



Idaho National Laboratory

INL Wildland Fire Management

*Citizens Advisory Board
February 27, 2020*



Discussion Points

- **Wildland Fire at INL – An historical look**
- **Prevention Actions**
- **Response Actions**
- **Mutual Aid Agreements**
- **Recovery Actions**
- **Candidate Conservation Agreement**
- **Sheep Fire - By the Numbers**
- **Sheep Fire Impacts and Rehabilitation**

INL Wildland Fire Management History

- **1994 – Fastest recorded fire burns from Highway 20/26 to Howe in approximately 4 hours**
- 1996 – Multiples fires ignited along Highway 20. MFC survives direct hit but experiences post fire dust challenges
- 1999 – INL experiences largest fire season to date with 7 fires involving over 40,000 acres
- **May 2000 – Cerro Grande Fire burns 150,000 acres affecting Los Alamos National Lab and community of Los Alamos**
- June 2000 – DOE moratorium on prescribed fire
- 2000 – DOE issues joint review of wildland fire safety at DOE Sites
- **2000 - Idaho experiences historic wildland fire season. Tea Kettle Butte fire is suppressed without BLM support. ATR facility survives direct hit**
- **January 2001 – Significant review and update of 1995 Federal Wildland Fire Management Policy**

INL Wildland Fire Management History (continued)

- June 2001 – INL issues first comprehensive wildland fire management program (GDE-7063)
- **April 2003, INL Wildand Fire Management Environmental Assessment/FONSI**
- 2007 – INL experiences 14 wildland fires involving over 9,800 acres. Electrical shock event results in step changes in INL wildland fire response protocols
- **Feb 2008 – PLN-14401, INL Wildland Fire Management Plan**
- **2010 – Jefferson Fire burned over 100,000 acres. MFC survived direct hit.**
- **2019 – Highest acreage fire season in INL history (112,159 acres)**

INL Fire Statistics

Year	Number Human Fires	Human Fire Acres	Number Lightning Fires	Lightning Fire Acres	Total Fires	Total Fire Acres
1994	5	16,639	0	0	5	16,639
1995	1	6,833	0	0	1	6,833
1996	10	28,714	2	6,973	12	35,687
1997	0	0	0	0	0	0
1998	6	16.5	0	0	6	17
1999	4	6	3	40,629	7	40,635
2000	5	92	8	36,685	13	36,777
2001	5	2	2	80	7	82
2002	5	121	0	0	5	121
2003	7	718	0	0	7	718
2004	5	1	1	1	6	2
2005	1	2	0	0	1	2
2006	7	15	0	0	7	15
2007	8	105	6	9,775	14	9,880
2008	9	1,454	0	0	9	1,454
2009	1	0	2	1	3	1
2010	4	92,287	0	0	4	92,287
2011	5	30	2	50,176	7	50,206
2012	3	4	3	4,396	6	4,400
2013	3	1	0	0	3	1
2014	0	0	0	0	0	0
2015	2	4	0	0	2	4
2016	2	7	0	0	2	7
2017	1	0	0	0	1	0
2018	4	17	1	3	4	20
2019	0	0	4	112,159	4	112,159
Total 1994-2019	103	147,069	34	260,878	136	407,947
1994-2019 Avg.	4.0	5,656	1.3	10,034	5.2	15,690



Seasonal Prevention Actions

- **Active employee and public communications program including iNotes, field worker notification, annual press releases, and signage across INL**
- **Fire Restriction Program**
 - **Seasonal (Stage I) restrictions include curtailment of hazardous shooting range activities, defensible space reviews for field work locations, and field worker requirements**
 - **Stage II restrictions implemented during very high fire danger including curtailment of hot work activities in field and restricting vehicles to designated roads**

Prevention Actions (Cont.)

Fuels Management Program

- Annual defensible space inspection (FD)
- 30-ft minimum defensible space at wildland urban interface
- Seasonal Fuel Management Zone mowing:
 - State highways (10-ft)
 - 10 to 50-ft along main INL roadways and facility perimeters
 - INL shooting/explosives ranges



Response Actions

- **Preparedness Level I Dispatch**
 - **Two Engines, Water Tender, Command Unit**
 - **Courtesy notification to EIIFC**
 - **Courtesy notification to HEO supervisor to initiate staging of INL dozer**
- **Preparedness Level II Dispatch**
 - **Four Engines, Water Tender, Command Unit**
 - **Notify EIIFC, size-up report, request available resources**
 - **INL Dozer/Tender staged 24/7; HEOs requested to stage with equipment**

Response Actions (Cont.)

- **No let burn practices**
- **Use direct minimum impact suppression tactics whenever feasible to minimize fire size and environmental impacts**
- **Use indirect tactics to ensure firefighter safety for large fires with extreme fire behavior**
- **Identify primary and secondary (large box) containment objectives**

Radiation Considerations

- **Wildland fires occurring anywhere in the world release naturally occurring and manmade radioactivity**
- **Radionuclides released into the air during fire can cause air monitors to register slightly elevated contamination levels during a range fire anywhere in the world**
- **Rigorous assessments at INL have estimated the maximum hypothetical doses firefighters or members of the public could receive from fires burning in remediated areas**
- **The maximum potential doses are far below national safety standards**
- **INL monitors radiation levels during wildland fires as a precaution and has observed only negligible levels**

Mutual Aid Agreements

- **Reciprocal Firefighting Assistance Agreement (RFFA)**
 - **Upper Snake Interagency Wildfire Group (USIWG) Annual Operating Plan**
- **Interagency Agreement between BLM and DOE-ID**
 - **Annual Operating Plan for Mutual Fire Aid (AOP)**
- **Significant INL wildland fire mutual aid assistance**
 - **Charlotte Fire, Power Line Fire, Henry's Creek Fire**
 - **Grassy Ridge Fire, Indian Butte Fire**

Response Actions (cont.)

- **Mutual aid philosophy is to respond to fire aggressively with all available resources first operating period**
- **A unified command is established between senior INL and BLM officer**
- **BLM provides all air support on INL fires (observation flight, air attack platform, helicopters, heavy air tankers, very large air tankers, SEATs)**
- **BLM provides for additional engines (generally a strike team or two), additional dozers, any handcrew needs, and specialized fire investigation**
- **RFFA enables cooperation with most regional agencies**

INL Wildland Fire Response Resources

INL Fire Department

- Four Type 4 wildland engines
- One Type 6 wildland engine
- One water tender
- 69 firefighters, 5 Battalion Chiefs, Staff Officers
- Critical minimum staffing 20 FFs and 2 BCs



INL roads and grounds

- Dozers and additional tenders (one each dedicated during preparedness level 2)
- Heavy equipment operators and mechanic/tire support

Post Fire Priority Actions

- **Perform Emergency Stabilization**
 - **Cultural resource survey of fire lines**
 - **Re-habilitate dozer lines by rolling back “Ricks” except those in culturally sensitive areas**
 - **Restrict post-fire vehicle travel on containment lines**
 - **Map and spray noxious weeds within containment lines**
- **Wildland Fire Management Committee convened to review large fires (greater than 99 acres) and recommend additional recovery actions**

Candidate Conservation Agreement

- Establishes thirteen conservation measures including one associated with Wildland Fire Management:
 - “Prepare an assessment for the need to restore the burned area. Based on that assessment, DOE would prepare an approach for hastening sagebrush reestablishment in burned areas and reduce the impact of wildland fires > 40 ha (99 acres)”

At a minimum, this initial assessment will include:

- An assessment of resource conditions as well as realistic and cost-effective emergency stabilization treatments that are needed;
- A risk analysis that assesses the value of treatment options compared to the value of a no-action alternative.

Candidate Conservation Agreement (cont.)

Examples of treatments that could be included:

- **Restoration of areas damaged by firefighting activities and those not likely to recover to meet management objectives;**
- **Control of noxious weeds and invasive species;**
- **Aerial seeding of sagebrush;**
- **Strategic planting of sagebrush seedlings, especially near sage-grouse leks; Intensive restoration efforts following human-caused fires in areas lacking a native, perennial understory.**

INL Recovery Approach

- **Emergency Stabilization as part of fire response**
- **INL Wildland Fire Management Committee directed post fire assessment scoping and cost estimate**
- **Execution of fire rehabilitation plan and cost estimate following spring (Imagery, Rehabilitation Strategy, Monitoring Strategy)**
- **Vetting with DOE-ID and FWS**
- **Out year execution of rehabilitation and monitoring scope**
- **Periodic review of CCA based on fire habitat loss experience**

Sheep Fire 2019



2019 Sheep Fire “By the Numbers”

- Total Acres Burned = 112,106
 - 175 Square Miles
 - Over 55 miles of containment line
 - Largest in INL history
 - Second Largest in the lower 48 in 2019
- Total Number of Fire Resources:
 - Engines = 24
 - Water Tenders = 9
 - Dozers = 7
 - Helicopters = 1
 - Air Attack = 1
 - Single Engine Air Tankers = 2
 - Heavy Air Tankers = 1
 - Very Large Air Tankers = 2
 - Firefighters/Overhead = 122
- Emergency Response Org Total Personnel
 - CFA ECC = 73
 - SMC ECC = 10
 - ATR ECC = 40
 - MFC ECC = 45
 - NRF ECC = 29
 - INTEC ECC = 15
 - EOC = 63
 - DOE = 25
- Fire Costs:
 - INL FD / Call Back = \$179,270
 - BLM = \$790,000 (est.)
 - Stabilization / Rehab = TBD

2019 Sheep Fire “By the Numbers”

- Personnel Injuries = 0
- Buildings, Facilities, Out Buildings Lost = 0
- Days until fire was declared “Out” = 6
 - Ignition 7/22 6:18 PM
 - Containment 7/26 5:00 PM
 - Controlled 7/27 6:00 PM
 - Out 7/28 6:00 PM
- Power Poles Damaged = 112
 - Rocky Mountain = 100
 - INL = 12 (Distribution)
 - INL Treated Poles = 1
- Meals Ordered
 - INL = 3649
 - BLM = 720
- Outhouses/Wash stations = 16
- Fire Truck Tires Replaced = 24



Sheep Fire - Additional Resources Ordered

BLM (4 engines, 2 dozers, 1 Helicopter)

Idaho Falls FD (2 Engines)

Central FD (2 Engines)

South Fremont FD (1 Engine)

West Jefferson FD (2 Engines)

Madison FD (1 Engine)

Teton FD (2 Engines)

Roberts FD (1 Engine)

Hamer FD (1 Eng. 1 Tender)

Ammon FD (1 Engine)

US Forest Service (2 Engines)

Inkom FD (1 Tender)

Ucon FD (1 Tender)

IDL (1 Tender)

Large Air Tankers (2)

VLAT (2)



Extent of the 2019 Sheep Fire relative to previously recorded sites and surveys on the Idaho National Lab

