



REHAB PLAN FOR BWCAW CAMPSITES AND PORTAGES 4TH OF JULY INCIDENT- STORM RECOVERY

Developed 7/15/99

Goal: *To make Wilderness facilities useable and safe by clearing windfalls and hazard trees from their immediate area, while at the same time preventing or mitigating the effects of erosion wherever feasible(or...to the extent posible). These facilities include: designated campsites, portages, firegrate areas, latrine trails,1-3 tent pads per campsite, and canoe/boat landings.*

Aesthetic impacts of wind damage is not a concern. We are concerned with evidence of our clean-up efforts. Although chainsaw use has been authorized, we should attempt to keep use to a minimum. If possible, campsites and portages should be prioritized according to damage sustained. Where they can be cleared safely and relatively easily and with hand tools, that should be done (see attached "Specific Operating Requirements").

The Wilderness Act, our principal guide in making management decisions, defines wilderness as an area that "generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable." Although our natural inclination may be to get out and clean this mess up, we need to keep in mind that this is a natural event. Wilderness is one of the few places where people can hope to witness the awesome power of great natural processes, unmanaged by people. Our objective is to make our work as invisible as possible, given the massive nature of this event. This document offers guidelines; no single set of techniques can cover all situations.

Time frame: This is obviously a very long term project; Rehab will continue for years. There is, however, some urgency due to the fact that people will be entering into the Boundary Waters in increasing numbers in the next few weeks. To minimize damage to water quality and undesignated sites, we need to make campsites useable as quickly as possible. Think of this as a two-phased project: opening sites, and, usually later, repairing the damage. As mentioned below, some rehab issues can be addressed during the first phase. Take notes to help in planning phase two.

Personnel: Every chain saw operator must be directed by a resource advisor, who will be designated by division supervisors. As with all wilderness portage and campsite work, success depends on the ability of crew people to size up situations that will vary tremendously from site to site, to apply their ingenuity, and respond appropriately. Wilderness rangers working within their own areas will be most efficient at assessing sites and planning work.

Assessing site: Some sites may be impossible to clear safely; these should be left alone. The essential campsite elements are a landing, a firegrate, at least one tent pad, latrine trail and latrine. If these things can be provided, the site should be reopened; lack of standing trees generally isn't reason enough to permanently close campsites. Take plenty of time to look carefully at each site, and to make plans that take these guidelines into account.

Extent of clearing:

- Cut the absolute minimum necessary to accomplish the goal.
- With some tree species (cedar, for example), the tree may be down, but if its roots are still at least partly buried, it may live on with a branch as the main stem; these it may be best to leave uncut.

Hazard trees: Fell only those storm-stressed trees that might fall across tent pads or are likely to fall across campsite facilities.

Camouflaging cuts: Make cuts as inconspicuous as possible. In the face of such devastation, attention to details may seem silly. But experience with techniques like these on wilderness fires has shown that they do make evidence of our work significantly less conspicuous. Where safe and reasonably practical, try the following.

- Do slant cuts on the end cut on tree trunks and the largest branches, to minimize the visual impact of many right angle cuts.
- Make as few cuts as possible: leave tree trunks whole, or as nearly so as possible, rather than bucking them up.
- Cross-hatch cut surface and/or rub dirt onto cut face. Leave or create brushy tangles over major cuts.
- Stumps should be as flush to the ground as possible, unless they could serve to protect young trees coming in right beside them. Cover stump faces with rubbed-in dirt and ground litter.

Limbing: Where it is necessary, cut flush against trunk. Cut limbs only if they interfere with campers' routes between landing, grate, pads, and latrine.

Disposing of woody debris: Two major objectives are to keep slash piles from adversely impacting vegetation along the edges of sites; and to prevent fire hazards by piling slash too near firegrates. How these are accomplished will depend on conditions at each campsite. Here are some considerations.

- A lot of big woody debris is a natural feature we should accept on campsites; it's an unavoidable outcome of a storm like this.
- Unless a windfall is covering a grate or latrine, or lying across a tent pad or necessary trail, leave it alone.
- In general, don't pile slash on top of vegetation around the edges of campsites.
- Where possible, slash should be scattered in small piles behind campsite.
- In some cases, it may be advisable to open up a route or routes off the latrine trail for slash disposal.
- In a few cases, it may be advisable to make one big slash pile. Do this as far back from the site as possible. Choose a location that will minimize impacts to vegetation under and leading to pile.
- In some cases, slash piles could be used to close off parts of the old campsite that aren't needed.
- Where the screen of vegetation between site and latrine has been destroyed, slash piles may serve as a screen.

Root balls:

- Where tipped-up tree roots have left a crater or exposed soil that could lead to erosion, or where they harbor vegetation that might still grow, cut trees to let them fall back down. If possible, get them to fall with their vegetation mat laid out in its original position.
- In some cases, rootballs may be all that's left to screen a site from the water; in that case consider leaving them alone.
- Left standing, root balls may also be useful as nursery sites for new vegetation or to define the useable area of a campsite.

Heritage resources concerns: Uprooted trees may have left cultural artifacts exposed. Devegetated slopes may lead to new erosion that will leave artifacts vulnerable. Heritage resources are a fragile non-renewable resource, each potentially containing new and unknown information about the past. Your assistance in protecting this resource is greatly appreciated.

- Crews should be made aware of which campsites in their project areas are recorded as heritage resource sites. This information is available in each District's Cultural Resource Atlas.
- On campsites containing heritage sites all rootballs should be returned to the hole they came out of, whenever possible.
- Any formal, recognizable artifacts exposed by the storm (points, scrapers, knives, etc.) should be collected and returned to the Heritage staff at the Supervisor's office with a map indicating which campsite the artifact was found on.
- To the greatest extent possible, avoid any additional earth disturbing activity on the site.
- Heritage crews will be following the cleanup crews to do damage assessments.

Trees that have fallen into the lake: Unless these are blocking access to site, leave them alone.

Chainsaws:

- Take extra care not to spill oil and gas.
- Clear from cutting area only brush that must be cleared for safety reasons; any vegetation left living on campsites is especially important now that so many trees are gone.

Achieving campsite rehabilitation goals: Five major areas of concern, when rehabbing campsites, are overall size of campsite; erosion; unnecessary trails; revegetation; and providing useable tent pads. Whenever possible, plan site clean-up in such a way as to address these problems.

- **Campsite size:** Again, keep cutting to minimum. Close off excessive campsite areas by dropping trees (that would otherwise need to be cut anyway) into them, or by dropping trees (that would otherwise be cut) along campsite edges, to encourage activity within defined site only. In some cases, slash piles could be used in the same way. Where there has been more than one landing, open up only one, or close extra landing with downed trees.
- **Erosion:** Where a shoreline at a campsite landing is eroding, it may be possible to direct a downed tree along it. Where the slope between the site and the water is eroding, it may be possible to direct downed trees across the slope, to slow water flow. Ripped out roots and the holes left by uprooted trees may cause new erosion; anticipate this and do whatever possible to mitigate the problem. Root balls may provide anchors for setting logs behind, and they may be sources of earth used for setting check logs in place.

- **Extra trails:** Open up trails only between landing, grate, tent pads, and latrine; look for chances to close extra trails by dropping trees (that would otherwise need to be dropped anyway) across/along them.
- **Revegetation:** Mounds beneath root balls and other bare places could be seeded with mixed grass seed, or revegetated with transplants from behind campsites or brought in by canoe from down the shore. Use a variety of trees and shrubs, and also forbes and wildflowers. Take notes on numbers and kinds of seedlings recommended for planting next spring.
- **Tent pads:** Where uprooted trees have ruined tent pads, repair at least one and no more than three. .

Latrines:

- As soon as possible, get an idea how many latrines need to be replaced - either because they can't be found or they're smashed, and make plans to get them into the wilderness.
- In general, there is a reason for the location of each latrine; if possible put in replacements near the old.
- Regardless of the difficulty in clearing/ making latrine trains, be strict about getting them 150' from the water.
- If a latrine is deeply buried but you can get to it, it may be best to cut down to it and move it to a more accessible location.

Portages:

- At landings, keep clearing to a minimum; this is an opportunity to shrink landings that were unnecessarily large.
- Clearing width should follow standards described in the BWCAW Management Plan and Implementation Schedule: 4' in 5.2a; 6' - 8' in 5.2b; sufficient for portage wheels and motorboats in 5.3.
- An uncut old growth tree, lying decaying by a portage, will have great aesthetic and biological value for many decades; in some cases it will be preferable to reroute around such trees rather than cut through them.
- Disguise cuts as described above.
- Where possible, scatter slash and logs back away from portage.
- A hazard tree needs a target: there is no need to cut standing trees on a portage.
- Remove ribbon used in clearing.