

Please note:

Modifying the management direction for the Boundary Waters Canoe Area Wilderness is not a part of the proposed action for Forest Plan revision. Therefore, management direction for the BWCAW was not changed in the 2004 Forest Plan revision process. However, during the revision process, errors were corrected and out-dated information was updated. The direction was also reformatted and is presented differently in the revised Forest Plan than in the amended 1986 Forest Plan.

MANAGEMENT DIRECTION FOR THE BWCAW

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Introduction

Wilderness

The existence of wildlands has been valued by humans for many years. A tangible sign of this value was the passage of the Wilderness Act in 1964. The Act established, for the American people, the National Wilderness Preservation System, which consists of over 90 million acres of public land. When Congress passed this legislation, they recognized the growing concern over the increasing amount of development and diminishing wildlands.

Wildernesses are recognized for their many natural and ecological values. They provide a land heritage that is uniquely American.

For present and future generations, wilderness:

- Provides protection of watersheds upon which many cities and rural communities depend for pure water
- Provides critical habitat for wildlife threatened by extinction
- Maintains gene pools to provide a diversity of plant and animal life
- Serves as an unique and irreplaceable “living laboratory” for medical and scientific research
- Provides protection for geological resources
- Serves as a haven of solitude and freedom from the pressures of our fast-paced, industrialized society
- Provides a unique repository for cultural resources

Management in Wilderness

Management of the wilderness resource involves more than simply setting aside land and leaving it alone. To retain its enduring value, the Forest Service manages wilderness and its various uses and activities to be compatible with wilderness character.

To achieve the objectives for management of the BWCAW, the Wilderness has been divided into four management areas. The desired future conditions of both the physical and social aspects of the resources differ slightly between management areas. This

establishes a framework for managers that allow them to provide a range of wilderness opportunities for the public while maintaining the overall goals of preserving the natural ecosystem and protecting the integrity of the Wilderness for future generations.

Management direction for the Wilderness management areas did not change from the amended 1986 Forest Plan. Errors have been corrected and out-dated information has been updated.

How the Management Direction is Presented

This section first presents the desired conditions of the management areas in the Wilderness. Standards and guidelines for managing the Wilderness MAs, including management direction that is unique to each management area follows.

Quotas for entry points and motorboat use follow the narrative description of the management direction for Wilderness management areas. Further management area direction and BWCAW quotas are summarized in the following tables at the end of the Wilderness management area sections:

- Table BWC-1. Limits of Acceptable Change Standards – Management area descriptions and desired future conditions. Also provides the LAC indicators and standards for each management area.
- Table BWC-2. Maintenance Standards – Summarizes the major standards for maintenance of trails, portages, and campsites.
- Table BWC-3. Water Access Entry Points and Quotas
- Table BWC-4. Overnight Motor Quotas
- Table BWC-5. Day Use Motor Quotas
- Table BWC-6. Action Plan for Structures Currently Located in the BWCAW

Prescribed Burning in the BWCAW

In July 1998, the Forest Supervisor amended the 1986 Forest Plan to authorize prescribed burning activities in the BWCAW (Amendment 5). The amendment allows management ignition of prescribed fire along

the Kawishiwi River (about 239 acres) and Snowbank Lake (about 35 acres).

In June 2000, the Forest Supervisor amended the 1986 Forest Plan to authorize prescribed burning in the BWCAW (Amendment 7). The amendment allows management ignition of prescribed fire in three locations covering about 167 acres in the Brule Lake North polygon 55.1, Brule Lake South polygon 57.1 and Caribou Rock polygon 185.4.

In May 2001, the Forest Supervisor amended the 1986 Forest Plan to authorize prescribed burning activities in the BWCAW (Amendment 9). Amendment 9 allows the following four activities in 79 treatment units that were analyzed in the BWCAW Fuel Treatment EIS and its amendments:

1. Management-ignited prescribed burning in the BWCAW
2. Prescribed burning in areas with Ecological Landtype 9 or 18
3. Temporary helispots to be constructed in the BWCAW
4. Prescribed burning activities from August 15 to February 14 within 1,320 feet from active bald eagle nests

When the Forest Plan was revised, the prescribed burning was not yet completed; therefore, amendments 5, 7, and 9 are carried forward to the revised Forest Plan.

Desired Conditions & Locations

This section describes the desired conditions and locations of the four management areas in the BWCAW.

Pristine Wilderness MA

Acreage in the Pristine Wilderness MA	
Total NFS land in this MA	113,700
NFS land suitable for timber management	0
NFS land not suitable for timber management	113,700

Landscape Ecosystems in the Pristine Wilderness MA	
Landscape Ecosystem	Percent of MA
Dry Mesic Jack Pine/Black Spruce	83%
Dry Mesic Pine	1%
Lowland Conifer	15%
Mesic Aspen/Birch/Spruce-fir	0%
Mesic Pine	0%
Rich Swamp	<1%
Sugar Maple	0%
Total	100%

This management area provides a non-motorized pristine wilderness experience where human presence is almost nonexistent. Trails, portages, and campsites are not constructed or maintained. Leave no trace camping and travel techniques are stressed. Visitors will experience a high degree of freedom, challenge, and risk.

Desired Resource Conditions

Natural forces such as fire, climate, insects, wildlife, and diseases affect composition of the terrestrial, riparian, and aquatic ecosystems. Ecological processes are not measurably affected by the actions of visitors. Impacts to the environment by humans are

minimal, restricted to small losses of vegetation in some areas where camping occurs, and along some portages. The areas that are used typically recover in a short time and impacts are not obvious to visitors.

Desired Social Conditions

This area provides an outstanding opportunity for isolation and solitude, relatively free from the evidence of contemporary human activities. Frequency of encounters with other visitors is rare. Opportunities exist for a very high degree of risk, challenge, and self-reliance.

Land Stewardship

There is a strong emphasis on sustaining the natural ecosystem. A very high degree of freedom, with few regulations for campsite occupancy and travel, is emphasized. Direct on-site management of visitors will rarely occur. Frequency of patrols by Forest Service personnel is very low.

There will be no contemporary structures or facilities, including signs.

To prevent impacts to the resource, ranger district personnel will work one-on-one with visitors to ensure they have a clear understanding of leave no trace camping techniques.

Campsites, portages, and trails will not be constructed or maintained. This will provide for a high degree of challenge and risk for visitors.

Primitive Wilderness MA

Acreage in the Primitive Wilderness MA	
Total NFS land in this MA	299,760
NFS land suitable for timber management	0
NFS land not suitable for timber management	299,760

Landscape Ecosystems in the Primitive Wilderness MA	
Landscape Ecosystem	Percent of MA
Dry Mesic Jack Pine/Black Spruce	79%
Dry Mesic Pine	6%
Lowland Conifer	14%
Mesic Aspen/Birch/Spruce-fir	<1%
Mesic Pine	<1%
Rich Swamp	<1%
Sugar Maple	0%
Total	100%

This management area provides visitors with a primitive non-motorized wilderness experience in an unmodified environment. These areas are generally off main travel routes and are for those who are seeking a high degree of solitude and challenge, but do not wish to or are not capable of traveling into a Pristine Wilderness Management Area.

Desired Resource Conditions

Natural forces such as fire, climate, insects, wildlife, and diseases affect composition of the terrestrial, riparian, and aquatic ecosystems. Ecological and natural processes on some sites are slightly affected by the actions of visitors. Environmental impacts are restricted to moderate loss of vegetation where camping occurs, and along some portages. Impacts in a few areas persist from year to year, and are apparent to a moderate number of visitors.

Desired Social Conditions

This area provides an excellent opportunity for isolation and solitude, relatively free from the sights and sounds of humans. The frequency of encountering others is low. Opportunities exist for a high degree of

challenge and self-reliance through the application of primitive outdoor skills.

Land Stewardship

Management actions strongly emphasize maintaining natural ecosystems.

The opportunity for freedom is high with minimal rules, regulations, and facilities.

Frequency of patrols by Forest Service personnel will be low.

Sites will be designated by latrines and firegrates.

Signing may be allowed as necessary for safety.

Portages and trails will be maintained to accommodate light to moderate use. There will be no canoe rests along portages.

Semi-primitive Non-motorized Wilderness MA

Acreage in the Semi-primitive Non-motorized Wilderness MA	
Total NFS land in this MA	345,233
NFS land suitable for timber management	0
NFS land not suitable for timber management	345,233

Landscape Ecosystems in the Semi-primitive Non-motorized Wilderness MA	
Landscape Ecosystem	Percent of MA
Dry Mesic Jack Pine/Black Spruce	61%
Dry Mesic Pine	5%
Lowland Conifer	13%
Mesic Aspen/Birch/Spruce-fir	13%
Mesic Pine	7%
Rich Swamp	0%
Sugar Maple	0%
Total	100%

Semi-primitive Non-motorized Wilderness MAs provide visitors with a semi-primitive wilderness experience in a predominantly unmodified natural environment. They are generally located along the main travel routes, where a visitor expects to encounter others more frequently, and solitude is not one of their highest priorities. A lesser degree of challenge, risk and freedom is provided here.

Desired Resource Conditions

Natural forces such as fire, climate, insects, wildlife, and diseases affect composition of the terrestrial, riparian, and aquatic ecosystems. Natural conditions in some locations may be moderately affected by the action of visitors. The effects of visitors are relatively noticeable along major travel routes and portages, and near major entry points. Impacts often persist from year to year. There may be moderate vegetation loss and soil disturbance at some sites. Impacts are apparent to most visitors.

Desired Social Conditions

Opportunities for experiencing isolation and solitude are moderate to low. The frequency of encountering others in the area is moderate. The challenge and risk associated with recreational opportunities is moderate to low.

Land Stewardship

Management activities strongly emphasize maintaining natural ecosystems.

There is a moderate degree of freedom. Patrols by Forest Service personnel are moderately frequent.

Campsites will be designated by a latrine and firegrate.

Signs may be allowed as necessary for safety.

Trails and portages will be constructed and maintained to accommodate moderate to heavy use. There will be no canoe rests along portages.

Semi-primitive Motorized Wilderness MA

Acreage in the Semi-primitive Motorized Wilderness MA	
Total NFS land in this MA	51,916
NFS land suitable for timber management	0
NFS land not suitable for timber management	51,916

Landscape Ecosystems in the Semi-primitive Motorized Wilderness MA	
Landscape Ecosystem	Percent of MA
Dry Mesic Jack Pine/Black Spruce	41%
Dry Mesic Pine	24%
Lowland Conifer	10%
Mesic Aspen/Birch/Spruce-fir	13%
Mesic Pine	11%
Rich Swamp	1%
Sugar Maple	0%
Total	100%

This management area provides visitors with a semi-primitive motorized experience in a slightly modified natural environment. Motor lakes were designated in the 1978 BWCA Wilderness legislation. Though not all travel in this area is by motorboat, visitors should expect to see a high number of boats with motors. These are generally lakes located on the periphery of the Wilderness, with little portaging involved. Visitors will experience considerably less solitude, freedom, and challenge than found in other management areas.

Desired Resource Conditions

Natural forces such as fire, climate, insects, wildlife, and diseases affect composition of the terrestrial, riparian, and aquatic ecosystems. Natural conditions in many locations may be substantially affected by the action of visitors. Impacts often persist from year to year. There may be moderate vegetation loss and soil disturbance at some sites. Impacts are readily apparent to most visitors.

Desired Social Conditions

Opportunities for experiencing solitude and isolation are low. Motorized watercrafts are permitted and will be noticeable along major travel routes and portages and near major entry points. The frequency of encountering others is moderate to high while traveling and moderate on campsites.

The challenge and risk associated with recreational opportunities is moderate to low.

Land Stewardship

Management activities strongly emphasize maintaining the natural ecosystems.

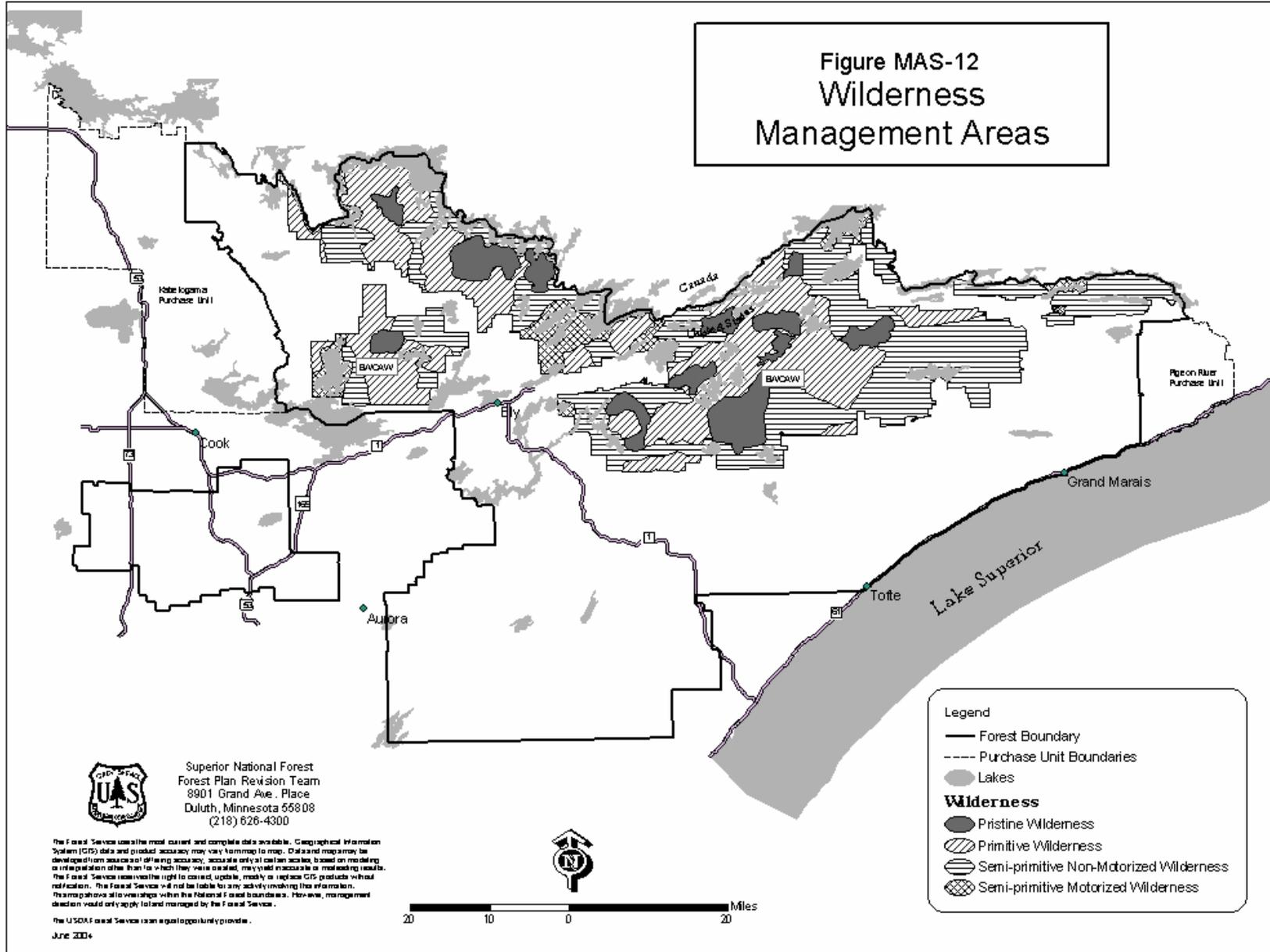
There is a low degree of freedom in the area. Formal rules and regulations will be apparent. These rules may relate to motorized use, quotas, and camping restrictions.

Patrols by Forest Service personnel occur frequently.

Campsites are designated by a firegrate and latrine.

Signing is limited to the minimum needed for safety and to notify visitors of transition from a motor to non-motor area when it is not apparent.

Trails and portages will be constructed and maintained to accommodate moderate to heavy use. There will be no canoe rests along portages.



Standards & Guidelines for the BWCAW

The following are standards and guidelines for managing the BWCAW. Unless otherwise noted, direction is for all the management areas.

Improvements and Non-conforming Facilities and Activities

All competitive events are prohibited.

Appropriate commercial activities will only be permitted under the terms of special use permits.

Buildings and other contemporary structures are generally inappropriate. A determination of the future use and historic significance of Forest Service administrative structures will be completed in fiscal year 1993. The disposition of these structures will be in accordance with the findings from the future use determination. The State of Minnesota will be encouraged to also do a determination of future use for their administrative structures (Table BWC-6).

Private structures exist in the Wilderness, either on private inholdings or on National Forest land. Their status is discussed in (Table BWC-6).

Aircraft must maintain an altitude of more than 4,000 feet above sea level over prohibited areas, P-204, P-205, and P-206

Semi-primitive Non-motorized and Semi-primitive Motorized MAs

The Forest Service will continue to cooperate with the International Joint Commission in monitoring water levels on Basswood Lake or finding suitable alternative water level measurement locations.

Semi-primitive Motorized MA

Construction of new dams is not permitted.

Maintenance of the dam sites at Fall Lake and Prairie Portage is permitted in order to protect wilderness values.

The Forest Service will cooperate with the Ontario Ministry of Natural Resources and private landowners in maintaining South Fowl Lake Dam to protect public safety and welfare. South Fowl Lake Dam is located on the International Boundary and on private land outside the BWCAW but controls water levels on lakes inside the wilderness.

Roads will not be constructed or maintained.

Resort owners and summer homeowners and their guests are allowed to possess cans and bottles through the Saganaga Lake Corridor while enroute to their property in Canada. Cans and bottles must be transported in coolers, packs, boxes, or other containers and not visible. This exception to the cans and bottles rule applies only to the Saganaga Corridor.

Campsites

Also see Table BWC-2 for campsite maintenance standards.

Pristine MA

Campsites will not be constructed. Maintenance will occur on user-built sites only when necessary to protect the biophysical resource.

User-built campsites will be monitored on a rotation basis, every five years, for compliance with the standards for limits of acceptable change indicators. A more detailed plan to monitor resource impacts will be completed by an interdisciplinary team before the 1995 field season.

If, through monitoring, impacts exceed limits of acceptable change standards, sites will be rehabilitated.

Currently there are three indicators that are considered critical to the health of the resource. They are erosion level, amount of exposed mineral soil, and number of trees with roots exposed. The standards are:

- Allowable amount of mineral soil exposed - 0

to 250 square feet

- Number of trees on site with exposed roots - none to 25%
- Erosion level - none to erosion level 2 (erosion either on the campsite, access trails, or at the shoreline resulting in the loss of soil which is not pronounced, gravel on site, or obvious loss of soil at the landing or along the shoreline.)

These standards apply only to those sites that were previously designated and are still used. No degradation will be allowed on new user-developed sites.

Primitive, Semi-primitive Non-motorized, and Semi-primitive Motorized MAs

Campsites will be monitored on a rotation basis, every five years, for compliance with the standards for limits of acceptable change indicators. If ongoing monitoring shows that limits of acceptable change standards are being exceeded, the appropriate management action will be implemented, i.e.: education, rehabilitation, closure, quota adjustments.

Summer Camping Sites

Campers, other than hikers, must camp at a site designated by a firegrate and latrine. Hikers are encouraged to camp on designated sites, if one is available. If not, they must select a site that is at least 150 feet from the hiking trail, 150 feet from other campsites and 150 feet from the water's edge.

Campers are encouraged to gather down, dead firewood well away from campsites, portages, and beaver dams and lodges.

New Campsite Construction

An interdisciplinary team will conduct an environmental analysis prior to new campsite construction to ensure that all resource concerns are met.

The Forest Service will locate campsites in a manner that minimizes visual and biophysical impacts, maximizes solitude, and does not exceed the level of social encounters expected for the area. Water quality use capacity will be considered in determining the numbers of sites on individual lakes.

New campsites should not be located within ¼-mile of existing bald eagle or peregrine falcon nests. Where there is a direct line of sight from a nest to a proposed campsite this buffer may be up to ½-mile. Protection of potential nesting habitat for bald eagle and peregrine falcon may also be warranted.

To ensure solitude, campsites should not be located less than ¼-mile from another campsite or a portage. If the geography of the land or location of the proposed site provides the necessary buffer, the ¼-mile standard need not apply.

Prior to new campsite construction, sites will be evaluated for their ability to support a latrine. A preferable latrine site is at least 150 feet from the shoreline, has at least a three-foot separation between the bottom of the pit and bedrock or a saturation zone, and a proper filtration area for bacterial breakdown between the latrine and water. Ecological Land Types (ELTs) 13 and 14 are preferred. Any variances will require interdisciplinary team review.

Preferred campsites are located on well-drained sites that are resistant to erosion. Bedrock access with a gentle slope gradient is preferred and erodible soil materials should be avoided.

Heritage resources and threatened, endangered, and sensitive (TES) plants and animals will be assessed prior to new campsite selection.

Lay out facilities in a manner that minimizes the overall use area and impacts on vegetation.

Resistance of existing vegetation to soil compaction and abuse must be considered. Preference should be given to tree species that are resistant to use impacts.

- Most resistant: red pine, white pine, white cedar
- Moderately resistant: trembling aspen, spruce, balsam fir, jack pine
- Least resistant: paper birch

To reduce compaction and potential erosion, organic material (leaves, small debris) will only be removed to fireproof the firegrate area.

Campsite Maintenance/ Rehabilitation

Campsites will be maintained according to the level of use they receive. Sites in Semi-primitive Motorized MAs will likely be visited more than once a year. Sites in the less heavily used areas may not be visited every year.

Maintenance may simply involve cleaning the firegrate and picking up litter. Whenever necessary the latrine will be moved and user-built structures dismantled.

When rehabilitation/closure plans are written, an interdisciplinary team will be used.

Rehabilitation or closure of a campsite will occur when it is determined that the site has exceeded the limits of acceptable change standards. The site will be restored to an acceptable condition.

Currently, there are three indicators that are considered critical to the health of the campsite. They are erosion level, amount of exposed mineral soil and number of trees with exposed roots. The standards are:

- Allowable amount of mineral soil exposed - 800 square feet.
- Number of trees on site with exposed roots - 50% of total trees.
- Erosion level 2 - campsites with erosion either on the campsite, access trail(s), or at the shoreline resulting in the loss of soils that is not pronounced, gravel on the site, or obvious loss of soil at the landing or along the shoreline.

Other indicators are monitored. See Table BWC-1 for a complete list of limits of acceptable change standards.

Heritage resources and TES species will be assessed prior to ground-disturbing activities.

Latrines will be closed by removing the structure and covering the waste in the pit with at least one foot of soil. Follow new construction standards for relocation.

To reduce compaction and potential erosion, raking or removal of organic matter, (leaves, small debris) is not allowed except to fireproof the firegrate area.

Planting/reintroduction of vegetation species should reflect what naturally occurs on a specific ecological land type phase.

Excessive erosion will be stabilized. Such techniques (water bars, rip rap, etc.) will use native materials and will be visually unobtrusive.

Indigenous seed sources will be used to revegetate sites in the ecosystem. Transplanting vegetation from adjacent sites as is acceptable.

Facilities may be rearranged to minimize the use area.

Compacted soil should be tilled to develop an acceptable seedbed for vegetation in areas determined unnecessary for use.

Excessive trails and tent sties will be closed and obliterated.

Campsite Closure

A campsite will be closed or rehabilitated when resource damage or social encounter levels exceed established standards. Refer to standards in Table BWC-1 and prior narration in New Campsites Construction.

If closure of a campsite would affect the occupancy rate and quota for the area (travel zone or entry point), it will be replaced within that travel area if possible. If it is not possible or desirable to replace the campsite, the quota will be adjusted.

An interdisciplinary team will be used when closure/rehabilitation plans are written.

Heritage resources and TES plants and animals will be assessed prior to any ground-disturbing activities.

When closing a campsite, the objective is to return the area to a natural-appearance.

Excessive erosion will be stabilized. Such techniques (water bars, rip rap, etc.) will use native materials and be visually unobtrusive.

Compacted soil should be tilled to develop an acceptable seedbed for vegetation in areas determined unnecessary for use.

Latrines will be closed by removing the structure and covering the waste in the pit with at least one foot of soil. Remove firegrates and naturalize the area.

Native materials will be used to obstruct the access points to the area being closed.

Winter Camping Sites

There will be no sites developed for winter camping. Sled dogs must be staked or tethered on the ice or away from the shoreline in a manner that will not cause damage to the vegetation. If camping on a designated summer site, fires should be built in the firegrate. Dog and human waste must be collected from campsites or tether sites and either packed out or scattered at least 150 feet from sites or shoreline.

To protect bald eagles during their most critical nesting period (March 1 to May 15), it is not permissible to camp off designated sites within ½ mile of trees containing bald eagle nests.

The use of straw, hay, or any other material that could introduce non-indigenous plants is not permissible for bedding sled dogs.

Campers are encouraged to gather down, dead wood away from campsites, portages, and beaver dams and lodges.

Transportation System - Portages, Ski Trails, Hiking Trails

Also see Table BWC-2 for maintenance standards for portages and trails.

Portages

Pristine MA

No portages will be constructed. Resource damage will be corrected to a natural-appearing condition.

Primitive, Semi-primitive Non-motorized, and Semi-primitive Motorized MAs

Portages will be constructed and maintained to the minimum standard necessary to protect the resource

and provide a safe crossing in hazardous situations. Work will be completed in a way that protects and perpetuates the ecological wilderness character, so that portages appear to be a part of the environment and not an intrusion.

Management decisions regarding portage maintenance and construction must be based on protection of wilderness values, not on economy, convenience, commercial value, or comfort.

Borrow sites must be small, inconspicuous, located well away from portage or campsite and rehabilitated after completion of use. Before digging a borrow pit, an assessment for heritage resources and threatened, endangered, and sensitive species must be completed.

Construction and maintenance will be completed with non-mechanized equipment. Any variation from this requires Regional Forester's approval.

Watercraft landings will blend with the surrounding shoreline to the extent possible.

There will be no canoe rests. Existing canoe rests will be removed by September 30, 1995.

Primitive MA

Portages will be maintained minimally and likely not every year. Rocks, beaver dams, or other natural features should be used for water crossings. Rustic, unobtrusive crossings may be constructed for resource protection if natural features are not available. Water bars may be used to prevent erosion.

Clearing width for portages will be only that which is necessary to allow passage, generally not more than four feet total or two feet from centerline. Additional width on turns or steep slopes may be necessary.

Tread width should be less than 1½ feet or the minimum necessary for walking. Loose gravel, rocks, roots, holes, deadfalls, and other obstacles remain as long as they do not cause a new path to be created.

Semi-primitive Non-Motorized MA

Portages will be maintained at a minimum level, likely once a year.

Minor grading or lift/fill of wet spots is permitted. Rocks, roots, and wet spots are allowed as long as there is no serious hazard or resource degradation.

Clearing width for portages will be between six and eight feet total.

Tread width should be less than 1½ feet. Remove deadfalls and large rocks. Water bars may be used to divert water. Rustic bridges or walkways may be used to prevent resource damage. Where possible, reroute the portage instead of building structures.

Semi-primitive Motorized MA

Maintenance frequency will be related to levels of use, but at least once a year.

Signs will be limited to the minimum needed for safety and to notify users of transitions from a motor to a non-motor area when it is not apparent. Water bars may be used to divert water. Rustic bridges may be installed to minimize resource damage or in hazardous situations. Where possible, consider rerouting the portage rather than the building structures.

Clearing and tread width for portages will be to the specifications necessary for the passage of motorized watercraft and portage wheels on the following portages: Fall-Newton-Pipestone, Prairie Portage, Back Bay Basswood, and Trout Lake. Loon Lake and Beatty Portages will continue to be maintained as motor portages per PL 95-495.

Summer Trails*Pristine MA*

No trails will be constructed or maintained.

Primitive, Semi-primitive Non-motorized, and Semi-primitive Motorized MAs

The following are designated hiking trails: Herriman, Devil's Cascade, Norway, Big Moose Lake, Snowbank/Old Pine, Kekekabic, Border Route, South Lake, Caribou/Split Rock, Eagle Mountain, North

Arm, Angleworm, Banadad, Farm Lake, and the west loop of the Pow Wow Trail. Abandoned trails may be returned to the system with District Ranger approval, based upon an environmental analysis that as a minimum considers demand and maintenance ability. Following analysis, the Brule Mountain Trail was added to the trail system in 1998 and the Sioux-Hustler Trail in 1993.

No new trails will be constructed.

Standards for hiking trails in the Wilderness will be the same regardless of management area, with the exception of the Pristine MA, where trails are not constructed or maintained.

Tread width of trails generally will be no greater than 1½ feet. The treadway may be clear of obstructions such as deadfalls and boulders.

Trails will be maintained in a manner as to appear part of the environment and not an intrusion.

The clearing width will generally be between four and six feet total.

Hiking trails may be maintained to Forest Service specifications under a partnership or memorandum of understanding with interested organizations.

Some campsites occur along the trail. The facilities at these campsites may include a firegrate and wilderness latrine.

Camping is not restricted to designated sites, but is also permitted anywhere along the trail, as long as the campsite is 150 feet from the trail, lake, streams, portages, or other campsites. To avoid disturbing nesting bald eagles and peregrine falcons, camp at least ¼ mile from nests.

No shelters will be provided along hiking trails.

Frequency of maintenance will be directly related to use by the public; high use trails will be maintained more frequently than low use trails.

Maintenance of trails may be contracted where appropriate and feasible.

Heritage resources and TES plants and animals will be assessed prior to ground-disturbing activities.

Use of pack or riding stock on hiking trails is not permitted. Horseback riding is an appropriate use in wilderness and can occur off designated trails and portages.

Ski Trails

Pristine MA

No ski trails will be constructed or maintained.

Primitive, Semi-primitive Non-motorized, and Semi-primitive Motorized MAs

The following trails are designated as winter trails: Banadad, East Bearskin/Flour Lake, North Arm, and Farm Lake. No new trails will be constructed.

Ski trails may be maintained to Forest Service specification under a partnership or memorandum of understanding with interested organization.

Ski trails will be maintained in a manner as to appear a part of the environment and not an intrusion.

All ski trails will be maintained to the same standards and guidelines regardless of management area.

Effective September 30, 1994, brushing of all trails will be done with non-motorized equipment.

Mechanized grooming is not permitted with the following exception: portions of the Banadad and Bearskin/Flour Lake Trail. If these trails are not mechanically groomed for two consecutive seasons, they will revert to being maintained by non-mechanized means (see glossary for definition of grooming).

There will be no permanent facilities constructed along ski trails.

Maintenance of trails may be contracted where appropriate and feasible.

Sled Dogs

Sled dog teams can use existing corridor passages (portages, trails, old roadbeds) as long as they do not change the character of that corridor.

Snowmobile Trails

Semi-primitive Motorized MA

Snowmobiles are permitted on the overland portages from Crane Lake to Little Vermillion Lake in Canada, and from Seagull River along the eastern portion of Saganaga Lake to Canada. Snowmobiles are not permitted anywhere else in the BWCAW.

Mechanized Portages

Semi-primitive Motorized MA

Beatty and Loon Lake Portages will continue to be motorized as per BWCAW legislation (see Table BWC-6).

If no party seeks to operate the Beatty Portage under special use permit that portage will be closed to motorized use. The Forest Service will neither operate nor subsidize the operation of Beatty or Loon Lake Portages.

Either motorized or non-motorized portage operations may be authorized at Prairie and Trout Portages. An operator could be authorized to perform a specific service, as outlined in a permit or contract. If no one is interested in providing the portage operation, no service would be provided. The Forest Service will neither operate nor directly subsidize the operation.

Outfitter and Guide Operations and Special Uses

By October 1, 1995, all outfitter and guide operations that meet the requirements in FS Manual 2700, will be required to have a special use permit. These include day and overnight operations.

The following types of commercial uses are approved in the BWCAW: guided canoe trips, fishing and hunting guides, guided photography, dog sledding, cross-country skiing, and snow shoeing. Applications will be reviewed on a case-by-case basis. New uses are subject to an assessment.

Pristine MA

Special uses are generally unacceptable.

Tent Camps

Temporary tent camps may be permitted under special use permit in all management areas except the Pristine MA.

A tent camp is a temporary camp that is delivered and set up by a special use permittee when the client enters the Wilderness, then taken down and removed from the Wilderness at the conclusion of the client's trip. Dropping off supplies or provisions throughout the trip is not permitted.

Permanent campsites or caches are not permitted. All equipment associated with the tent camp must be brought in and taken out with the client.

Towboats*Semi-primitive Motorized MA*

A towboat operation is a commercial enterprise that takes people and equipment from a starting point to a drop-off point.

Beginning in 1995, all towboat operations must be authorized by a special use permit.

Towboat use will be limited to the 1992 levels for numbers of boats, trips, current operators, and specific lakes. Growth will not be permitted beyond these limits. If an operator terminates his/her special use permit, an assessment will be completed to determine if a permit should be issued to another individual or business.

Visitor Management

There may be no more than nine people in a party with a maximum of four watercraft.

Visitor use in any travel zone must not produce changes beyond the social limits of acceptable change. These limits of acceptable change standards are displayed in the Table BWC-1 of this document. If ongoing monitoring shows that the standards for the

limits of acceptable change are being exceeded, the appropriate management action will be implemented, i.e.: education, length of stay limitations for particular lakes, and quota adjustments.

A user fee, when legislatively authorized, may be charged.

Length of stay may not be more than 14 days on any one campsite.

Storage of boats or equipment is not allowed, except for those items used in conjunction with a current visit.

Watercraft or sailboards designed for propulsion by wind are not permissible. Watercraft with types of rowing devices that were in regular use in the BWCAW, prior to the 1979 BWCAW Act, are permitted.

Pets must be under voice or leash control at all times.

Pristine, Primitive, and Semi-primitive Non-motorized MAs

The use of portage wheels is not permitted except on the International Boundary.

Semi-primitive Motorized MA

Use of excursion boats or watercraft designed or used for floating living quarters is prohibited.

Boats may be transported on wheels only on portages on the International Boundary and on Fall/Newton/Pipestone, Fourmile Portage, Prairie Portage, Back Bay Basswood, Trout Lake, and Loon Falls-Beatty Portage.

Entry Points

The management of entry points will provide: visitor education; adequate parking and launch facilities commensurate with types of uses and use levels; and information regarding regulations and current resource conditions.

Quota System

The purpose of quotas is to distribute visitors and use in a manner that protects the natural resources and wilderness values, and limits the social encounters to

that which is appropriate for each management area (see Tables BWC-3, BWC-4, and BWC-5).

The Forest Service reserves the right to make immediate quota changes if necessary to meet changed conditions.

Quotas for Overnight use

All quotas will be allocated on a daily basis.

Permits are issued by group.

All quotas will be reserved on a first-come, first-serve basis.

All members of a party must camp on the same site except in the Pristine MA.

There will be no overbooking.

A copy of the permit or other form of identification will be issued for each watercraft in a party. This allows members of a party to enter at different times on the same day. A party entering on a different day to meet with another party must have a separate permit. It is permissible for a member of the group to exit early without a separate permit.

Quotas for Non-motorized Day Use

There is currently no quota on non-motorized day use. The use will be monitored, and if it becomes necessary, a quota may be implemented.

Quotas for Motorized Use: Day and Overnight

Semi-primitive Motorized MA

There will be a weekly quota established. The weekly quota will be determined by seasons that have distinguishable periods of similar use, thereby leveling the use over the entire summer season.

Permits are issued by group.

All quotas will be reserved on a first-come, first-serve basis.

All members of a party must camp on the same site.

No-shows will not be put back into the system.

Overbooking will be based on annual monitoring.

A copy of the permit or other form of identification will be issued for each watercraft in a party. This allows members of a party to enter at different times on the same day. A party entering on a different day to meet with another party must have a separate permit. It is permissible for a member of the group to exit early without a separate permit.

An overnight motor permit is required for a group when any portion of the trip involves the use of a motor, and the motor remains in the Wilderness.

Permit System

Permits will be issued either by the Forest Service or one of its cooperators.

The purpose of issuing permits is to limit use, monitor visitor travel patterns, and provide a means for visitor education.

Effective on October 1, 1995, a permit will be required year round for anyone entering the wilderness for a day or overnight visit.

A permit may be picked up 24 hours prior to or on the same day as the start of the trip.

Personal identification is required to pick up the permit.

Semi-primitive Motorized MA

Through PL 95-495, lake home owners and their guests, and resort owners and their guests have day use access to the lake on which they reside; and their entry will not be counted in determining quotas for that lake (see glossary for a definition of guest). Any commercial use, e.g. towboats, must be authorized by a special use permit.

Reservation System

There will be a toll-free line in operation between May 1 and September 30, for the purpose of issuing permits by cooperators and Forest Service offices.

Under Forest Service administration written reservations for all overnight permits and motorized

day use for entry from May 1 through September 30 will be taken by FAX, mail, or walk-in, from January 15 through September 30. Phone reservations will be accepted from February 1 until September 30.

Reservations will be processed daily from January 15 through March 31, by random selection.

All reservations must be in the name of the party leader (client) and not more than two alternate leaders. Reservations may not be made in the name of a guide.

The cost of the reservation will be determined yearly, prior to each season.

When it becomes feasible and advantageous to both the Forest Service and the public, the reservation system may be contracted.

Permits cancelled more than 24 hours prior to the trip will become available for reissue.

Wilderness Education Programs

The goal of the education program is, in a balanced and equitable way, to affect public awareness of the purpose, values and appropriate uses of wilderness, the functioning of natural ecosystems, and to promote the preservation of wilderness resources.

Wilderness education will be emphasized to reduce law enforcement needs and promote leave no trace camping.

Emphasis will be placed on educating visitors, particularly through pre-trip information.

The Forest Service natural resource managers, cooperators, and educators will work together to ensure a quality program, which reaches schools and other organizations, focusing on wilderness and land stewardship.

To heighten awareness on the importance of maintaining the naturalness of wilderness, information will be provided on prevention of introduction of exotics (such as zebra mussels) and diseases, which may have serious effects on the Wilderness ecosystem.

Where possible, feasible, and advantageous to both the public and the Forest Service, a consortium consisting of representatives of concerned and interested

organizations will work with the Forest Service to identify, create, and implement education needs.

Law Enforcement

The goal of law enforcement in the Wilderness is the prevention of violation of laws and regulations to insure protection of wilderness values and visitors.

The Forest Service will cooperate with all law enforcement agencies that have jurisdiction in the Wilderness, including the MNDNR division of enforcement, and Cook, Lake and St. Louis county sheriffs. MNDNR has lead responsibility for enforcement of fish and game laws. Further direction is provided in the memorandum of understanding with the MNDNR.

Law enforcement contacts will emphasize education, safety, and compliance with laws and regulations.

The amount and frequency of visitor contact by patrols will vary with use levels, and consequently, by management areas:

- Pristine MA – very low
- Primitive MA - low
- Semi-primitive Non-motorized MA - moderately frequent
- Semi-primitive Motorized MA - frequent

Emergency Search and Rescue

The county sheriffs in Cook, Lake, and St. Louis Counties have lead responsibility for search and rescues. The Forest Service may provide assistance.

In all life threatening situations, the most appropriate motorized vehicles/equipment may be used. District Ranger or forest officers may authorize motorized use in situations where immediate services of a doctor or hospital are required to save a life, or prevent permanent damage or injury.

Low-level aircraft flights (below 4,000 ft.) that do not involve life-threatening situations must be approved by the Forest Supervisor.

Visitor Safety and Health

Safety is the responsibility of the visitor. When traveling and staying in wilderness, the visitor accepts the risks associated with wilderness travel.

To the extent possible, the Forest Service will attempt to inform visitors of potential health or safety risks, such as giardia, bears, mercury contamination and fires.

Environmental Protection

All management activities will meet a visual quality objective of preservation, which allows only natural ecological changes, except for those impacts caused by recreation use and management.

Drinking water sources will not be developed.

Solid waste disposal sties are not permitted. The carry-in/carry-out method of disposal is required.

Cans and bottles are not allowed. Containers of fuel, insect repellent, medicines, personal toilet articles, and other items that are not foods or beverages are the only cans and bottles permitted.

Disposable plastic containers are permitted but must be packed out.

Campfires are permitted. Use of camp stoves is strongly encouraged.

The use of portable bear-proof canisters is encouraged. Bear poles or boxes will not be provided or maintained.

Pristine MA

Campfires are permitted. Use of camp stoves is strongly encouraged. Firegrates are not provided. Use no trace camping techniques when building a fire ring and disperse all evidence when you break camp.

Latrines are not provided. To dispose of human waste, dig a hole 5 to 6 inches deep at least 150 feet from water sources. Cover with soil and naturalize the area when complete.

Special Interest Areas

The following areas have been identified as potential botanical special interest areas designated to protect sensitive plants the forest may designate or recommend designation of these areas or any others as special area areas under the authority in 36 CFR 294.1. No new development, including campsites, trails and portages will be allowed in these areas. Existing developments may remain.

Name	Location	Purpose
Royal River	W½NE, S3, T64N, R3E	Protection of Forest candidate sensitive or Regional sensitive plants.
Mountain/Moose Lake	SW¼, S13, T65N, R2E	Same as above
Portage, Clear Water Lake	SE¼, S14, T65N, R2E	Same as above
Back Bay-Basswood Lake	NW¼, S7, T64N, R10W	Same as above

Wild and Scenic Rivers

There are currently two rivers located partially within the BWCAW that are candidates for nomination as wild and scenic rivers. They are the Temperance River on the Tofte Ranger District and the Brule River on the Gunflint Ranger District.

Research Natural Areas

The Lac LaCroix Research Natural Area is located in the BWCAW. This area provides for non-manipulative research, observation, and study of undisturbed ecosystems. Management practices will not change the natural surroundings or interfere with natural processes.

Range Management

Range management is not permitted in the BWCAW.

Wildlife Management

The Memorandum of Understanding (MOU) between the Forest Service and the MNDNR will guide wildlife management activities in the Wilderness. The MOU will be reviewed and updated every five years.

Wildlife habitat composition will be the result of natural ecological processes such as fire, wind, insects, disease, and plant community succession. Wildlife populations will fluctuate in response to changing habitat conditions. Manipulation of wildlife habitat is permitted only in rare instances if necessary to alleviate adverse impacts on wildlife caused by humans.

Objectives for the management of wildlife habitat are normally compatible with the objectives for maintaining wilderness values. Where incompatible, the requirements for maintenance of wilderness values take precedence.

Wildlife habitat and populations surveys, monitoring, and ecological studies are recognized as appropriate activities in the Wilderness. They must be conducted in a manner compatible with preservation of wilderness values.

Aerial surveys for bald eagles, gray wolves, moose, and beaver populations will be allowed to continue in accordance with current agreements between the Forest Service and the MNDNR and U.S. Fish and Wildlife Service.

A biological assessment and biological evaluation will be conducted to determine whether any proposed activities or projects will affect a proposed, threatened, endangered, or sensitive species.

The conservation and recovery of threatened and endangered species and their habitat, with methods compatible with wilderness values, is a high priority in wilderness management. The recovery plans for the threatened bald eagle and gray wolf will guide management activities that may affect them. Lynx management will be guided by relevant direction found in Chapter 2 Forest-wide Management Section for Threatened and Endangered Species: Lynx. Forest Plan standards will be implemented where applicable for conservation and management of sensitive species and species of concern.

The Forest Service will coordinate and cooperate with the MNDNR, U.S. Fish and Wildlife Service, and others to support and assist in reintroducing extirpated species such as woodland caribou and wolverine where environmental assessments indicate that reintroduction is advisable. All reintroduction or supplemental transplants of terrestrial wildlife species by the state will occur under mutual written agreement. Forest service assistance will be subject to availability of funding and other contingencies.

Hunting and trapping of wildlife are permitted in the Wilderness under applicable state and federal laws and regulations.

Control of problem animals may be permissible based on a case-by-case evaluation, and if the action is within the limits of state and federal law.

Fisheries Management

The Memorandum of Understanding between the Forest Service and the MNDNR will guide the fisheries management activities in the Wilderness. The MOU will be reviewed and updated every five years.

Fisheries management of easily accessible waters should be given preference over remote locations.

The Forest Service and the MNDNR will review project proposals annually.

All projects will be coordinated through an interdisciplinary and interagency team.

Stocking Programs

Fish stocking may be conducted by the MNDNR in coordination with the Forest Service to reestablish or maintain an indigenous species adversely affected by human influence or to perpetuate or recover a threatened or endangered species.

Exotic species will not be stocked.

Species traditionally stocked before the 1964 Wilderness legislation may be considered indigenous if the species is likely to survive.

Aerial stocking of fish is permitted for those waters where this was an established practice before wilderness designation or where other practical means are not available. A specific need must be demonstrated to use aircraft for stocking on other lakes. This must be approved by the Forest Supervisor.

Barren lakes and streams may be considered for stocking, if there is mutual agreement that no appreciable loss of scientific values or adverse affects on wilderness values will occur.

Pristine and Primitive MAs

The Forest Service and the MNDNR will evaluate an indigenous-only fish stocking policy in the Pristine and Primitive wilderness MAs.

Inventory of Waters

Lake and stream surveys that include the scientific sampling of fish populations and their habitats are recognized as an appropriate procedure in the protection of natural populations in the Wilderness and in determining concentrations of contaminants in fish. Procedures must be conducted in a manner compatible with the preservation of wilderness values.

Fishing Activities

Fish locators and depth finders are permitted.

Fish remains will be disposed of by burying them at least 150 from the lakeshore or cutting them into small pieces and placing them on a rock away from camp for wildlife consumption. If the remains are not consumed by wildlife at the time camp is broken, they must be buried.

The Forest Service and MNDNR will evaluate the effects of an exemption from statutes prohibiting the placement of fish remains in lake waters.

Manipulation of Fish Habitat

In rare instances, facility development and habitat alteration may be necessary to alleviate adverse impacts caused by humans. (See current MOU with MNDNR for guidelines.)

Chemical Treatment

Chemical treatment may, in rare instances, be necessary to prepare waters for the reestablishment of indigenous fish. Regional Forester approval is necessary.

Pristine and Primitive MAs

The Forest Service and MNDNR will evaluate the elimination of chemical treatment in the Pristine and Primitive Wilderness MAs.

Spawn Collection

The collection of fish spawn by MNDNR is permitted when alternative sources outside the Wilderness do not exist or are unreliable or where management utilizes a unique genetic strain or species.

Research

Research is recognized as an appropriate activity in the Wilderness. Any approved research project must be conducted in a manner compatible with the preservation of wilderness values.

Research proposals will be reviewed on a case-by-case basis by an interdisciplinary team.

Decisions may be based on, but not limited to, the following factors: 1) is the research necessary to meet wilderness objectives; 2) is this research wilderness-dependent; 3) what is the proposed mode of travel; what alternatives are there to proposed motorized or mechanized equipment; and 4) what are the effects on wilderness values and the magnitude of the effects.

Management of Soil and Water Resources

Human caused soil erosion must be kept to a minimum. The allowable soil loss determined for each ecological land type phase will be used as a standard to identify unacceptable soil loss.

The Forest Service will continue to coordinate with the MNDNR in planning and implementation of activities that impact protected waters in the BWCAW.

Water quality will be monitored to detect trends such as eutrophication, acidification, and mercury concentrations. Specific monitoring action items are presented in Chapter 4 of the Forest Plan. Procedures must be conducted in a manner compatible with the preservation of wilderness values. Administrative use of mechanized equipment for monitoring will follow current policy.

Sediment contribution to water, erosion, soil displacement, and loss of soil productivity will be monitored for changes that may be approaching unacceptable limits. Such monitoring will be based on the concept of limits of acceptable change, using the criteria specified in Table BWC-1 for campsites, portages, and hiking trails.

Watershed rehabilitation projects may be undertaken, but will be limited to correcting human-caused resource damage or resource damage from natural disasters, which threaten downstream health and safety.

Watershed rehabilitation projects will be unobtrusive in visual appearance and employ only native materials (rocks, logs, and indigenous plants).

Heritage resources and threatened, endangered, and sensitive plants and animals will be assessed prior to any rehabilitation projects.

Fuelwood

The cutting and gathering of down, dead wood is permitted. Campers are encouraged to use camp stoves.

Vegetation Management

Vegetation will be managed only to protect wilderness values or to protect adjacent property from fire or pests. Vegetative management objectives are:

- Preservation of the natural ecosystem, including the protection of rare, endangered and threatened plant and animal habitats.
- Restoration of natural vegetation to areas where it has been destroyed or removed.
- Reintroduction of extirpated plant species.

- Preservation of the natural ecosystem through prescribed fire.
- Work toward the removal of non-indigenous species.

In rehabilitation work, methods that allow the sites to revegetate naturally are preferred. If planting is necessary, species used will be indigenous to the BWCAW.

Use unobtrusive techniques to restore indigenous vegetation to locations where concentrated use has destroyed them.

Seeding and planting techniques should produce species mixtures and arrangements similar to adjacent natural vegetation.

Harvesting of timber and other timber management activities are not allowed.

Some exotic species, such as fruit trees, ornamental shrubs and flowers, may be considered part of a historic site. These exotics will be retained until eligibility of the historic property for the national register of historic places is determined and appropriate treatment strategy for the site has been developed. However, some exotic species may be eradicated to prevent their uncontrolled spread.

Pristine MA

Vegetation may only be cut for fire suppression.

Primitive, Semi-primitive Non-motorized, and Semi-primitive Motorized MAs

Vegetation may be cut for construction and maintenance of campsites, trails, portages, and for fire suppression (see also Table BWC-2).

Management of Air Resources

The need to establish additional air quality-related values (AQRVs) will be periodically evaluated.

Monitoring will be conducted or supported as needed to identify baseline conditions and detect long-term trends in status of identified AQRVs and air pollutants of concern. Specific monitoring action items are presented in Chapter 4 of the Forest Plan.

Research or administrative studies designed to advance knowledge on how to best protect AQRVs will be supported.

When inventory, monitoring, or research related to air resources requires in-field work, locations outside the Wilderness will be preferred. Any approved activities must be conducted in a manner compatible with the preservation of wilderness values.

The Federal Clean Air Act specifies a role for the Forest Service in assuring that projected emissions from major new or modified existing pollution sources will not harm AQRVs of the BWCAW. This role will be fulfilled by providing input to the Minnesota Pollution Control Agency (MPCA) prevention of significant deterioration (PSD) permit process, based on anticipated effects of air pollutants (including atmospheric deposition) on AQRVs.

Guidelines for determining limits of acceptable change in the water and terrestrial (vegetation and wildlife) AQRVs have been developed through scientific consensus for three air pollutants (nitrogen, sulphur, and ozone) and will be applied through use of the document entitled *Screening Procedure to Evaluate Effects of Air Pollution on Eastern Region Wildernesses cited as Class 1 air quality areas* (Northeastern Forest Experiment Station General Report NE-151)

Permit denial or mitigation of effects will be recommended to the MPCA (the permit authority) when pollutant levels or impacts on AQRVs are projected to be in the “red zone” as defined by the screening document. Collection or further analysis of additional information will be recommended to MPCA when projections fall between the green (no significant impact) and red (significant impact) zones.

Efforts to expand the screening procedure to pollutants or AQRVs not currently will be supported.

In situations where AQRVs are threatened by emissions beyond the purview of the PSD process, the forest will take all available steps to prevent such

emissions or lessen their impact, including, when appropriate, proposing or supporting regulatory legislation.

Management of Minerals and Mineral Materials

The BWCAW Act of 1978 (PL 95-495) and the Forest Plan standards and guidelines set direction for management of mineral resources within the Wilderness and the adjacent Mining Protection Area.

- Federal minerals: basically no permit, lease, or other authorization will be issued for the exploration or mining of minerals owned by the United States within the Wilderness. Peat and marl deposits are managed similarly. Sand and gravel deposits are to be used for administrative purposes only.
- Non-federal minerals: exploration and development of non-federal minerals is allowed, but occupancy and use of federal property is limited to activities, which do not preclude protection of wilderness values and navigable waters.

The following conditions must be met before authorization will be given for use of national forest land in conjunction with mining of non-federal minerals.

- An approved plan must be completed that details how mining will be done and how the area will be restored afterward.
- A performance bond adequate to cover the proposed reclamation work must be in effect.
- It must be determined that the proposed actions will not render the area incapable of reverting to its original condition or to a substantially equivalent condition.
- The applicant must comply with all state of Minnesota natural resource requirements.

Gravel pits are not permitted. Sand and gravel may be used for administrative purposes only. Borrow sites must be small, inconspicuous, located well away from portage or campsite and rehabilitated after completion of use. Before digging a borrow pit, an assessment for heritage resources and threatened, endangered and sensitive species must be completed.

Mineral Acquisition

Acquisition of additional private mineral rights (without regard to surface ownership) will be sought through donation or purchase as funding allows.

Management of Heritage Program Resources

The Forest will undertake a systematic program of heritage resource inventory, evaluation, and preservation aimed at the enhancement and protection of significant heritage resource values.

Inventory

The Forest will inventory heritage resources on all BWCAW lands, giving priority to areas with high potential for disturbance and areas with high potential for significant historic and prehistoric sites. Include inventory of lands for which no specific earth-disturbing activity is planned, consistent with 36 CFR 800.

Conduct heritage resource inventories on areas proposed for earth disturbing activity, or other activity, which could have an undesirable effect on heritage resources. The Forest Service will expedite future inventory needs by including areas adjacent to the scheduled undertaking, when appropriate. Inventory projects should be scheduled well in advance of the planned undertaking in order to provide adequate data for use in decision making during the NEPA process.

Consult with Native Americans or other ethnic groups in a manner consistent with the advisory council on historic preservation *Guidelines for Consideration of Traditional Cultural Values in Historic Preservation Review*.

Evaluation

Identified heritage resources will be evaluated in relation to published advisory council on historic preservation criteria for eligibility to the national register of historic places (see National Historic Preservation Act of 1966, amendments, and regulations.)

Schedule and conduct evaluations if a project will

have any effect on a heritage resource potentially eligible for the national register of historic places. Schedule and conduct evaluations if the responsible official and state historic preservation officer disagrees on whether a cultural resource is potentially eligible for the National Register of Historic Places (NRHP). Prioritize and schedule the annual evaluation of known heritage resources to reduce the backlog of potentially eligible heritage resources.

Schedule evaluations in a timely manner before the project proceeds when a project cannot be delayed or relocated, if properties are deteriorating and have not been evaluated, or if visitor use may adversely affect a NRHP eligible property (re: 36 CFR 800).

All historic structures within the BWCAW will be evaluated to determine NRHP eligibility and appropriate treatment strategies will be developed and implemented for those structures, which are determined eligible. A future use determination will be completed for Forest Service administrative sties.

When appropriate, conduct evaluations on a thematic basis to improve cultural resource management efficiency.

Protection

A determination of effect must be carried out in the event that a heritage resource determined eligible for or included on the National Register of Historic Places will be affected (either beneficially or adversely) by a proposed undertaking.

Design projects to avoid or mitigate adverse effects on potentially significant heritage resources. In-place protection of inventoried potentially eligible properties is the minimum requirement until site significance is determined.

Assess the nature and degree of damage to heritage resources due to vandalism, visitor use, and natural deterioration. Identify and implement protective measures.

Prevent or mitigate deterioration that affects the significant qualities of heritage resources that are eligible for the national register of historic places. Deteriorating properties, which have not been evaluated, will be given priority for evaluation.

Develop protection and mitigation measures on a case-by-case basis.

During fire suppression, earth-disturbing activities (such as fire line construction) will not occur on known heritage resource sites or within a specified distance of the established boundary of a known heritage resource site; alternate methods such as water must be used.

Monitor the implementation and effectiveness of protective and mitigative measures prescribed for heritage resources.

Allow excavation or removal of artifacts from heritage resource sites by non-forest personnel only under authority of a heritage resource permit issued by the Forest Supervisor or under Forest Service contract. Issue heritage resource permits following guidelines and procedures outlined in federal regulations.

Possession and use of metal detectors is prohibited unless specifically authorized under special use permit. They may be used for law enforcement activities in coordination with the Forest Archaeologist.

In-place preservation is the preferred method for protection of human remains. Burial sites will be left undisturbed, except when there is an urgent need due to accidental or other unforeseen disinterment. Region 9 policies on the treatment of human remains will be followed, including consultation with Native American groups, the archeological community, and other interested groups in accordance with the Native American Graves Protection and Repatriation Act of 1990 and the Superior National Forest Treatment Plan.

The Forest will comply with the new curation standards set forth in the Secretary of Interior's guidelines for curation (38 CFR 79) and may assist other agencies in compliance, as requested.

Enhancement

In compliance with the Archeological Resources Protection Act of 1979, as amended, identify opportunities for off-site interpretation of heritage resources to improve public understanding of our heritage and to raise awareness of the fragile and irreplaceable nature of heritage resources.

Management of Insects and Diseases

Allow indigenous insect and plant diseases to play their natural ecological role within the Wilderness. Control insect and plant disease outbreaks only when it is necessary to prevent unacceptable damage to resources on adjacent lands or an unnatural loss to the Wilderness resource due to exotic pests.

Use pesticides in a designated wilderness only when necessary to prevent significant losses to wilderness resource values on private or public lands bordering the Wilderness. An environmental impact statement and Regional Forester approval are required for all pesticide applications in the Wilderness.

When control of insects or disease is necessary, it should be implemented by measures that have the least adverse affect on the Wilderness resource and are compatible with wilderness management objectives. Special care must be taken with the use of chemicals inside wilderness because of possible effects on the total biological complex. Consider other alternatives to chemical use in the environmental analysis.

Fire Management

Also see the Introduction to BWCAW Management Plan direction for a summary of amendments.

Role in Ecosystem Management

Since fire is an important factor in the Wilderness ecosystem and can reduce fuels buildup, lightning fires will be allowed to play a more natural role. The *BWCAW Fire Management Plan* lists specific objectives, standards, and conditions for application of prescribed fire.

The Forest Service will analyze and assess planned ignitions in the Wilderness.

Suppression

Suppression activities in the BWCAW will be implemented in a manner that minimizes impacts. Of primary importance is to impart a "light hand on the land" policy (choosing methods and equipment which least alter the landscape or the wilderness resource).

The objective is to protect the integrity of the Wilderness without relaxing safety standards.

Use of heavy equipment is generally unsuitable but may be used with Regional Forester's approval. If heavy equipment is used, rehabilitation of the affected area will be completed.

When deemed necessary by the Incident Commander, following existing preset management guidelines and/or Delegation of Authority, chemical retardants (including foam) may be used during fire emergencies. Both ground and aerial application of retardants is permitted when high to extreme fire danger indices exist. Fire danger thresholds and retardant (foam) use guidelines, pre-approved by the Forest Supervisor, are documented in the Forest Fire Management Plan within the BWCAW matrix.

The Forest Supervisor must approve use of fire line explosives.

Fires that do not meet prescribed fire criteria will be suppressed.

During fire suppression, earth-disturbing activities, such as fire line construction, will not occur on known heritage resource sites or within 66 feet of the established boundary of a known heritage resource site; alternate methods such as water should be used.

Administration

Wilderness Boundaries

To protect the Wilderness from illegal encroachments, no resource activity will be initiated adjacent to the Wilderness boundary until the boundary is established and identified on-the-ground by a land survey. Surveys will be conducted in a manner that is compatible with wilderness values and causes the least effect on the resource.

Administrative Sites

There are currently three Forest Service administrative sites in the Wilderness. A determination of future use will be done for each site.

Landing Sites for Aircraft

Airfields, helispots, and heliports are generally inappropriate for the Wilderness and will only be constructed in emergency situations with Forest Supervisor approval.

Communication Structures

Communication structures, such as towers, are inappropriate for the Wilderness.

Other Agency Structures

The MNDNR has two cabins in the Wilderness. These cabins are located on lake Insula and Little Saganaga Lake. (See Table BWC-6).

Signs

Signs may be provided for safety in all management areas except the Pristine MA, and to indicate the transition from a motor to non-motor area if it is not apparent.

Non-federal Lands within Wilderness

Disposal of National Forest System land is not permitted.

Less than total ownership of lands or interest in lands owned by the State of Minnesota within the BWCAW is acceptable, providing these lands are not used in conflict with wilderness values.

Acquisition of private property and county-administered lands within the BWCAW is high priority. All acquisitions (purchase, donation, land exchange) will be on a willing landowner basis, unless the property is being used in a manner that conflicts with wilderness values.

Acquisition of certain lands within the Wilderness will continue as specified in PL 95-495 and the *BWCAW Act Implementation Plan*.

Use of Motorized Equipment

Pristine, Primitive, and Semi-primitive Non-motorized MA

Use of mechanized or motorized equipment by the public is not permitted in these areas. Motors may not be in possession. Portage wheels are permitted on the International Boundary.

Semi-primitive Motorized MA

Public use of motors is limited to motorboats on lakes, streams, and trails listed in PL 95-495 and the one-quarter mile portion of Sand Point Lake that lies within the BWCAW.

The portion of Seagull Lake that is west of Threemile Island will become non-motorized as specified in PL 95-495. This change will occur on January 1, 1999.

The use of a trolling motor or “kicker” has been authorized for use in those lakes where motorized boats are allowed.

On lakes listed in 4(c)(1) and (4) of the 1978 BWCAW Act, a trolling motor of up to 10 horsepower is permitted in addition to the 25 horsepower limit cited in the Act, provided that the total horsepower being used at any one time does not exceed 25 horsepower. No other motors are to be in possession in the areas designated under the 25 horsepower. **EXCEPTION:** Motors of any size may be in possession in the Saganaga Corridor along the east shore of Saganaga Lake, provided that not more than 25 horsepower are in use.

On lakes listed in 4(c)(2) and (3) of the Act, a trolling motor of up to 6 horsepower is permitted in addition to the 10 horsepower limit cited in the Act, provided that the total horsepower being used at one time does not exceed 10 horsepower. No other motors are to be in possession in the areas designated under the 10 horsepower limit.

Upon authorization from the District Ranger, property owners on North and South Fowl Lakes are allowed possession, but not use of, a motor through the most direct route to their property via the Royal River.

Portage wheels are permitted on the following portages: Fall-Newton-Pipestone, Prairie Portage, Back Bay Basswood, and Trout Lake. Loon Lake and Beatty Portages will continue to be maintained as motor portages per PL 95-495. The disposition of Fourmile Portage will be determined through a separate analysis.

Section 1212, 105-178 of the 1998 Transportation Equity Act amended the 1978 Act (PL 95-495) and removed Canoe and Alder Lakes in Cook County from the list of lakes where motorized use is allowed.

Administrative Use of Motors

Use will conform, as nearly as possible, to the restrictions placed on the public.

The MNDNR and the counties may be authorized use of mechanized equipment for law enforcement and other emergencies.

For the control of wildfires, the use of aircraft, motorized pumps, chainsaws, generators and other small equipment, may be authorized if they are the minimum tools necessary to meet objectives. The Regional Forester must approve the use of bulldozers.

Authorization for any use of mechanized or motorized equipment, other than for law enforcement or emergencies, must come from either the Forest Supervisor or the Regional Forester. The use of these tools and conveyances, when approved, will be scheduled for times when they will be least disruptive to other users of the Wilderness.

Tables for BWCAW Management Direction

Table BWC-1. Limits of Acceptable Change (LAC) Standards

LAC Standards: Desired future condition and standards for campsite conditions

DESIRED FUTURE CONDITION	MANAGEMENT AREA			
	5.1 Pristine	5.2A Primitive	5.2B Semi-Primitive Non-Motorized	5.3 Semi-Primitive Motorized
1. General Description	Unmodified natural environment	Unmodified natural environment	Predominately unmodified natural environment	Slightly modified natural environment.
2. Ecological Conditions	Not measurably affected by visitors. Natural processes prevail.	Some areas slightly affected by visitors	Some areas may be substantially affected by visitors.	May be moderately affected by visitors.
3. Prevalence and duration of impact	Minimal, recovery in a short period	Moderate, impacts to a few areas persists from year to year	Moderate vegetation loss affected. Impacts remain from year to year.	Many locations substantially affected and impacts remain from year to year.
4. Visibility of impacts	Not obvious to visitors	Apparent to a moderate number of visitors.	Apparent to most visitors	Readily apparent to most visitors.
5. Social Conditions	Outstanding opportunity for isolation and solitude	High opportunity for isolation and solitude	Moderate to low opportunity for isolation and solitude	Low opportunity to experience isolation and solitude
STANDARDS FOR CAMPSITE CONDITIONS	MANAGEMENT AREA			
	5.1 Pristine	5.2A Primitive	5.2B Semi-Primitive Non-Motorized	5.3 Semi-Primitive Motorized
1. Mineral Soil Exposed	None to 250 Sq. Ft. *	No more than 800 sq. ft.	No more than 800 sq. ft.	No more than 800 sq. ft.
2. Tree roots exposed	None to 25%	Less than 50% of trees on-site	Less than 50% of trees on-site	Less than 50% of trees on-site
3. Erosion level	Non to level 2	Campsites with little erosion on campsite or access trails(s) or at shoreline which is not pronounced (Level 2)	Campsites with erosion on campsite or access trail(s) or at shoreline that is not pronounced (Level 2).	Campsites with erosion on campsite or access trail(s) or at shoreline that is not pronounced (Level2).

*Formerly designated sites may still exist and be used. If these sites begin to approach the LAC standard, appropriate management action will be implemented. For areas that have not been prior designated sites, no degradation is allowed.

LAC Standards: Standards for social conditions and land stewardship

STANDARDS FOR SOCIAL CONDITIONS	MANAGEMENT AREA			
	5.1 Pristine	5.2A Primitive	5.2B Semi-Primitive Non-Motorized	5.3 Semi-Primitive Motorized
1. Frequency of encounters	Rare (0-4/day)	Low (3-6/day)	Moderate (5-10/day)	Moderate to high. (6-12/day)
2. Degree of challenge and risk	Very high	High	Moderate to low	Moderate to low
3. Degree of freedom	Very high	High	Moderate	Low
4. Frequency of contacts with other parties while traveling	Rare (0-2/day)	Low (3-5/day)	Moderate (5-8/day)	Relatively high (6-10/day)
5. Frequency of contact with other parties while camping	Rare to nonexistent (0-1/day)	Low (1-2/day)	Moderate (2-3/day)	Moderately frequent (2-4/day)
LAND STEWARDSHIP	MANAGEMENT AREA			
	5.1 Pristine	5.2A Primitive	5.2B Semi-Primitive Non-Motorized	5.3 Semi-Primitive Motorized
1. Facilities	None	Designated campsites; latrines; firegrates	Designated campsites; latrines; firegrates	Designated campsites; latrines; firegrates
2. Signs	None	Minimum needed for safety.	Minimum needed for safety.	Minimum needed for safety and to inform visitors of transition from motor to non-motor area if not readily apparent.
3. Maintenance of portages	Monitor to insure no resource damage is occurring.	Constructed and maintained to accommodate light to moderate use.	Constructed and maintained to accommodate moderate use the majority of the season.	Constructed and maintained to accommodate heavy use most of the season
4. Management presence	Very low	Low	Relatively Frequent	Frequent

Table BWC-2. Maintenance Standards

MAINTENANCE STANDARDS	MANAGEMENT AREA			
	5.1 Pristine	5.2A Primitive	5.2B Semi-Primitive Non-Motorized	5.3 Semi-Primitive Motorized
TRAIL/PORTAGE MTCE LEVEL	N/A	1	2	3
VISITOR USE LEVEL	Very light	Light	Medium	Heavy
GENERAL DESCRIPTION	No constructed or maintained trails or portages. People using this area will be seeking a very challenging experience.	Portages off main travel routes in "paddle only" areas. People using these portages will be seeking a more challenging experience.	Portages on main travel routes in "paddle only" areas, and in non-motorized areas where portage wheels are permitted. (International Boundaries). Also, long distance or day-use hiking trails in all Management Areas. People in this MA are seeking an experience with moderate to low degree of challenge.	Portages between motor lakes where portage wheels are permitted. People using these portages are seeking an experience with a low degree of challenge.
FREQUENCY OF MTCE	As needed to protect resource.	Not every year	Once per year as a minimum	Once per year as a minimum
TREAD MINIMUM	Portages	N/A	1-½ feet walking width.	3-½ feet dry tread to accommodate portage wheels.
	Hiking Trails	N/A	No greater than 1-½ feet.	No greater than 1-½ feet.
CLEARING WIDTH (BRUSHING)	Portages	N/A	Only that necessary for passage, generally not more than 4 feet total.	Maximum of 10 feet.
	Hiking Trails	N/A	Generally between 4 to 6 feet.	Generally between 4 to 6 feet
GRADING	N/A	No cuts or fills. No grading.	Minor grading, or lift/fill of wet spots is allowed.	Grade only where required. A few minor wet spots are allowed.
STRUCTURES/FACILITIES	None	Utilize rocks, beaver dams, or other natural features for water crossings. Bridges and walkways are less desirable, but may be necessary for resource protection.	Only as necessary for safety in the very hazardous situations, and for resource protection.	Only as necessary to prevent erosion and maintain a dry tread.

MAINTENANCE STANDARDS	MANAGEMENT AREA			
	5.1 Pristine	5.2A Primitive	5.2B Semi-Primitive Non-Motorized	5.3 Semi-Primitive Motorized
DRAINAGE	Resource damage will be corrected to a natural condition.	Existing drainage patterns or water bars if absolutely necessary.	Cross ditch, open culvert & waterbars may be constructed to protect resource.	Cross ditch, open culvert & waterbars may be constructed to protect resource.
REVEGETATION	Methods that allow for natural revegetation are preferred. If planting is done, use vegetation that is indigenous to the BWCAW.	Methods that allow for natural revegetation are preferred. If planting is done, use vegetation that is indigenous to the BWCAW.	Methods that allow for natural revegetation are preferred. If planting is done, use vegetation that is indigenous to the BWCAW.	Methods that allow for natural revegetation are preferred. If planting is done, use vegetation that is indigenous to the BWCAW.
CAMPSITE MAINTENANCE	Will occur on user-built sites only when necessary to protect the biophysical resource.	Sites in this MA may not be maintained each year, depending upon amount of use. Firegrate will be cleaned, litter picked up & user-built structures dismantled and latrines moved as needed.	Sites in this MA will likely be maintained each year and maybe more than once depending upon amount of use. Firegrate will be cleaned, litter picked up & user-built structures dismantled and latrines moved as needed.	Sites in this MA will likely be maintained each year and maybe more than once depending upon amount of use. Firegrate will be cleaned, litter picked up & user-built structures dismantled and latrines moved as needed.

Table BWC-3. Water Access Entry Points and Overnight Quotas

Entry Point Number and Name	Entry Point Quota for Overnight Camping
1 Trout Lake	14
4 Crab & Cummings	4
6 Slim Lake	2
7 From Big Lake	2
8 Moose River-South	1
9 Indian Sioux-South	0.5
12 Little Vermilion	6 + 8(A)
14 Indian Sioux-North	6
16 Moose/Portage Riv. N.	7
19 Stuart River	1
20 Anglemorm Lake	2
23 Mudro	6 + 2(B)
24 Fall Lake	14
25 Moose Lake	27
26 Wood Lake	2
27 Snowbank Lake	8 + 1(C)
29 North Kawishiwi River	1
30 Lake One	18
31 Farm Lake	3
32 South Kawishiwi River	2
33 Little Gabbro Lake	2
34 Island River	3
35 Isabella Lake	3
36 Hog Creek	5
37 Kawishiwi Lake	9
38 Sawbill Lake	14
39 Baker Lake	3
40 Homer Lake	2
41 Brule Lake	7 + 3(D)
43 Bower Trout Lake	1
44 Ram Lake	1
45 Morgan Lake	1
47 Lizz/Swamp	4
48 Meeds Lakes	3
49 Skipper/Portage Lakes	2
50 Cross Bay-From Ham	3
51 Missing Link Lake	5
52 Brandt Lake	4
54A Seagull Lake	11 + 2(E)
55A Saganaga Lake	17 + 3(F)
57 Magnetic Lake	3
58 South Lake	3
60 Duncan Lake	4
61 Daniels Lake	1
62 Clearwater Lake	4
64 East Bearskin Lake	5
66 Crocodile River	1
67 Bog Lake	2

Entry Point Number and Name	Entry Point Quota for Overnight Camping
68 Pine Lake	1
69 John Lake	1
70 North Fowl Lake	2
71 From Canada	3
75 Little Isabella River	1
77 South Hegman	2
80 Larch Creek	1
84 Snake River	1
Total Overnight Quota	280.5

Notes:

A = LAC LACROIX ONLY

B = NO CAMP ON HORSE LAKE

C = SNOWBANK ONLY

D = BRULE ONLY

E = SEAGULL ONLY

F = SAGANAGA ONLY

Table BWC-4. Overnight Motor Quotas

Week May 1 to Sept. 30 *	1 Trout Lake	24 Fall Lake	25 Moose Lake	27 Snow- bank Lake	31 Farm Lake	54 Sea- gull Lake	55 Saga- naga Lake	62 Clear- water Lake	64 East Bear- skin Lake
1	1	4	3	0	0	0	3	0	0
2	60	40	36	4	1	3	26	5	2
3	60	22	35	4	1	2	18	6	2
4	60	22	35	4	1	4	33	4	2
5	60	21	35	4	0	4	31	3	1
6	60	10	26	2	1	1	20	1	1
7	60	12	26	2	0	1	12	1	1
8	45	12	26	3	1	1	12	1	1
9	45	9	26	3	0	1	12	1	1
10	32	9	26	3	1	1	12	1	1
11	28	9	22	3	0	1	12	1	1
12	28	9	22	3	1	1	12	1	1
13	28	9	19	3	0	1	12	1	1
14	28	9	19	3	1	1	11	1	1
15	26	9	18	3	0	1	11	1	1
16	23	9	18	3	1	1	9	1	1
17	17	9	18	3	0	1	8	1	1
18	19	12	20	4	1	1	11	2	2
19	19	7	15	3	0	1	5	1	1
20	9	6	13	3	0	1	5	1	1
21	8	6	9	3	0	1	5	1	1
22	5	4	7	2	0	1	4	0	1
TOTAL	721	259	474	65	10	30	284	35	25

* Quotas may be slightly different each year due changes in the calendar (for instance, due to variation in the dates for the opening week of Minnesota fishing opener).

Table BWC-5. Day Use Motor Quotas

Week	A	C	D	E	F	G	H	I	J	K	L	M
May 1 to Sept. 30 *	Trout Lake	Fall Lake Only	Fall Lake, Newton, Pipe- stone & Beyond	Moose Lake Only	Moose Lake to New-Found & Sucker Lakes	Moose Lake to Prairie Portage to Basswood	Snowbank Lake	South Farm Lake	Saganaga Lake	Seagull Lake	Clearwater Lake	East Bearskin Lake
1	1	3	5	1	16	8	7	15	6	0	3	1
2	19	26	32	12	159	34	23	56	91	4	8	4
3	30	30	62	15	191	43	30	81	164	8	15	8
4	38	56	62	15	191	75	30	70	220	8	15	11
5	30	56	62	15	191	75	23	75	260	8	16	9
6	30	60	62	12	158	75	23	81	151	6	10	12
7	34	60	62	11	151	80	22	81	151	6	9	11
8	38	60	55	11	151	80	22	81	151	6	9	8
9	52	60	55	11	151	80	22	81	151	6	9	8
10	52	60	55	11	151	80	22	81	141	6	9	8
11	38	64	55	10	129	80	22	70	127	6	9	11
12	34	64	55	10	129	80	22	70	127	6	9	11
13	30	64	55	10	129	80	30	70	114	6	9	11
14	30	64	55	10	129	80	30	70	114	5	9	11
15	22	64	55	9	124	78	23	70	114	5	9	11
16	22	64	55	6	75	78	23	70	80	5	9	11
17	22	64	39	6	75	50	23	56	80	4	7	9
18	26	56	50	11	151	56	23	60	141	4	9	9
19	15	49	27	7	94	50	18	30	101	2	7	6
20	12	49	27	5	59	36	15	30	76	2	6	4
21	9	49	16	4	57	36	15	26	61	1	4	2
22	4	29	16	2	30	24	10	20	32	1	2	1
TOTAL	588	1,151	1,017	204	2,691	1,358	478	1,344	2,653	105	192	177

* Quotas may be slightly different each year due changes in the calendar (for instance, due to variation in the dates for the opening week of Minnesota fishing opener).

Table BWC-6. Action Plan for Structures Currently Located in the BWCAW

	Location	Legal Description	Landowner	Disposition
Dams	Prairie Portage	T64N, R9W, Sec. 2	US/Canada	Maintain as needed.
	Fall Lake	T63N, R11W, Sec. 4	MN	
Administrative Cabins	Lac LaCroix	T67N, R13W, Sec. 33	USFS	Future use determinations (FUDs) completed. Primary structures generally maintained. Individual FUDs include more information.
	Crooked Lake	T65N, R11W, Sec. 14	USFS	
	Kekekabic Lake	T64N, R7W, Sec. 2	USFS	
	Lake Insula	T63N, R8, Sec. 36	MN	Recommend MNDNR complete future use determination for all administrative cabins owned by MN.
	Little Saganaga Lake	T64N, R5W, Sec. 18	MN	
Cabins on County Land	Louis Lake	T64N, R12W, Sec. 12	St. Louis County	Two cabins on leased land. Encourage St. Louis County to terminate lease.
Cabins with Rights Reserved by Former Owner	Basswood Lake	T64N, R10W, Sec.9	US	Remove cabins and rehabilitate site upon death of the named reserved right holders.
	Range River 1	T64N, R11W, Sec. 18	US	
	Range River 2	T64N, R11W, Sec. 7	US	
Cabins on Private Land Within the BWCAW	LaCroix District	BWCAW	Private	Two cabins far from lakes and public travel routes. Pursue purchase or exchange.
Structures on Motor Portages	Prairie Portage	T64N, R9W, Sec. 2	US	The Forest Service will neither operate nor subsidize the operations of these portages. Discontinue when operation ceases to be viable under special use permit.
	Trout Lake Portage	T64N, R16W, Sec. 24	US	
	Beatty Portage	T67N, R15W, Sec. 20	US/MN	Continue operation and retain cabins, railroad, and support facilities as long as there is demand. The Forest Service will neither operate nor subsidize the operations of these portages.
	Loon Lake	T66N, R15W, Sec. 6 T66N, R16W, Sec. 1	MN	
Miscellaneous Structures	USGS Water Gauge – Jackfish Bay	T65N, R8W, Sec. 35	US	Allow USGS to continue use of the site. Minimize motorized access.

BWCAW Appendix A

BWCAW Appendix A. Limits of Acceptable Change Indicator Descriptions

Shoreline Disturbance

Compare the campsite shoreline to the adjacent shoreline. Define the shoreline disturbance as the amount of shoreline in contrast with similar natural shoreline in that area. In areas where the lakeshore is dominated by heavy vegetation and the campsite shoreline is in contrast due to the loss of vegetation, that area would be measured. Conversely, in areas such as open pine stands, which are not dominated by vegetation, measure the length of shoreline, which is altered due to the loss of grasses, forbs, and soils.

Measure in lineal feet the amount of shoreline impacted by recreational use. Do not include ledgerrock landings in this measurement, as it is unlikely they have been impacted by use and actually reduce shoreline impacts by providing a stable landing.

On campsites, which have shoreline disturbance in more than one area, measure each and record the total on the rating form. Use the remarks column to note the existence of ledgerrock, which provides a safe landing or highly impacted shoreline, which should be stabilized.

Campsite Area

Measure in square feet the total area impacted by recreational use. Measure the length and width of a rectangular campsite or the diameter of a circular site to compute the area. Irregular shaped campsites are more easily measured by dividing them into sections.

Define the perimeter of the site by determining the point at which the density and species composition of the vegetation become equal to that of the surrounding area. Particular attention to the density

of herbaceous vegetation will help determine the perimeter of impacted areas. Although more difficult on open pine campsites due to the lack of vegetation, the rater can define the perimeter by locating the point at which impact to the organic duff layer ceases.

Exclude from this management the islands of undisturbed vegetation and ledgerrock within the campsite area. Because these areas are not impacted by use, they should not affect the campsite ratings. The amount of ledgerrock in the campsite area should be recorded in the remarks column so the total campsite area can be determined when reviewing ratings.

Areas of impact beyond the original perimeter such as satellite tent pad and firewood cutting areas should be measured and included in the total. Record the total of the areas measured on the rating form.

Record unusual conditions that can be related to historical uses (logging camps, resorts, etc.) in the remarks column.

Non-vegetated Area

Loss of ground cover is one of the most pronounced changes that occur on campsites. It is a prominent, early indicator of campsite conditions. Measure the campsite area that is devoid of ground vegetation due to use of the sites. Areas where recreation impacts have caused a total loss of grasses, forbs, and shrubs should be included in this measurement.

Determine if the lack of ground vegetation is a recreation impact by comparing vegetative conditions on the campsite with natural conditions adjacent to the site. Do not include areas, which are non-vegetated due to natural conditions such as open pine stands or exposed ledgerrock.

Record the total of the area(s) measured on the rating form.

Exposed Mineral Soil

How much of the non-vegetated area is bare soil?

Measure in square feet the area(s) where soil is bare, or with little or no litter cover. Include in this measurement all areas of exposed soil within the campsite area identified in Parameter #3. Do not include ledge rock outcroppings of areas that have a substantial duff layer covering them.

Record the total of the area(s) measured on the rating form.

Tree Damage

Count the trees with a DBH of 2" or larger that have been damaged by recreation impacts. Include trees within the campsite and associated use areas that have obvious user impacts such as chopping, felling, or girdling/peeling. Do not include dead or damaged trees on which the cause of the impact cannot be attributed to recreation use.

Record on the rating form both the total number of trees and the number of damaged trees within the campsite and associated use areas. On sites with extensive tree damage, note the type of damage and the area of the site where it occurred in the remarks column, ie: 10 Balsam felled near shoreline, 12 Birch peeled, etc.

Root Exposure

Count the trees with exposed roots resulting from recreation impact. It is important to distinguish between naturally occurring root exposure and that which occurs from user trampling. Compare the degree of root exposure on the campsite with natural conditions off-site. Count only the trees with roots that are exposed more than what is natural for the area.

Record the number of trees tallied on the rating form.

Trails

Count the access and social trails leading to or away from the campsite. Record the number of trails on the rating form.

Erosion

The most severe erosion on BWCAW campsites occurs at boat and canoe landings and on access trails from the landing to the site. The degree of erosion must be categorized without the use of complicated equipment and techniques. The three levels of erosion are as follows:

Campsites that have no erosion at the shoreline and negligible erosion on the campsite and access trail(s) are categorized level one.

Campsites with erosion either on the campsite, access trail(s), or at the shoreline resulting in the loss of soils which is not pronounced are categorized level two.

Erosion which has become pronounced, resulting in access trails becoming gullied; the exposure of lighter colored subsurface soils or gravel on the site; or obvious loss of soil at the landing or along the shoreline is categorized level three.

The amount of land area affected by erosion is not taken into consideration when rating the campsite. Assign the applicable level where any amount of a condition described above exists. Use the remarks column to note the area extent of the erosion and its location on the campsite; i.e.: steep access trail rutted, canoe landing eroded, etc.

BWCAW Appendix B

BWCAW Appendix B. Research Needs

The Forest Service research program provides the scientific basis for the management, protection, and use of the nation's national forests, including wilderness. Research needs appropriate to management of the Boundary Waters Canoe Area Wilderness are identified below.

The program developed for research reflects a commitment to develop and disperse technical knowledge in the effort to resolve problems associated with the wilderness. It will also provide a better understanding of the ecosystems that make up the wilderness. If the character of the wilderness is to remain, an active, long-term, publicly-supported research program is essential.

Research projects within the BWCAW must meet wilderness objectives, must be wilderness dependent, and must be accomplished in a manner that is compatible with the wilderness resource.

Following are research needs appropriate to management of the BWCAW:

Ecological

Cultural Resources

Develop quantitative methods of measuring erosion rates and new elements (such as Ecological Land Type Phase (ELT) and soil compaction) that need to be included in Limits of Acceptable Change indicators. This will aid in performing cultural resource site monitoring.

In addition, a method of monitoring using permanent camera points to visually record site effects should be developed.

Soil, Air and Water Resources

Assess Level 3 erosion loss code used in the Limits of Acceptable Change review and its correlation to the level of allowable soil loss on each ELT.

Assess whether added nutrients and potential pollutants that accumulate over time near campsites have significant impact on water quality or site conditions.

Develop a method for simplified environmental monitoring to detect presence/absence or concentration of giardia cysts in BWCAW surface waters.

Develop refined methods of assessing significance of impacts from existing and proposed air pollutant emission sources on air quality related values of the wilderness.

Fire

Monitor fires to better predict fire behavior of wildfires and prescribed fires.

Monitor post-fire effects to the BWCAW ecosystem in order to insure that the objectives of the prescribed fire program are being met.

Determine the social reaction to and acceptance of the prescribed fire program both during and after a fire.

Develop models that would address high fuel load areas and prescribed fire effects on plant communities.

Wildlife and Fish

Determine the impacts on eagles, loons, and other wildlife from fish remains being left on rocks by anglers.

Monitor contaminant levels in fish and fish-eating wildlife.

Determine whether angler harvest affects natural lake trout populations.

Determine bear population dynamics in the BWCAW, including movement of bears to and from Ontario and adjacent areas of Minnesota.

Develop techniques for minimizing bear/human conflicts in the BWCAW.

Develop an ecological classification system for lakes.

Plant Community

Determine what role insect and disease, fire and wind storms play in the natural ecosystem of the BWCAW/Superior National Forest/Quetico. For example: what type of fire (intensity and frequency) influenced natural vegetation?

Develop wilderness baseline vegetative studies.

Establish a list of plants native to the wilderness and northeast Minnesota that would be suitable for revegetating campsites and can be grown in a nursery setting.

Develop a list of indigenous plants that are resistant to high use situations and that match ELT conditions.

Continue to refine the ecological vegetation communities (using ecological classification) that exist in the BWCAW.

Determine how the BWCAW fulfills neotropical migrant bird species habitat.

Determine old growth distribution on the Superior National Forest and how it links to the old growth distribution in the BWCAW.

Determine distribution, abundance, and habitat associations of sensitive animal species occurring in the BWCAW.

Determine if animal use patterns and corridors link to 'outside BWCAW' areas and if it is adequate.

Social

Assess impacts of visitor use of the BWCAW and further define 'crowding' and how that affects

visitor attitudes about seeing other visitors and how it affects their wilderness experience.

Refine education messages and methods to insure protection of the resource by evaluating wilderness education and face-to-face wilderness education.

Develop a reliable method to monitor off-season (Oct. 1 - April 30) use and use patterns.

Determine visitor trends and how they are likely to change. Determine whether 'destination' type trips will continue to increase and if so, what are the likely consequences on travel zones?

Determine if visitors are being displaced from the BWCAW to Quetico and if so, why and how often.

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