



Best Management Practices for Wildland Fire Response during the COVID-19 Pandemic

These best management practices have been compiled from various sources and represent a distillation of the numerous guidelines into a single location for firefighters and fire managers to use in planning and responding to wildland fire incidents. Pre-planning and preparing is extremely important when applying best practices to mitigate the potential impacts of COVID-19 on wildfire responders. The intent and recommendations provided in this document are meant to provide doctrinal guidance, not prescriptive procedures. There is no substitute for utilizing common sense and risk management principles along with creativity and innovation to meet the general guidelines put forth by the CDC for preventing spread of COVID-19 and other infectious diseases while operating in the wildland fire environment. The primary goal in preparation in this document was to provide guidance to keep people healthy in order to continue to do their job and reduce the additional risks of COVID-19 while effectively utilizing established standard wildland fire response practices and risk mitigations.

Wildland firefighting is considered a critical and essential service of the interagency fire community. If a member of our firefighting staff becomes infected by the virus, there is a high risk that entire modules or response organizations may become infected, sick, and quarantined. With potential resource limitations and restrictions, the result of even a precautionary quarantine would be significant to our ability to carry out our critical responsibilities and also would limit our firefighter's ability to support their families. This season wildland fire response actions may focus on suppression strategies with the goal of reducing the total number of responders needed to safely achieve objectives. COVID 19 considerations may alter how we meet management goals but should not lead to higher-risk tactics.

The health and well-being of our employees is the foundation for implementation of any local, regional, or national response plan. In order to have a sufficient workforce available and prepared to provide an interagency response for the upcoming fire season, supervisors and employees should implement the following items. Where these are not feasible, the completion of risk assessments will help supervisors and employees determine a more appropriate path forward. In these situations, sharing of actions taken to reduce exposure with peers and forest leadership should be done rapidly to promote organizational learning and allow others to adapt prior to encountering similar situations.

General Behaviors

In the fire management world, the potential for virus exposure occurs through many avenues such as shared workspace, employee housing, within shared vehicles, and within Incident Base Camps. It is imperative that fire managers and agency administrators continue to monitor and follow evolving **CDC** recommendations and individual agency guidance as the situation changes worldwide.

Consider each module as a family. The family rides together in the same vehicle, works together on and off the fireline, eats and sleeps in the same area when on assignment, and generally limits close interaction with other “families”. If one module member displays symptoms or becomes sick, supervisors should consider the entire “family” exposed and take appropriate measures to isolate them from other modules and monitor other module members for symptoms.

Separation and isolation. Due to the nature of our business, it can be difficult to maintain recommended social distances when accomplishing our mission. It is crucial for modules to stay healthy as a unit, so separation of modules/resources before and during response by using things such as varied reporting locations/times, individual briefings, geographic assignments, and use of virtual technology if available will help reduce risk of spread between modules.

Monitor each other. Watching for symptoms and reporting if present are the best methods for identifying the virus early. Most people that get the virus especially among a healthy and fit population class have little or no symptoms yet still be contagious. Close proximity, when required, is not an issue if everyone on the crew is healthy. Supervisors should regularly check with their employees and utilize available methods (i.e. standard questions, taking temperature, etc.) to ensure that they are healthy.

Identify potential housing options for workforce that becomes impacted such as relocating healthy crewmembers from government quarters to hotels in order to use quarters for quarantine purposes.

Where possible, provide each employee or module assigned vehicles that will be used solely by the individual or module. As module size expands with new permanent or temporary employees, vehicle assignments should reduce module sharing of vehicles to the extent possible.

Isolate mission-critical fire staff (including dispatchers, warehouse and support staff) from the modules, general public, other office staff, and nonessential partners. Do not allow non-mission-critical people to enter work areas. This may mean restricting certain areas and creating physical separation between modules, support functions and other mission essential functions. Utilize technology to maintain separation when feasible. Consider designating restrooms, breakrooms and traditionally shared workspaces, if practical, for specific functions to minimize cross-contamination possibilities.

Have situational awareness, be aware of surroundings and high touch surfaces and areas of potential contamination. What are you touching, where are you placing your hands, how close are you to others, have you washed your hands lately, how about your phone?

Importantly, impress upon your fire family, their personal responsibility off hours to reduce the potential to bring the virus into the workplace. Provide clear leader’s intent and expectations of fire staff on their off-duty responsibilities to protect themselves and their crews from exposure. This should include following CDC guidelines; avoiding restaurants, bars, and gatherings larger than 20 people, any

sick people, maintaining high degree of hygiene and awareness of contamination sources, self-monitoring, reporting potential exposure, and staying home from work if exposed or sick.

Communication, business will not be as usual so there is a greater need to communicate within our organizations with less face to face time brought about by these precautions. Different people, modules, organizations, agencies, and even different areas within those will have a different risk perception, fears, levels of knowledge, and questions. Expect it and communicate, be flexible and understanding.

The risk management processes in place for fire remain valid, although COVID-19 adds new risks that should be considered along with the “normal” suite of risks. We have critical missions to accomplish in an inherently dangerous environment that should be neither underestimated nor exaggerated, but carefully evaluated, hence communication of the risks is key. Use the risk management process utilizing risk assessments to assist in communicating those risks and if necessary use the turn-down protocol in the IRPG.

Preparedness Activities, Fuels Management and Project Work

Physical training should be conducted outdoors rather than using indoor training facilities whenever possible. Indoor shared PT facilities should be scheduled to limit the number of users to insure social distancing can continue to be adhered to. Shared PT equipment should be sanitized between each user or not shared. Stagger PT time for modules as necessary or encourage separate PT activities to minimize interaction between modules. Maintain social distancing in shared locker rooms and ensure shared facilities are thoroughly sanitized. Set a sanitation schedule to clean surfaces at increased intervals.

Daily readiness activities (operational briefings, safety meetings, etc.), if practical, should be done in well ventilated facilities or outdoors. Maintain social distancing precautions between personnel, consider separate briefings for modules. Consider separate module daily assignments and work to prevent the possibility of systemic exposure.

Clean work areas and vehicles frequently and between operational periods. Sanitize high touch surfaces such as door handles, entry key pads, dash buttons, levers, steering wheels, seatbelt buckles, radio mikes, cell phones, keyboards, mice, ipads, pens, pencils, chainsaw handles, tool handles, drip-torch handles, etc adhering to a set daily schedule whenever possible. Make necessary cleaning and sanitizing supplies readily available. Don't share things between employees/modules unless absolutely necessary.

Train wildland fire employees in a compartmentalized or virtual environment where cross contamination between modules can be reduced.

Avoid interacting with public/utilizing public areas as much as possible. This includes avoiding or minimizing convenience store use, using ATMS, going out to lunch, and other activities. When refueling vehicles, be aware that this act requires touching high touch surfaces used by the general public which are not sanitary. Use disposable gloves if available when using this equipment, or hand sanitizer after using this equipment and prior to getting back in or touching vehicle.

Hand hygiene and other preventive measures are key in minimizing potential for spread. Employees must clean hands often, especially after contact with another person, by washing hands with soap and water for at least 20 seconds. If soap and water are not available and hands are not visibly dirty, an

alcohol-based hand sanitizer that contains at least 60% alcohol may be used. However, if hands are visibly dirty, always wash hands with soap and water. Avoid touching eyes, nose or mouth with unwashed hands. Additional key times to clean hands include:

- After blowing one's nose, coughing or sneezing;
- After using the bathrooms;
- Before **and after** eating or preparing food;
- After touching surfaces frequently touched by public – such as gas pumps, doors, etc.
- After contact with animals or pets.
- Before and after providing routine care for another person who needs assistance (e.g. a child).

Initial Attack

Where all of the “normal” firefighting risks must be weighed as well, minimizing the exposure of firefighters to the potential spread of the COVID-19 virus must be a primary concern when conducting risk management evaluations while determining the strategy and tactics on an incident. Initial attack should be the highest priority for investment of resources. We must emphasize the need to catch fires during initial attack and prevent long duration fires. Typically resulting in fires that are suppressed as small as practical with the fewest number of responders possible, while maintaining a high probability of success in protecting values at risk, especially firefighters. Exposure of firefighters for this includes number and duration of responders both directly (ground and aviation), and indirectly (dispatch, expanded dispatch, large fire support organizations, tanker bases, contractors, etc.). Consider potential smoke impacts on firefighters and the public and utilize strategies and tactics that minimize these impacts, as the main health issues with COVID-19 are severe respiratory problems.

Remember the basics as taught in S-130 – stay 6 feet apart while walking and 10 feet apart while working on the line. These basics still apply and enhance social distancing recommendations.

Firefighter, aviator, and public safety will remain the #1 Priority in all responses. Consider the size and duration of an organization required to manage the incident. There are trade-offs to consider in potential exposure whether an aggressive direct or in-direct tactic is used. Non-standard responses that may minimize total responder exposure such as aggressive initial attack, (i.e. heavy and fast), or modified suppression strategies, and tactics, (i.e. point/zone protection rather than perimeter control) that affect duration and organization needs. Each situation is unique and must be critically assessed through risk-informed decision making. In order to minimize overall risk of exposure to firefighters, COVID-19 considerations will alter how we meet management goals but should not lead to higher-risk tactics. This may include a higher level of engagement by Duty Officers both at the District and Forest level in assisting with the decisions of management strategy and/or resource commitment.

Weigh the amount of work and exposure versus risk of escape, what is appropriate containment or control expectation considering exposure of firefighters? If we accept more risk of a fire escaping by limiting firefighter exposure we need to own it and make that clear. (Scratch-line it and monitor with an engine, versus mopping in a chain, versus deep mop-up and more comfortable “control” feeling).

Identify individuals with FOBS and/or other Single Resource qualifications that are skilled in the use of electronic devices that can help Fire management get on the ground intelligence on developing fires on the forest. This will aid in the development of appropriate strategies for incident management potentially reducing the need for more personnel commitment.

Utilize current real-time technology (i.e. Collector, streaming video) to share incident information between modules and with overhead, duty officers, line officers to build situational awareness and enhance decision making while limiting personal interactions whenever practical.

Modules should prepare to be self-sufficient for 72 hours, not only including food and water but supply needs to properly disinfect and practice proper hygiene in accordance to COVID-19 recommendations.

Consider radio or remote briefings for incoming resources, instead of individual briefings.

Do not share PPE, flight helmets, radios or other equipment. Wash PPE after each response if possible.

Evaluate drinking water supply options; utilize bottled water, sanitize personal re-useable water bottles/bladders often, don't share cubies between modules if possible.

Consider more rest between responses. Typical 2:1 work/rest mitigation may not be enough to keep people healthy this year.

Pre-screen outside resources utilizing CDC guidance or screening questionnaires such as included at the end of this document. Brief resources over phone on guidance for precautions to take while traveling, arrange check-in briefing at separate location/staging area.

Consider positioning resources in non-typical locations than in the past, i.e. perhaps not at the same station as local resources.

Resources from out of the area may need to be isolated from local resources or vice-versa to reduce possibility of cross-contamination from virus hot-zones to cool zones.

Extended Attack/Large Fire

Consider non-traditional fire camps with an emphasis on module separation. Many small camps or spikes or large spread-out camp.

Consider pre-screening incoming resources prior to check-in utilizing screening questionnaires such as included at the end of this document, establish staging areas to facilitate this.

Consider utilizing closed camps when located near/in communities, and do not allow general public into camp. Camps may need to be spread out over larger areas or utilize several separated areas (i.e. meal areas, showers, camping areas, supply unit, etc.) to maintain social distancing.

Eat and brief outdoors and designate larger areas than normal for both.

Consider eating in shifts with sanitization between shifts and between tables being used. Operations should enforce staggered shifts to prevent waiting in lines and facilitate this process. Modify typical feeding procedures to include no self-serving such as at salad bars, use dedicated servers, single-serve sack, boxed meals or MREs. Spread out modules, follow social distancing precautions, do not allow waiting lines to form.

Camps should be designed so crews can maintain separation from each other:

- Consider separate "pods" for each crew, to include sleeping areas, restroom facilities, and eating areas.
- Consider each crew maintaining self-sufficiency to separate modules and interactions, but also consider risk from non-controllable public/private facilities and services such as shopping for food, dining, lodging, etc. Consider assigning shopping tasks to a minimum number of people.

Utilize spike-camp model remote/radio briefings or expand briefing areas to accommodate 6 foot spacing, consider multiple separate briefings by branch or division.

Order extra handwashing stations and portable restrooms, increase cleaning service cycles.

Define and implement more rigorous cleaning and sanitation protocols. Consider dedicated camp crew for continual cleaning/disinfecting, and stocking additional cleaning supplies.

Relay and enforce expectations of mandatory handwashing prior to eating, and after using restrooms, and after touching commonly touched surfaces. No amount of emphasis on personal hygiene can be too much.

Consider if IMT or camp functions can be accomplished remotely or utilizing additional/larger yurts or more rooms in hotels/schools for separation.

Maintain ice chest/cooler cleanliness by cleaning hands prior to use and sanitizing coolers often, or consider a single controlled point for distribution of items typically in shared coolers.

Plan shifts to allow for more rest than historical norms. Consider more rest between shifts to allow time for personal hygiene activities and ability to get more sleep.

Plan operations to reduce smoke exposure. This includes significantly limiting mop-up and utilizing more active heat detection methods to verify lines are secure. Consider additional patrol activities in critical holding areas to minimize resource commitment to mop-up operations.

Emphasize strategies with low resource demand and high likelihood of success. Consider need for rehab and BAER; potentially modify strategies and tactics (i.e. remote support, prioritize high risks, limit personnel) to minimize potential future need if possible.

Planning meeting areas should be large enough to accomplish social distancing, with that expectation clearly given to visiting/contributing cooperators and partners. Utilize technology such as teleconferencing, Skype, Facetime, Teams etc. if and when available to meet with cooperators and partners during functions like these to minimize exposure. Meeting areas should be cleaned after each use. Order additional IT or THSP support in order to better enact and utilize technological solutions.

Encourage self-isolation, if necessary, for firefighters returning from extended attack/ large fire support incidents to protect family members from potential exposure. Consider authorizing additional R&R days beyond the mandatory days, or authorize R&R days for assignments that are less than 14 days. In cases where there was a potential exposure, managers should utilize available methods to provide an alternate location for employees to isolate as necessary to limit potential additional exposure of family or other employees.

Managers should use their understanding of current and potential future needs in determining availability for off-forest single resource or module support. Any employee that travels off-forest to support incidents will perform an assessment with their supervisor upon return and could potentially be quarantined/isolated for 14 days prior to re-entering the workforce to safeguard the health of others.

Have pre-identified areas for self-quarantine if a module or crew member tests positive or in the event of possible exposure of module(s). Location should allow for the continued separation of crews that allows for the crew to work without exposing other employees. Work may continue as long as they continue to remain isolated from others and are asymptomatic.

Suspected Infection Protocol

If at any stage, any of our firefighters or support personnel are suspected of having contracted the virus (showing the symptoms as per CDC or known exposure), the following protocol should be followed:

The individual should contact their supervisor, who must:

1. Respect employee's right to privacy and confidentiality to the greatest extent possible.
2. Inform them not to come to work or if at station/incident immediately isolate them from other personnel.
3. Advise the employee to make their way to their doctor or nearest clinic/ER, or if at incident follow IWI process to arrange appropriate transportation to medical facility.
4. Utilize agency Hospital Liaison program if available and have identified people rostered and on call to act as liaisons for the local unit. This person will be able to communicate to the families, local units, medical professionals, safety officers, and or procure and request the proper paperwork for medical attention and procedures regarding OWCP and Department of Labor.
5. Once seen by a medical practitioner, the employee is to inform their supervisor of the outcomes.
6. The supervisor must immediately inform the agency administrator and safety officer of the incident, or if at incident the IC or appropriate staff on larger incidents.
7. The employee with COVID-19 symptoms will be considered presumptive positive and quarantined until either tested negative or until CDC recommended period of time has passed.
8. If the crew member is thought to be or found to be infected with the virus, all recent contacts (14 days or less) need to be contacted and informed of the infection, and then per local health department direction be monitored and/or quarantined.
9. Employee's quarters/gear/tent is to be closed/cleaned/and disinfected per CDC guidelines or isolated and quarantined.
10. Follow notification and reporting protocols contained within the COVID-19 Playbook version 2.0 as appropriate for the situation.

Additional Resources:

- USDA Forest Service National Pandemic Plan: http://fsweb.wo.fs.fed.us/covid/pdf/USDA_Forest_Service_National_Pandemic_Plan.pdf
- Utah Department of Health resources for COVID-19: <https://coronavirus.utah.gov/>
- Southwest Utah Health Department Coronavirus Information: <https://swuhealth.org/covid/>
- NWCG Infectious Disease Guidance for Wildland Fire Incidents: <https://www.nwcg.gov/committees/emergency-medical-committee/infectious-disease-guidance>
- EMS Infectious Disease Playbook: <https://files.asprtracie.hhs.gov/documents/aspr-tracie-transport-playbook-508.pdf>
- Centers for Disease Control and Prevention: <https://www.cdc.gov>
- Infection Control After a Disaster: <https://www.cdc.gov/disasters/infectioncontrol.html>
- Response Worker Health and Safety: <https://www.cdc.gov/disasters/workers.html>
- What You Should Know About COVID-19 and the ADA, the Rehabilitation Act, and Other EEO Laws: https://www.eeoc.gov/eeoc/newsroom/wysk/wysk_ada_rehabilitaion_act_coronavirus.cfm

Potential Infectious Disease Handouts

- COVID-19 <https://www.cdc.gov/coronavirus/2019-ncov/downloads/2019-ncov-factsheet.pdf>
- Influenza: https://www.cdc.gov/flu/resource-center/images/multi-language-pdfs/flu_and_you_english_508.pdf
- Foodborne: <https://www.cdc.gov/foodsafety/pdfs/food-Safety-symptoms-P.pdf>
- Norovirus: <https://www.cdc.gov/norovirus/downloads/keyfacts.pdf>
- What Vaccines are Recommended for You: <https://www.cdc.gov/vaccines/adults/rec-vac/index.html>

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- CWZ Interagency Fire Mgt Area COVID BMPs Final V1
- Cibola Wildland Fire Response_COVID19
- Cibola COVID-19 Plan_Aviation Info_4April20
- CAF_SNF Fire COVID PLAN_Draft
- SNF Aviation Best Practices COVID-19 Pandemic V.1
- KNF Fire Response Plan 2020_Draft

Covid-19 Screening Questionnaire

1. Have you, someone living in your household, someone with you, someone you have been in close or frequent contact with, or someone you are caring for, been diagnosed with COVID-19(Coronavirus) or had any contact with a confirmed case of COVID-19?
Yes _____ No _____

2. In the last 14 days, have you, someone living in your household, or someone you have been in close or frequent contact with, or someone you are caring for returned from, or made a travel connection through a CDC Level 2 or Level 3 country or State Department Level 3 or Level 4 country, for example, China, Korea, Japan, the European Union, Iran?
Yes _____ No _____

3. Have you traveled to an area in the United States in the last 14 days that is currently experiencing community transmission of the Corona Virus as represented on this map: <https://www.cdc.gov/coronavirus/2019-ncov/index.html> Yes _____ No _____

4. Have you been advised by medical officials to self-isolate or be under quarantine? If so, when and for how long?
Yes _____ (How long? _____) No _____

5. Do you currently have, or have you had within the last 24 hours, any cold or flu symptoms, including a fever greater than 100.4, shortness of breath, body aches and coughing? Yes _____ No _____

6. **How are you traveling to the incident? Will you be flying, and traveling through airports, or driving from your duty station?**

Your risk of exposure to respiratory viruses like COVID-19 may increase in crowded settings, particularly closed-in settings with little air circulation, if there are people in the crowd who are sick. This may include settings such as conferences, public events (like concerts and sporting events), religious gatherings, public spaces (like movie theatres and shopping malls), and public transportation (like buses, metro, trains).

7. **Are you at higher risk of severe illness if you do get COVID-19?**

People at higher risk for severe disease are older adults and people of any age with serious chronic medical conditions (such as heart disease, lung disease, or diabetes). CDC recommends that [travelers at higher risk for COVID-19 complications](#) avoid all cruise travel and nonessential air travel.

8. Is COVID-19 spreading where you live?

Consider the risk of passing COVID-19 to others during travel, particularly if you will be in close contact with people who are [older adults or have severe chronic health condition](#). These people are at higher risk of getting very sick. If your symptoms are mild or you don't have a fever, you may not realize you are infectious.

9. Is COVID-19 spreading in the incident area?

Covid-19 may be spreading more or less in the general incident area than the area of your home unit/duty station. Be aware of standard precautions to avoid contracting or spreading the virus. There may be a need to self-isolate upon return from incident to protect your fellow employees and community.

Once you have responded to these questions, the incident will make a risk-based decision and discuss with you the need for you to either turn down the assignment, follow special instructions such as isolating at the incident and following special precautions, or continue to check-in and follow standard precautions.

Send this form electronically to:

Name, title, email, text/cell phone

How to Protect Yourself

Older adults and people who have severe underlying medical conditions like heart or lung disease or diabetes seem to be at higher risk for developing more serious complications from COVID-19 illness. More information available on [Are you at higher risk for serious illness?](#)

Know How it Spreads



- There is currently no vaccine to prevent coronavirus disease 2019 (COVID-19).
- **The best way to prevent illness is to avoid being exposed to this virus.**
- The virus is thought to spread mainly from person-to-person.
 - Between people who are in close contact with one another (within about 6 feet).
 - Through respiratory droplets produced when an infected person coughs or sneezes.
 - These droplets can land in the mouths or noses of people who are nearby or possibly be inhaled into the lungs.

Take steps to protect yourself

Clean your hands often



- **Wash your hands** often with soap and water for at least 20 seconds especially after you have been in a public place, or after blowing your nose, coughing, or sneezing.
- If soap and water are not readily available, **use a hand sanitizer that contains at least 60% alcohol**. Cover all surfaces of your hands and rub them together until they feel dry.
- **Avoid touching your eyes, nose, and mouth** with unwashed hands.

Avoid close contact



- **Avoid close contact** with people who are sick
- Put **distance between yourself and other people** if COVID-19 is spreading in your community. This is especially important for [people who are at higher risk of getting very sick](#).
- Remember that some people without symptoms may be able to spread virus

Take steps to protect others



Cover coughs and sneezes

- **Cover your mouth and nose** with a tissue when you cough or sneeze or use the inside of your elbow.
- **Throw used tissues** in the trash.
- Immediately **wash your hands** with soap and water for at least 20 seconds. If soap and water are not readily available, clean your hands with a hand sanitizer that contains at least 60% alcohol.



Cover your mouth and nose with a cloth face cover when around others

- **You could spread COVID-19 to others even if you do not feel sick. The cloth face cover is meant to protect other people in case you are infected.**
- Continue to keep about 6 feet between yourself and others. The cloth face cover is not a substitute for social distancing.
- Everyone should wear a cloth face cover when they have to go out in public, for example to the grocery store or to pick up other necessities, or when riding in vehicles with co-workers
- Cloth face coverings should not be placed on anyone who has trouble breathing, or is unconscious, incapacitated or otherwise unable to remove the mask without assistance



Stay home if you're sick

- **Stay home** if you are sick, except to get medical care. Learn [what to do if you are sick](#).



Clean and disinfect

- **Clean AND disinfect [frequently touched surfaces daily](#).** This includes tables, doorknobs, light switches, countertops, handles, desks, phones, keyboards, toilets, faucets, and sinks.
- **If surfaces are dirty, clean them:** Use detergent or soap and water prior to disinfection.

To disinfect:

Most common EPA-registered household disinfectants will work. Use disinfectants appropriate for the surface.

Options include:

- **Diluting your household bleach.**

To make a bleach solution, mix:

- 5 tablespoons (1/3rd cup) bleach per gallon of water
OR
- 4 teaspoons bleach per quart of water

Follow manufacturer's instructions for application and proper ventilation. Check to ensure the product is not past its expiration date. Never mix household bleach with ammonia or any other cleanser. Unexpired household bleach will be effective against coronaviruses when properly diluted.

- **Alcohol solutions.**

Ensure solution has at least 70% alcohol.

- **Other common EPA-registered household disinfectants.**

Products with [EPA-approved emerging viral pathogens pdf icon\[7 pages\]external icon](#) claims are expected to be effective against COVID-19 based on data for harder to kill viruses. Follow the manufacturer's instructions for all cleaning and disinfection products (e.g., concentration, application method and contact time, etc.).