

Appendix A: Summary Points

Resource	Summary Conclusions
Air	<ul style="list-style-type: none"> ✳ The SNF monitors the affects of air pollution from sources outside the Forest and from on-forest sources including wildfires and Superior National Forest management activities particularly prescribed burning. ✳ Overall, air quality monitored at Fernberg in 2006 and 2007 showed no major changes from that seen over the past five years. The main points of concern are visibility impairment and mercury deposition as it relates to contamination of the biota. ✳ Smoke monitoring of the Ham Lake wildfire showed one day with values over the EPA health standard. More days over the standard were likely on days, and in locations, where monitoring was not conducted. ✳ With the number of new industrial projects proposed for the Iron Range, it will be important to continue to monitor the condition of the air, precipitation, and the resources they affect such as lake and fish chemistry since the trends in these data sets often take years to materialize. This is especially import for visibility and mercury.
Fire	<ul style="list-style-type: none"> ✳ The spring of 2007 was an active period for wildfires when the Ham Lake Wildfire burned approximately 75,500 acres. ✳ Within the BWCAW, parts or all of seven prescribed burn units (7800 acres) re-burned during the May, 2007 Ham Lake Wildfire. ✳ Monitoring findings did validate that mitigations outlined in the BWEIS and Burn Plans were successful in protecting the soil organic layer, eagle nests, shoreline old forest, and interior old forest from impacts by prescribed fire. ✳ The frequency of fire in blow-down demonstrates the continued high fire risk of these fuels 7 years following the 1999 windstorm. This risk is further enhanced by conifer succession, particularly increased balsam fir and spruce budworm infestations. ✳ Increase prescribed fire within red and white pine forest to promote seedling establishment. ✳ Community Wildfire Protection Plans were completed for Cook and Lake Counties and initiated for St. Louis County.
Heritage	<ul style="list-style-type: none"> ✳ Approximately 21,000 acres were inventoried for heritage resources resulting in the documentation 34 new sites. ✳ 83 previously inventoried heritage sites, 12 eligible sites, and 10 burial sites were monitored. One cemetery area scheduled for site closure and protection in 2008 received a blessing ceremony by a Bois Forte elder. ✳ 1 site associated with a Passport in Time (PIT) project was evaluated during the 2007 field season. ✳ Review heritage mitigation measures related to heavily used recreation areas across the SNF including the BWCAW (O-HR-1 and S-HR-7).
Insects & Disease	<ul style="list-style-type: none"> ✳ A significant increase in Spruce Budworm population continues to be observed with much of the infestation occurring within BWCAW. This insect defoliated approximately 135,000 acres during 2007 which is an increase of approximately 20,000 acres defoliated in 2006. ✳ Treatment of gypsy moth populations with the pheromone <i>Disparlure</i> continues to be the most effective tool in managing the insect while minimizing environmental impacts. An additional 7,328 acres is proposed for treatment in 2008. ✳ Vegetation manipulation was used extensively to mitigate potential insect and disease impacts. Practices implemented included the planting of 1,012,000 native conifer and hardwood seedlings on 1,993 acres, seeding 46 acres to conifer species, and improving 4,124 acres through TSI. ✳ Implement the firewood restriction on bringing out-of-state firewood onto National Forest lands in Minnesota through public education and law enforcement.

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Lands	<ul style="list-style-type: none"> ✳ Two properties totaling 47.70 acres valued at \$676,000 were purchased. ✳ No land exchanges were completed. ✳ Through the Conveyance program, properties totaling 5.02 acres of land with structures were sold for \$385,517. ✳ As part of Thye-Blatnick Act to appraise Federal lands within the BWCAW, an appraisal contract was issued and the BWCAW is currently being appraised. New values are to be determined by October 1, 2008. ✳ The Trust for Public Land secured three parcels (Long Island, Wolf Island and Chain Saw Sisters).
Minerals & Geology	<ul style="list-style-type: none"> ✳ Federal mineral operations, which are permitted and administered by the Bureau of Land Management, were found to be in compliance and no notices of noncompliance were issued. ✳ The following lease and prospecting permit activity was accomplished in 2007: <ul style="list-style-type: none"> ○ One prospecting permit application was received (1,295 acres). ○ Twenty-three prospecting permits are pending approval from previous years (27,569 acres). ○ Two hardrock mineral leases were administered (4,865 acres). ○ Four active prospecting permits were administered (4,426 acres). ○ Three federal hardrock mineral operating plans were analyzed under an EA and approved. ✳ A total of 9,100 tons of granite from two quarries were sold for \$85,707. ✳ A total of 164,709 tons of sand and gravel were sold for \$89,444. ✳ A total of 183,464 tons of mineral materials were utilized by the SNF for administrative purposes for a total value of \$122,740. ✳ A detailed framework for management and administration of federal hardrock minerals with the BLM would be beneficial to improve the permitting process and to help guide how the two agencies cooperatively work together.
Non Native Invasive Species	<ul style="list-style-type: none"> ✳ Monitoring detected the first infestation of the highly invasive plant garlic mustard on the Superior in the Cavity Lake burn, and purple loosestrife populations on the Forest exploded last year with low water levels. ✳ Approximately 81 acres of terrestrial NNIS were treated, up from 8 acres treated during 2005. Treatments were 65% effective on average at controlling sites. ✳ Total terrestrial NNIS acres on the Forest continued to climb, up to 2,046 ac in 2007. ✳ Monitoring showed that design criteria for minimizing weed spread were successful. ✳ New and existing spiny water flea populations on the SNF suggest that this species current rate of invasion is increasing. ✳ The number of lakes where rusty crayfish has been detected has increased each year since 2003 and it is likely that new infestations will be documented with increased survey and monitoring. ✳ New collaborative public information/education campaigns including the “Stop Aquatic Hitchhikers” Program will help to increase public awareness and help to reduce the spread of NNIS species on the SNF.
Partnerships	<ul style="list-style-type: none"> ✳ The total value of the work provided by Partners through grants and agreements, special use permits and other non-agreement based funds, and through the work of volunteers to the SNF equals over \$1,621,527. ✳ Volunteers to the SNF provided 28,817 hours of service at an appraised value of \$540,897. ✳ Hosted Senior Program contributed 15,406 hours of service at a value of \$289,172. ✳ Special Use Agreements and other Non-Agreement Based Funds provided \$96,210. ✳ There were a total of 71 signed agreements that provided or obligated <ul style="list-style-type: none"> ➤ \$690,490 worth of cash and services to the SNF from partners ➤ \$429,291 worth cash, goods and services to partners from the SNF. ✳ Partners and Forest Service Staff: <ul style="list-style-type: none"> ➤ Initiated 42 new agreements. ➤ Enacted 85 modifications on existing agreements. ✳ Individuals donated \$4,758.

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Public Health	<ul style="list-style-type: none"> * Monitoring for Potable Water bacteria and nitrates was done monthly at public and administrative facilities. All nitrate samples and over 96% of bacteria (total coliform) samples were found acceptable. * Nine swimming beach bacteria samples were collected and analyzed. A single sample was found to be above the standard for posting, but a subsequent test yielded a zero value.
Recreation Motor Vehicles	<ul style="list-style-type: none"> * During Fiscal Year (FY) 2007 four project decisions were made that designated 5.3 miles and 64 miles open to and closed to RMV travel respectively. * Since 2004, 42 miles have been designated open and 145 miles designated closed through project decisions. * All of the road spurs found inside the BWCAW originated from an older established road that was apparently associated with older timber sales or other access purposes. * Planning for travel route designation under the Travel Management Rule was begun and will be completed in 2008.
Socio-Economic	<ul style="list-style-type: none"> * Total expenditures (funding) for FY 2007 were about \$25,000,000 which represents a 16% decrease from the 2006 budget of \$29,685,000. * During 2007 the ratio of sold sawtimber to pulpwood was 16:84, the FY 2004 ratio was 11:89, the FY 2005 ratio was 10:90, and the 2006 ration was 15:85.
Soils	<ul style="list-style-type: none"> * Where fuel loads are high and during extreme drought soil moisture conditions, wildfires are likely to impact soil resources. * ELT 18 discussions need to progress with Forest Silviculturalist and the FIDT in 2008.
Timber	<ul style="list-style-type: none"> * FY 2007 had the 2nd highest volume sold and highest volume under contract since approval of the Revised Forest Plan. However, volume harvest was less in 2007 due to a continued downturn in the timber market. Five sales received no bids which amounted to 6,766 MBF. * The SNF awarded 56,372 MBF within twenty timber sales on 5,533 acres but <i>actually</i> harvested 27,930 MBF on 1,649 acres. * To date, 162,200 MBF or 16% of the decade 1 volume projection has been achieved. To date 9,928 acres have been harvested. * Actual treatments when combined with planned approved treatments would result in about 261 MBF harvested which represents approximately 25% of the Decade 1 harvest volume projection. * During 2007, 4,629 acres were certified to have established forest regeneration and 3,672 acres harvested but not certified. * During 2007, approximately 58% of harvest acres were clear cut compared to 60% clear cut during 2006 and 88% clear cut during 2005. * The differences between planned and actual harvest observed in 2006 and 2007 appear to be greater than expected. During future monitoring we will analyze this difference in greater detail.
Transportation	<ul style="list-style-type: none"> * OML 1 and 2 road mileage at the end of 2007 represents approximately 77% and 104% respectively of the Decade 1 mileage projections. * Overall, <i>National Forest System</i> road trends towards Decade 1 projections are acceptable, with the exception of overachieving OML 2 mileage expectations. * When road decommissioning projects approved in 2004 through 2007 NEPA decisions are fully implemented, a total of 125 miles of roads will have been decommissioned.

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Tribal Rights & Interests	<p>Project consultation and government-to-government contacts were made in the following programs, projects and incidents:</p> <ul style="list-style-type: none"> * Forest Heritage Program * Forest Vegetation Management Projects * Wildlife & Fisheries Management Consultation * Lands Projects * Minerals Activities * Travel Management * Campground Concessionaire * Air Quality * Prescribed Burns * Campground Use * St. Louis County Community Wildfire Protection Plan
Vegetation	<ul style="list-style-type: none"> * Preliminary results indicate that vegetation conditions are generally moving towards the desired Forest Plan objectives. Possible exceptions pertaining to vegetative composition include; <ul style="list-style-type: none"> o Within the Mesic Red and White Pine LE, the Northern hardwoods forest type may exceed Decade 1, 2 and Long-term objectives. The forest type would be 3% instead of 2%. o Within the Jack-Pine Black Spruce (JPB) LE, the White pine forest type is likely to exceed Decade 1, 2 and Long-term (100 yr) objectives. The forest type would only be 4% instead of 3% at this time, the difference is minor. o Within the Mesic Birch/Aspen/Spruce-fir (MBA) LE, the young (0-9 years) age class shows a trend away from Decade 1 objectives. * Within the Red/White Pine Mature Forest, acres and number of patches continue to surpass Plan direction for both 100+ and 300+ acre patch sizes. The trend since 2005 shows continued increases in both categories. * Within zone 1, the number of 1,000 acre patches reported in 2007 was 5 which is less than the Forest Plan guideline of 8 patches. * Within zone 2, the Forest Plan standard is to maintain 1 patch at 11,700 acres. Current condition shows this currently existing patch has been fragmented to less than 10,000 acres. * Continue to integrate the Native Plant Community Classification concept into inventory efforts on the Forest. In 2007, this classification option was integrated into the Field Sampled Vegetation database (FSVeg).
Watershed/ Riparian	<ul style="list-style-type: none"> * Physical habitat conditions and fish populations at established stream monitoring sites have changed very little since 2005. * The SNF is exceeding Forest Plan direction to complete 1-2 road/stream crossing projects annually. Since 2005, the Forest has successfully designed and completed seventeen projects which have improved aquatic systems. It is likely that this positive trend will continue and exceed decade 1 projections of 10-20 projects. * When combined with projects completed in 2005 and 2006, the SNF has improved 13.5 miles of stream habitat. If this trend continues, the Forest will achieve its projected Decade 1 habitat improvement objective of 5-30 miles prior to 2014. * Monitoring results from the Dark River Large Woody Debris Project indicated that there was little change in the large woody debris structures between July 2005 and July 2007. Fish population surveys indicated that brook trout abundance within the project area continued to increase since 2005. * Results of Minnesota Forest Resource Council implementation auditing of FY 06 timber sales demonstrate good use of water quality Best Management Practices.
Wilderness	<ul style="list-style-type: none"> * Due to extra funding and newly created or enacted management plans, the Superior National Forest is at 61% of the wilderness stewardship level, and hope to go beyond 61% after 2008 due to advances in Elements 2, 5, 6 and 9. * The effects of non wilderness management activities to wilderness character inside the BWCAW were documented in 2006 and 2007 project decisions and through Forest wide monitoring. * Analyze and develop solutions to address and meet solitude standards in the Forest Plan.

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Wildlife, Sensitive Species, Aquatic.	<ul style="list-style-type: none"> * Regional Forester Sensitive Species surveys and monitoring projects have been useful for identifying new RFSS populations and monitoring population abundance. * Future RFFS surveys should continue to occur annually at new and established locations. * Stream crossing and habitat improvement projects have continued to improve aquatic habitat for RFSS and their host fish species. * Future stream crossing and habitat improvement projects should continue to be prioritized by RFSS and aquatic organism passage needs.
Wildlife, Sensitive Species, Terrestrial..	<ul style="list-style-type: none"> * Management activities on all projects from 2004-2007 complied with 2004 Forest Plan direction for sensitive species. * Projects either had no impact or were not likely to cause a trend to federal listing or loss of viability on the Superior National Forest.
Wildlife, Sensitive Species, Plants.	<ul style="list-style-type: none"> * During 2007 Forest Plan direction for sensitive plants was being met. * For some species, the number of occurrences has gone up since 2004, but most species of sensitive vascular plants and non-vascular plants have about the same number of occurrences in 2007 compared to 2004. * Although sensitive plant habitat improvement projects typically do not affect much acreage, monitoring shows they are contributing to Forest Plan goals and objectives for sensitive plants.
Wildlife, Terrestrial, Management Indicator Species	<p>Gray Wolf</p> <ul style="list-style-type: none"> ▪ Population trends on SNF, based on 2005 State wolf survey and SNF study, appear to be increasing: SNF continues to meet or exceed Forest Plan goal of contributing to statewide population of 1250-1400 wolves. ▪ Between 2004-2007 most vegetation management projects benefited wolf by providing habitat for their prey species, deer and moose. ▪ Wolf was delisted from threatened status in 2007 (refer to WL. TE section for more information) <p>Bald eagle</p> <ul style="list-style-type: none"> ▪ Population trends on SNF, based on active nest survey in 2005, have increased since 2000: 90 active breeding territories, exceeding Forest Plan goal of 85. ▪ Between 2004-2007 most vegetation management projects benefited eagle by restoring white pine near lakes and streams. ▪ Eagle was de-listed from threatened status in 2007 (refer to WL. TE section for more information). <p>Northern Goshawk</p> <ul style="list-style-type: none"> ▪ In 1996 there were no known nests on the SNF. By 2007 24 nests had been found. ▪ In 2007 there were 7 active goshawk nests: 5 pairs successfully produced young. SNF goal is 20-30 breeding pairs. ▪ Between 2004-2007 most vegetation management projects impacted goshawk habitat, but were not likely to cause loss of viability or a trend toward listing. ▪ Mature and older upland forest, a key indicator of suitable habitat for goshawk, was 56%, well above the 41% threshold and the 48% projected for the end of Decade 1 of Plan implementation. <p>White pine</p> <ul style="list-style-type: none"> ▪ Between 2004-2007 over 1.7 million white pine seedlings were planted. ▪ 3010 acres were planted with white pine to change forest type to white pine. ▪ 547 acres were planted within other forest types to enhance diversity. ▪ 12,600 acres of white pine were treated to improve survival. ▪ In 3 of the 5 upland Landscape Ecosystems objectives for amount of white pine forest type have been met or exceeded.
Wildlife, MIH, Aquatic Species.	<ul style="list-style-type: none"> * Fish population surveys in the Dark River indicated that brook trout populations have remained relatively stable or have increased. * Brook trout abundance within the Dark River Large Woody Debris Project Area has increased from that observed in 2005. * Walleye populations in both Cascade and White Pine Lakes appear to be relatively stable. It is likely that the 2003 year class (age-4 fish) and 2001 year class (age-6) fish will continue to support the Cascade Lake fishery for several years. Relatively strong 2006 (age-1) and 2007 (age-0) year classes were documented in several lakes on the Forest. * The SNF has increased its ability to monitor aquatic MIH and important lake and stream fish populations across the Forest by working with several partners including the Minnesota Department

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	<p>of Natural Resources, Fond Du Lac Band of Lake Superior Chippewa, 1854 Authority, Trout Unlimited, and the Laurentian Environmental Center.</p> <ul style="list-style-type: none"> * Protocols developed to monitor long-term trends in stream habitat, fish populations, and water quality have been very successful. It will be important for the SNF to continue improving existing protocols and to collaborate with external partners to identify priority monitoring sites.
<p>Wildlife, Terrestrial, Management Indicator Habitats.</p>	<p>MIHs 1-10: Forest type and age management indicator habitats:</p> <ul style="list-style-type: none"> * Forest plan implementation MIHs are monitored and analyzed on a continual basis for each large landscape (10,000s of acres) vegetation management project. * For the eight large projects from 2004-2007, the need to move habitats toward Forest Plan MIH objectives was a key part of the purpose and need for each project. * Numerous species are being monitored to enable us to evaluate Forest Plan assumptions about population and habitat links.
<p>Wildlife; Threatened and Endangered Species</p>	<p>Canada lynx</p> <ul style="list-style-type: none"> * NRRRI researchers have captured and collared 33 lynx on the Superior NF between 2003-2007. * Over 15,000 locations of collared animals have been made, including located dens, and documented movements and habitat use. * From 2004-2007 adult radio-collared females had 31 kittens in 10 litters. * The lynx study has provided a rough estimate of 190-225 lynx in NE Minnesota. At least 78 unique individual lynx have been identified genetically. * Management activities on all projects from 2004-2007 complied with 2004 Forest Plan direction for lynx and either had no effect or were not likely to adversely affect lynx. Fish and Wildlife Service concurred with all these findings. * Management activities on all projects from 2004-2007 complied with Forest Plan direction for lynx. <p>Bald Eagle and Gray Wolf</p> <ul style="list-style-type: none"> * De-listed from federally threatened status by Fish and Wildlife Service in 2007. * Species' status on the SNF changed to Regional Forester sensitive species and management indicator species continues. * Forest Plan objectives changed from species recovery to maintenance, protection or improvement of habitat and preventing a trend back toward listing. * Management activities on all projects from 2004-2007 complied with 2004 Forest Plan direction for threatened and endangered species and either had no effect or were not likely to adversely affect eagle or wolf or adversely modify wolf critical habitat.