



Minimum Impact Suppression Tactics Implementation Guidelines

Establishing and Setting Up Camp

- Whenever possible, avoid establishing spike or coyote camps in Wilderness.
- If Wilderness camps are unavoidable, use existing, or previously impacted campsites where available.
- If existing campsites are not available, use your local resource advisor to help identify the most resilient sites in rocky or sandy soils. Always select sites that are unlikely to be observed by Wilderness visitors. Avoid camping in wet meadows, along streams, or on lake shores.
- Consider impacts on both present and future visitors. An agency commitment to wilderness values will promote those values to the public.
- Layout camp components carefully from the start. Define cooking, sleeping, latrine, and water supplies.
- Limit travel ways within, to, and from camp.
- Minimize disturbance to land in preparing bedding and campfire sites. Do not clear vegetation, trench, or excavate a flat spot to create bedding sites.
- In small camp situations (1 crew), individuals should use the "cat-hole" method of disposing of human waste. Toilet seats should be located a minimum of 200 feet from water sources. Holes should be dug 6-8 inches deep.
- If a large number of firefighters are using a spike camp and the camp is being serviced by helicopter, fly in portable backcountry latrines, and fly out human waste as necessary. If the camp does not have air support, establish community latrines well away from water sources, rather than leaving it up to the individual.
- Place indoor-outdoor carpet, scrim, or other material on the ground to protect vegetation in the most heavily traveled areas of camp, i.e.: kitchen, campfire, and washing-up areas.
- Use stoves for cooking. If a campfire is built for warmth in the evening, build either a pit or mound fire. A fire shelter placed beneath the coals provides extra protection for the soil.
- If a large camp is employed, designate a common area for personnel to wash up. Provide fresh water, biodegradable soap, and a place for waste water.
- In small spike camps or coyote camps, carry water and bathe away from lakes and streams. Do not introduce soap, shampoo, or other personal grooming chemicals into waterways.

- Devise a plan for disposing of waste water from kitchen and washing areas.
- Store food properly so that it is not accessible to wildlife. Consider hanging food in trees at least 15 feet off the ground and 5 feet from the trunk of the tree, or store food in sealable containers. Store food away from the campsite (300 feet is ideal) to reduce the risk of human and bear conflicts.
- Do not let garbage and food scraps accumulate in camp. All garbage and food scraps need to be removed from the camp on a regular basis if the camp is being served by a helicopter, or properly stored if frequent removal is not possible.
- Resource advisors should work with cache personnel during the off-season to ensure that tents are cleaned of any noxious weed seeds prior to being sent to a wilderness fire.

Personal Camp Conduct

- Minimize disturbance to land in preparing bedding and campfire sites. Do not clear vegetation, trench, or excavate a flat spot to create bedding sites.
- Use established latrines where provided. If latrines are not available use the "cat-hole" method of disposing of human waste. Toilet sites should be located a minimum of 200 feet from water sources. Holes should be dug 6-8 inches deep.
- If a campfire is built for warmth in the evening, build either a pit or mound fire. A fire shelter placed beneath the coals provides extra protection for the soil
- Use dead and down firewood. Use small diameter wood that burns down more cleanly. Don't burn plastics or aluminum - pack it out with the rest of the camp garbage.
- If a designated personal washing area is not provided, carry water and bathe away from lakes and streams. Do not introduce soap, shampoo, or other personal grooming chemicals into waterways.
- Do not use nails in trees.
- Constantly evaluate the impacts that will occur, both short and long term.

Helispot Construction

- Whenever possible, locate helibases in weed free areas, to prevent the transport of noxious weeds into wilderness.
- When planning for helispots, determine the primary function of each helispot, i.e.: crew shuttle, logistical support, or both.
- If a helispot is only needed for logistical support to deliver and retrieve supplies or gear, consider using a long line remote hook in lieu of constructing a helispot.

- If a helispot is needed for crew shuttle, consider the minimum size helicopter that could do the job, if you have an option, and still meet suppression objectives.
- Use natural openings as much as possible. If some tree falling or cribbing is necessary, avoid high visitor use locations unless the modifications can be rehabilitated to be generally unnoticeable. Feather the opening so that it appears more natural looking.
- Perform an aerial reconnaissance of the fire area and select potential helispots. In determining helispot locations, involve, at a minimum, the Air Operations Manager, responsible land manager or Resource Advisor, and the Helitack Foreman. Consider drawing a sketch and discuss which trees need to be cut to ensure a safe operation for the size of the helicopter deemed necessary or available.
- If a high level of resource impact is anticipated from a proposed helispot, evaluate carefully whether it is absolutely necessary and if there isn't an alternative outside Wilderness.
- Whenever possible, the resource advisor should observe the construction of a helispot.

Fire Lining Phase

- Select procedures, tools, and equipment that least impact the environment.
- Give serious consideration to the use of water as a firelining tactic.
- If there is a risk that hose coming direct from a local unit's cache is contaminated with noxious weed seeds, order fresh hose from the regional cache.
- Resource Advisors, Operations Chief, and Logistics Chief should be cognizant of any equipment that is being moved from a non-wilderness fire to a wilderness fire and make attempts to clean equipment of noxious weed seeds prior to it being used in the wilderness.
- In light fuels consider:
 - Cold-trail line. Constantly recheck.
 - Allowing fire to burn to natural barriers.
 - Burn out and the use of a "gunny" sack or swatter.
 - If constructed fireline is necessary, use minimum width and depth to check fire spread.
- In medium and heavy fuels consider:
 - Use of natural barriers and cold-trailing.
 - Cooling with dirt and water and cold-trailing.
 - If constructed fireline is necessary, use minimum width and depth to check fire spread.
 - Minimize bucking to establish fireline. Preferably move or roll material out of the intended constructed fireline area. If moving or rolling is not possible, or the down log is already on fire, build line around the log and let it be consumed.
- In aerial fuels, brush, trees, and snags:
 - Minimize cutting of trees and snags.

- Live trees should not be cut unless it is determined they will cause fire spread across the fireline or seriously endanger workers. If tree cutting occurs, cut the stumps flush with the ground and camouflage the cut surface with soil or brush.
- Scrape around tree bases near fireline if hot and likely to cause fire spread.
- Identify hazard trees with either an observer, flagging, and/or glow-sticks.
- When using indirect attack:
 - Do not fall snags outside the constructed fireline, unless they are an obvious safety hazard to crews working in the vicinity.
 - On the intended burn-out side of the line, fall only those snags that would reach the fireline should they burn and fall over. Consider alternative means to falling, i.e.: fireline explosives or bucket drops.
 - Review consideration listed above for aerial fuels, brush, trees, and snags.

Mop-up Phase

- Use gravity socks in streams and/or a combination of water blivits and fold-a-tanks to minimize impacts to streams.
- Do not bring in any non-native materials to be used for sediment traps in streams. Use of non-native materials creates a risk that noxious weeds will be introduced to the area.
- Place absorbent cloth under pumps to avoid spilling fuel on the ground.
- Personnel should avoid using rehabilitated firelines as travel corridors whenever possible because of potential soil compaction and possible detrimental impacts to rehab work, i.e.: water bars.
- Consider using infrared detection devices along perimeter (aerial or hand-held).
- Align saw cuts to minimize visual impacts from more heavily traveled corridors. Slope cut away from line of sight when possible.
- In light fuels:
 - Cold-trail areas adjacent to unburned fuels.
 - Do minimal spading; restrict spading to hot areas near fireline only.
 - Use extensive cold-trailing to detect hot areas.
- Medium to heavy fuels:
 - Cold-trail charred logs near fireline; do minimal scraping or tool scarring.
 - Minimize bucking of logs to check for hot spots or extinguish fire; preferably roll the logs and extinguish the fire.
 - Return logs to original position after checking or when ground is cool.
 - Refrain from making bonepiles; burned and partially burned fuels that were moved should be arranged in natural position as much as possible after they are cold.
 - Consider allowing larger logs near the fireline to burn out, instead of bucking them into manageable lengths. Use a lever or pry bar to move large logs.

- Aerial fuels, brush, small trees, and limbs:
 - Remove or limb only those fuels which, if ignited, have the potential to spread fire outside the fire-line
- Burning trees and snags:
 - First consideration is to allow burning trees or snags to burn themselves out or down. Ensure adequate safety measures are communicated.
 - Identify hazard trees with either an observer, flagging, and/or glow-sticks.
 - If burning trees/snags pose serious threat of spreading fire brands, consider attempting to extinguish fire with water or dirt. Felling chainsaw should be last means, consider falling by blasting, if available.