2

Safety

The Sterling highway stands out as the most significant safety concern on this incident. Early recognition and mitigation assisted fire efforts. Local cooperators were instrumental in orchestrating the many moving parts: public, pilot car, construction, speed limit reduction (which took time for DOT approval), and law enforcement. Additional complexity included the Homer Electric transmission line parallel to the highway, along with early-morning smoke effects on driver visibility. Having quality line safety folks in the field was key to successful implementation.

We dodged possible tragedy as our actions to limit traffic caused unintended consequences. In this instance traffic backed up into the mountains with blind corners. Civilian traffic was not ready for stopped traffic and we were lucky that there was not a motor vehicle accident.



Cooperator Meeting Areas of Focus

- Evacuation of Sterling
- Protection of the Sterling Highway
- Traffic Closures and Delays of the Sterling Highway
- Protection of Homer Electric Infrastructure
- Protection of ENSTAR gas pipeline

Liaison

Strengths

Active cooperation, collaboration and participation by agency partners and Operations Section in Cooperators Meetings to address issues. Key to the success was the fact that Agencies sent individuals who could make decisions in the room with the IMT and other Cooperators, so coordination issues were resolved in the meetings.

Challenges

- The Sterling Highway portion impacted by fire activity (M58-75.5) is currently under rehabilitation and construction. This area was impacted by dense smoke and fire crews.
- In addition, a morning marine fog layer mixed with smoke from the fire to create 2-3 mile pockets of zero visibility on the highway from approximately 03:00 to 09:30 each day. A bypass road option exists by taking Skilak Lake Road, a dusty, unmaintained narrow road.
- Coordinating Fire Operations and traffic control and delays along the Sterling Highway could not have been successful without the participation of the Department of Transportation & Public Facilities, Alaska State Troopers, USFWS Law Enforcement Officers, and Granite Construction.



Training

Total Trainees:	26
Priority Trainees:	20
Trainees Recommended for Certification:	6



Operational Strategy

- Full Suppression 21%
- Point Zone Protection 40%
- Confine 39%

Operational Progress

- 14% Total Containment as of 7/3
- 68% of the fire edge in a Full Suppression strategy has been contained



Air Operations

- Upon arrival the fire was staffed with two Type 1 helicopters and one Type 2 helicopter. Air tactical support was supplied by Palmer air attack resources, and Helibase was established at the Kenai airport.
- Long travel times over populated areas necessitated a move to a field northeast of Sterling to facilitate heavy sling load and tactical bucket operations.
- Two air attack platforms were ordered, both filled from the lower 48.
- The team was able to procure the only available jet fuel truck on the Peninsula. Helibase was co-located with Supply which led to timely field delivery of large amounts of cargo.
- Initially no PSD-carded pilots were available, but Operations and Air Operations were able to schedule carding for the pilots.
- Unmanned aerial operations were conducted with a BLM Alaska Fire service UAS and pilot to scout line and minimize firefighter exposure.
- The capabilities, constraints, and operational specifications of the Saskatchewan CL-215 water scoopers were not clearly relayed to the user group. This issue has not been resolved..

Operations

The strategy for the southern portion of the fire has been to **fully suppress** the southwestern and southern edges of the fire south along the East Fork and east along the Homer Electric transmission lines in the Sterling Highway corridor in order to secure the southwest and southern edges and protect Sterling, the Sterling Highway corridor, and Refuge campgrounds along the Skilak Lake Road. This strategy has a high probability of success due to the successful burnout June 26-27, and all parties agreed to continue implementing this strategy and that this portion of the fire is the highest priority for action.

Fire spread to the north and northeast is being monitored and **point protection** is in place for Refuge and Enstar pipeline values between the fire and Cook Inlet. Continuous black spruce fuels provide avenues for continued spread to the northeast toward Cook Inlet when winds align and there is a high probability of this occurring over the next 14 days. The potential for this portion of the fire to eventually move west toward values in the Swanson River Road area are small due to intervening lakes, waterways, and wetlands. Probability of success is dynamic as current fuel indices and forecast weather will allow the fire to make large runs. Point protection measures are in place to mitigate the threat to identified values.

The northwest edge of the fire has remained stalled in muskeg and marshy fuels for over ten days. Although pockets and stringers of spruce may support future spotting and northwest spread toward the Moose Research Center and other values, the additional exposure and cost associated with taking action on these portions of line is not warranted. This portion of the fire is being treated as **confined** and is monitored by air, point protection is in place for identified values. All parties agreed to continue implementing this strategy until movement to the northwest is observed, at which time the strategy will be re-evaluated based on threat to values.

In addition to managing the Swan Lake Fire the IMT has been tasked with supporting Initial Attack for the local area.

Air Operations

- Cumulative flight hours (through 7/1/19): 514 hours
- Water dropped by air tankers and helicopters: 2.3 million gallons
- Retardant dropped: 110,000 gallons
- Cargo delivered: 90,000 pounds

Information Statistics

Community Meetings	2
Info Boards	18
Trapline Contacts	560
Phone Calls:	700

Social Media Contacts :

• Facebook	272,267
• Likes	2,489
• Twitter	15,100
• Video	25,000



Information

- Alaska IMT Public Information Officers were the primary contact and point of information during the incident, providing relief to the Incident Commander and Kenai National Wildlife Refuge staff. The full-service Swan Lake Fire information section answered calls, emails, wrote and distributed updates, updated social media and InciWeb, produced photos and videos, and hosted VIP & media tours of the fire. The majority of public calls were concerning traffic delays. The next largest subject of calls concerned smoke.

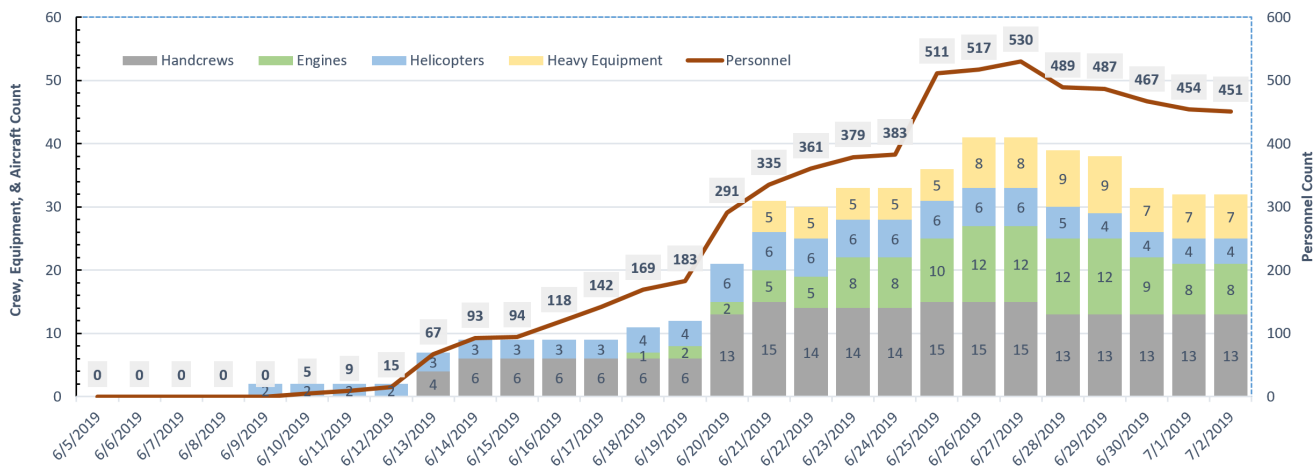
- The team held two community meetings in Sterling, Alaska, at the Sterling Community Center on June 21 and June 26. An estimated 220 people attended the first meeting, and about 120 were at the second. People were engaged, informed and asking questions, expressing support for firefighter efforts. These community meetings were shared live on the Alaska DNR- Division of Forestry Facebook page.

- The team hosted Alaska Gov. Mike Dunleavy, his staff and Department Natural Resources Commissioner Corri A. Feige to meet with Alaska firefighters, tour Incident Command Post and attend the Cooperators Meeting on July 1.

- At least four PIOs worked information trap lines each day, east to Cooper Landing and west to Soldotna, talking with hundreds of people. These PIOs also gave out water and talked with delayed drivers during significant delays on the Sterling Highway while tactical firing operations were underway.

- Having staff from the refuge embedded with the Information section early in the incident helped smooth message development and information sharing. Rapport was generally positive with the public and businesses on the daily traplines. Media coverage was generally positive, telling the fire's story about protecting the Sterling community from future fires, and improving wildlife habitat on the refuge. Having a PIO travel with the Structure Protection Group to talk with residents as they canvassed neighborhoods allowed the group to focus on their task instead of needing to answer questions from the public.

Swan Lake Resources Timeline



Planning

- The Alaska Team ITSS worked closely with the Sterling Elementary School IT shop but was not able to get the team's network gear placed on the school network and functional. Not being able to deploy the team's network-ing gear limited our ability to control our network and make business decisions without constant collaboration with the Sterling Elementary School's IT shop.
- Co-locating Check-in and Demobilization Unit in the Sterling Elementary School lobby greatly benefited in-coming resources by ensuring quick contact and mini-mizing ICP traffic.
- Having GISS and SITL co-located with the FBANs was a significant help in aiding the passing of new infor-mation between units. This should be continued if possi-ble.
- The Team plotter ran out of gray ink very early in the incident. GISS(t) and SITL brainstormed, then success-fully removed the ink bag from a different model of HP ink and replace it into the empty ink cartridge, as the noz-zles are the same size. Microchip on the cartridge is a page counter and didn't allow the plotter to recognize the full ink level, but it allowed printing and seemingly caused no problems.
- There are not enough GIS laptops and other supplies to fully outfit both Alaska Type 2 Teams at the same time. This is a major problem during a busy fire season and needs to be resolved.



Planning Statistics

Published WFDSS Decisions: 4
Documentation Boxes: 11
Daily IAPs : 150 large + 250 booklets

Resources at Peak

Type 1 crews

Type 2 IA crews

Engines

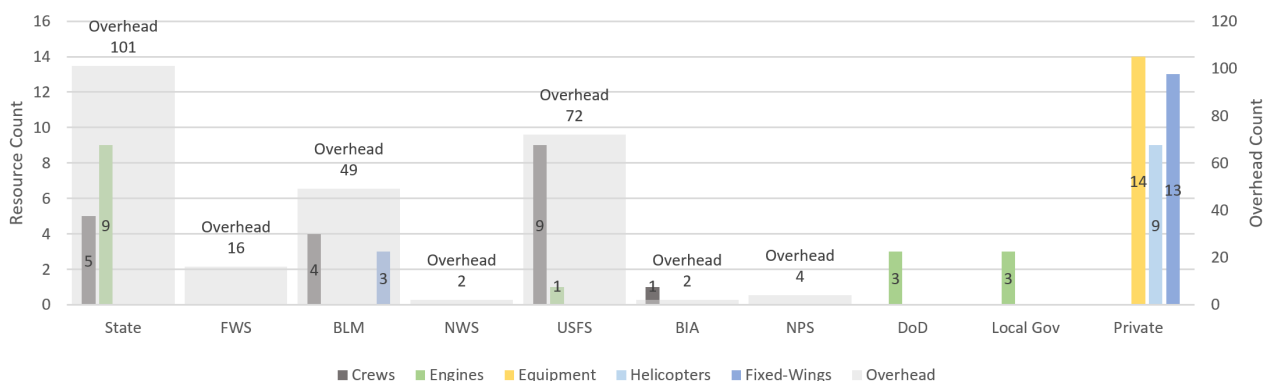
Dozers

Water Tenders

Max Number of personnel 393



Swan Lake Assigned Resources by Agency



Logistics Statistics

Fresh Food

A Boxes 392

B Boxes 198

Facilities

Camps 8

Handwash Units 5

Porta-potties (7 locations) 70
(Four burned at DP 113)

Communication

Radio Repeaters 3

Ground Support

Vehicle & Equipment Inspections 150



Logistics

- The objectives of the Incident did not change throughout the assignment which gave us clear direction. The continued drying trend drove the operational needs which ultimately drove the logistical support needs. We were able to support the objectives using good communication, and talented Unit Leaders.
- The lack of a buying team or the ability to purchase supplies, set up blank purchase agreements, or land use agreements early on made things difficult logistically. This posed a significant challenge getting supplies that ordinarily are not a problem to obtain. Items such as repeater batteries and other communications related equipment took longer than expected or were UTF'd when quantities were known to be available within the cache system. A remote kit ordered to support the medical unit took over four days to arrive from Fairbanks.
- We received excellent support from State Logistics, Mat-Su DOF Warehouse, Kenai-Kodiak DOF, and the U.S. Fish and Wildlife Service.
- Setting up a large remote camp at Hidden Lake campground relieved pressure on ICP facilities and greatly reduced travel time for operational personnel. This was established with very little advanced notice.
- Line order deliveries for supplies were almost exclusively helicopter sling cargo for the first nine days, moving to a mostly ground support system after that.



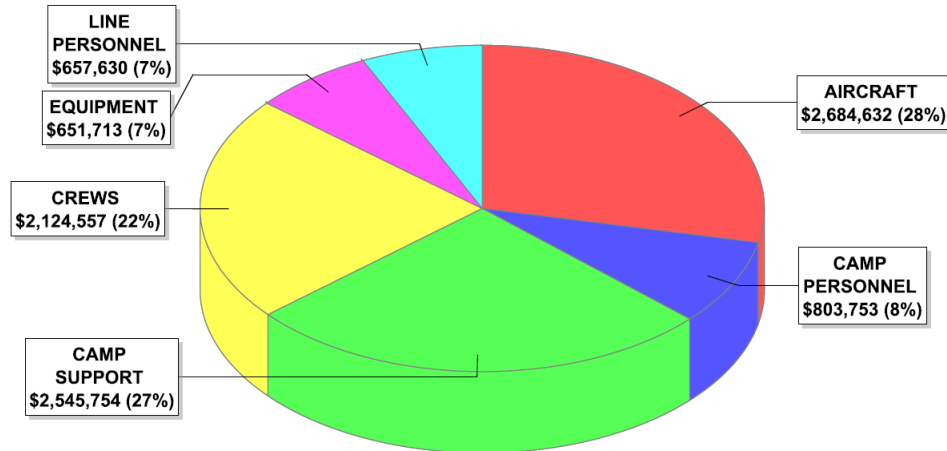
Finance

- Scheduling hours of operation included breaks to ensure coverage that met the needs of the incident. The entire Finance Section worked incredibly well together, considering that very few were team members. All personnel in the section were willing to work on posting time, equipment and costs. This helped lessen the impact to particular sections during demo and allowed cross training for the two PTRC (t) and two EQTR (t).
- Comp and claims provided a mini in-service training for medical staff. All forms that are needed for Federal or State injured or ill staff were shared.
- There was good interaction between Finance, Facilities and Ground Support. Each kept the other informed of what was going on and of any problems. This facilitated a smooth development of systems for tracking and posting, allowing efficient problem solving.
- Finance had an excellent working relationship with the Buying Team. They communicated daily, got questions answered, problems solved, and things accomplished that benefited the incident.

Group Category Summary Report by Incident

Incident: SWAN LAKE (US-AK-KKS-903181)

Group Category Summary Graph Report



Resources by State

