COMPATIBILITY DETERMINATION

USE: Snowmobile Access

REFUGE NAME: Nulhegan Basin Division, Silvio O. Conte National Fish and Wildlife Refuge

DATE ESTABLISHED: July 21, 1999

ESTABLISHING AUTHORITY: Silvio O. Conte National Fish and Wildlife Refuge Act (Public Law 102-212)
Migratory Bird Conservation Act of 1929
Land and Water Conservation Fund Act of 1965

PURPOSE(S) FOR WHICH ESTABLISHED:
(1) to conserve, protect and enhance the Connecticut River populations of Atlantic salmon, American shad, river herring, shortnose sturgeon, bald eagles, peregrine falcons, osprey, black ducks, and other native species of plants, fish and wildlife;

(2) to conserve, protect and enhance the natural diversity and abundance of plant, fish and wildlife species and the ecosystem upon which these species depend within the refuge;

(3) to protect species listed as endangered or threatened, or identified as candidates for listing, pursuant to the Endangered Species Act of 1973 as amended (16 U.S. 1531 et seq.);

(4) to restore and maintain the chemical, physical and biological integrity of wetland and other waters within the refuge;

(5) to fulfill the international treaty obligations of the United States relating to fish and wildlife and wetlands; and

(6) to provide opportunities for scientific research, environmental education, and fish and wildlife oriented recreation and access to the extent compatible with the other purposes stated in this section.

MISSION OF THE NATIONAL WILDLIFE REFUGE SYSTEM:
"To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans."

DESCRIPTION OF USE:

(a) What is the use? Is the use a priority public use?

Public snowmobile access on and through the Nulhegan Basin Division of the Silvio O. Conte National Fish and Wildlife Refuge, which is not a Priority Public Use. This Compatibility Determination pertains only to non-commercial snowmobile access and use on the Refuge by the public; commercial snowmobile tours are a different use and would need to be considered separately.

(b) Where would the use be conducted?

An extensive network of trails exists in Vermont, New Hampshire, Maine, and Canada that provide intrastate, interstate, and international travel by snowmobile. In Vermont, about 150 miles of the Statewide Snowmobile Trail System (SSTS) traversed the 132,000 acres of Champion International Paper Company lands in Essex County at the time of the sale of these lands to the U.S. Fish and Wildlife Service (Service), the Vermont Agency of Natural Resources (VANR), and Essex Timber Company, LLC in 1999. Approximately 35 miles of trails within the SSTS were located on the 26,000-acre parcel purchased by the Service as the Nulhegan Basin Division of the Silvio O. Conte National Fish and Wildlife Refuge (Refuge). The SSTS on the Refuge provides connective links that enable snowmobile access to surrounding public and private lands. The majority (approximately 33 miles or 94%) of the snowmobile trails are located on existing gravel roads. Refuge gravel roads on which snowmobile travel is permitted are: Lewis Pond Road north of the intersection with Four Mile Road, and Four Mile, McConnell Pond, Tim Carroll Brook, Eagles Nest, Stone Dam, Canal, and Upper Tin Shack Roads. The remainder of trails on the Refuge are located on existing grassed tracks ("winter roads"-- logging roads used only after winter freeze-up). The SSTS on the Refuge is depicted on the attached map (Figure 1).

The area on the Refuge encompassed by the SSTS totals approximately 51 acres, or about 0.2% of the total area. Snowmobile trails traverse the spruce-fir, northern hardwood, and mixed conifer/hardwood habitats that are typical on the Refuge. Wildlife species occurring in the habitats traversed by trails include: various migratory birds, resident birds (including spruce [*Dendragapus canadensis*; state-endangered] and ruffed grouse), snowshoe hare, moose, white-tailed deer, and various furbearers. Black bears, reptiles and amphibians, beavers, and brook trout also occur in habitats traversed by SSTS trails, but normally are within hibernacula or under ice when snowmobiling occurs. Also, many of the bird species present during the summer and fall have migrated to southern wintering grounds. No species federally-listed as threatened or endangered, or candidates for such listing, are known to occur on the Refuge. A more detailed description of wildlife species and habitats is presented in "*Final Environmental Assessment - U.S. Fish and Wildlife Service Participation in a Partnership to Protect 'the Champion Lands' in Essex County, Vermont,*" May 1999) (Nulhegan EA).

(c) When would the use be conducted?

Use of the SSTS on the Refuge is not permitted prior to December 15, and actual use is

dependent on occurrence of suitable snow conditions; therefore, the use could start later. Typically, use lasts until mid to late March; however, in years of prolonged snow pack, it could continue into April. Snowmobile access is not permitted beyond April 30. Snowmobile access and trail grooming are permitted during daytime and nighttime hours. Trail maintenance activities such as brush cutting and fallen tree removal also are performed occasionally during the late summer and fall.

(d) How would the use be conducted?

In Vermont, the SSTS and its use are administered by the Vermont Association of Snow Travelers, Inc. (VAST). State law requires compliance with Title 23 ("Snowmobile Laws") of the Vermont Statutes, which includes annual registration of snowmobiles with the Vermont Department of Motor Vehicles (or other state or province), compliance with machine specifications, and requirements for lawful operation and use of snowmobiles on private and public lands. Snowmobile operators are required to secure landowner permission prior to traveling across lands other than their own, and snowmobile travel is permitted only on designated trails within the SSTS (unless written landowner permission is otherwise secured for off-trail operation). Throughout the SSTS, local snowmobile clubs are responsible for maintaining the trails within the clubs' designated areas of operation. Purchase of an annual local club membership and Trails Maintenance Assessment permit (TMA) are required by the State for use of the SSTS. Receipts of the club membership are used for equipment and trail maintenance in the club's area of operation; revenues from TMA purchases go to VAST for administration of the SSTS and for funding local club trail maintenance projects and equipment needs. A portion of the state revenue generated from snowmobile registrations is distributed to VAST and public safety agencies (Vermont State Police, Vermont Fish and Wildlife Department, County Sheriff's Departments) for law enforcement and other SSTS administrative uses. The purchase of a TMA grants the holder permission to use the SSTS (including that portion located on the Refuge) by virtue of the local clubs having secured prior permission from local landowners for trail placement on their lands.

Snowmobile access and use on the Refuge will be conducted according to applicable provisions of *50 CFR 27.31* ("General Provisions Regarding Vehicles"), Title 23 of the Vermont Statutes, and Executive Orders 11644 (*Use of Off-Road Vehicles on the Public Lands*, February 8, 1972) and 11989 (*Off-Road Vehicles on Public Lands*, May 24, 1977) - (see discussion of compliance with Executive Orders under the "Stipulations to Ensure Compatibility" section, below). Under Service land ownership, use and maintenance of the SSTS on the Refuge are administered through an annual Special Use Permit (Permit) collectively issued to VAST and two local snowmobile clubs, the Brighton Snowmobile Club and the Canaan Border Riders, Inc. One stipulation of this Permit is that VAST must carry $2 million of general liability insurance with the United States of America named as an "Additional Insured." The local clubs and VAST are collectively responsible for accomplishing trail maintenance and infrastructure repair (e.g., financing or cost-sharing bridge or culvert replacement on SSTS trails within the Refuge). Members of the local clubs are responsible for placing trail junction, trail number, safety, and speed limit signs along the trails prior to December 15, maintaining them through the period of

snowmobile use, and collecting signs and picking up any litter prior to the reopening of Refuge roads after the mud season closure (typically prior to Memorial Day weekend). The local clubs also are responsible for grooming trails, which is accomplished using tracked groomers equipped with 12-foot, straight, front plow blades and drags nine feet in width and 12 feet in length. The approximate weight of a groomer so equipped is six tons. Groomed trails typically are groomed to a width of approximately <10-16 feet depending on the underlying road width and snow conditions. Grooming typically occurs four to six days per week depending on the weather, snowfall, and trail conditions. However, individual trails are groomed only one to three times per week, depending on snow and trail conditions. Grooming generally occurs at night. Not all trails are regularly groomed. In late summer or fall, the clubs also maintain trails, as necessary, by cutting back woody brush that restricts trail width and removing trees that may have fallen across trails. Under the Permit, use of ATVs by club members is authorized for trail maintenance and signing operations only when and where travel by pickup is not feasible (e.g., during mud season). New trail construction is not permitted.

Because snowmobile clubs must secure landowner permission for the designated routes of travel within the SSTS, Refuge staff, and representatives from VANR, Essex Timber Company, VAST and local snowmobile clubs meet annually to agree on the location of the SSTS-designated trail network on the former Champion Lands and any stipulations for trail use. Locations of approved trails are depicted on Essex County and Vermont snowmobile trail maps. Designated SSTS routes on the former Champion Lands, including the Refuge, are expected to remain the same as they existed at the time of the sale of these lands, unless environmental, safety, or management needs dictate closure or alternate routing. Any such modifications of the SSTS routing are coordinated prior to the upcoming season of use between the landowner and officials from VAST and local clubs, or as public safety, environmental, or management circumstances dictate during the snowmobiling season. Any trail rerouting on the Refuge will be accomplished using existing gravel or winter roads.

According to Permit stipulations, use of the SSTS on the Refuge is not permitted prior to December 15 (although depending on snow conditions, use could start later), and typically, use lasts until mid to late March; however, in years of prolonged snow pack, use could continue into April. Snowmobile access is not permitted beyond April 30. Once use of the SSTS commences, wheeled vehicular travel on the SSTS is not permitted. When snow melt exposes road surfaces, entrance gates on Refuge roads are closed and locked for the spring mud season and all vehicular access (including snowmobile access) is prohibited on the Refuge and the remainder of the former Champion lands.

Maximum allowed speed for snowmobiles on the Refuge currently is 35 mph and is consistent with the speed limit on adjacent ownerships of the former Champion Lands and on State-owned lands elsewhere in Vermont. A "reasonable and prudent" snowmobile operation (Vermont) statute is in effect; such operation also is addressed in *50 CFR 27.31*. Travel is not permitted off the designated SSTS. During the period when snowmobiles are permitted on the Refuge, use occurs daily, but varies greatly in intensity. There are no time of day restrictions; however access and use occurs primarily during daylight hours and the majority of travel occurs between

approximately noon and 6:00 p.m., according to analysis of traffic counter data and observations of Refuge staff. Snowmobilers typically travel in groups of two or more snowmobiles. Single-file travel is required. For safety reasons, snowshoeing or cross-country skiing are not permitted on SSTS trails on the Refuge while such trails are open for snowmobile access; however, pedestrians have virtually unrestricted access to and use of the remainder (more than 25,930 acres) of the Refuge during this time.

Fifty-nine privately-owned recreational camps were located on the Champion lands purchased by the Service for the Refuge. Most of these camps are located along the SSTS and the owners' sometimes access the camps using snowmobiles. A Permit would be required to access 16 camps not situated on the SSTS via the most direct route from the nearest SSTS or public highway, approved in advance by the Refuge Manager. Off-trail distance to these camps ranges from approximately 800-7500 feet and averages approximately 2800 feet. So far, only a few Permits have been requested and use of these off-trail camps during the winter is limited. The exact number of trips per winter is unknown, but based on our conversations with camp owners and observations/monitoring of off-trail snowmobile travel by Refuge staff, visits to these camps are uncommon. Some of these camps are visited only once or twice per winter to shovel snow off roofs; some are not visited at all. The issuance of these Permits for camp access via snowmobile will not materially interfere with or detract from the purposes of the Refuge or the mission of the National Wildlife Refuge System and is covered as a Categorical Exclusion C(3) under Appendix 1 of 516 DM 6.

Snowmobile access and use of the Refuge are monitored primarily by Refuge staff. Information regarding this use gathered by Refuge staff includes: 24-hour refuge snowmobile counts via two traffic counters on Stone Dam Road and Lewis Pond Road; one-hour direct counts of snowmobiles at various locations; observation of trail use patterns and travel directions, visitor compliance with regulations, and visitor activities; observations of wildlife and their sign; noise characterization; observation of surface/trail conditions; and monitoring/assessing situations/problems that need attention. Law enforcement/visitor outreach is mainly provided by a Refuge Law Enforcement Officer (Park Ranger) with assistance from Vermont Fish and Wildlife Department Game Wardens, Vermont State Police, and Essex County Sheriff's Department. A study of visitor use on the Refuge, including snowmobile use, is being conducted by John B. Davis, Ph.D., Southern Vermont College, Bennington, Vermont.

Based on preliminary analysis of data collected by the two traffic counters on Stone Dam and Lewis Pond Roads, snowmobile access and use are higher on weekends than weekdays. Average daily number of snowmobiles on these trails during the week (Monday-Friday) during January-March ranged from 21-165 in 2001 and from 23-187 in 2002. Number of snowmobiles during January-March averaged 441 on Saturdays and 202 on Sundays in 2001. In 2002, the averages were 223 (Saturday) and 143 (Sunday).

Direct one-hour counts of snowmobiles conducted by Refuge staff during the winter of 2000-2001 ($n = 32$) at three locations on the Refuge on various days of the week and times of the day revealed that number of snowmobiles per count ranged from 2-39 ($\bar{x} = 18$, median = 16) from

Monday to Friday and from 8-93 ($\bar{x}$ = 31, median = 23) on the weekend (USFWS, unpublished data). During the winter of 2001-2002, direct one-hour counts (n = 72) recorded at 11 Refuge locations showed a range of 2-43 ($\bar{x}$ = 15, median 13) snowmobiles per count during the week and from 3-55 ($\bar{x}$ = 38, median = 46) on the weekend (USFWS, unpublished data). It is important to note that snowmobilers typically travel in groups; therefore, these counts do not reflect a continuous flow of traffic, but rather spurts of traffic interspersed with periods of no traffic. Additional data analysis on snowmobile visitation and use patterns is ongoing by J. B. Davis at Southern Vermont College.

(e) Why is this use being proposed?

Snowfall on the former Champion lands, including the Refuge, ranges from approximately 85 to >100 inches per year; snow removal is not conducted on roads. Therefore, travel by snowmobile is the most effective means of access on these 132,000 acres for three to four months per year. In addition, snowmobile access through the Refuge enables the public to also gain snowmobile access to the surrounding lands of Essex Timber Company, The Conservation Fund, Vermont Electric Transmission Company, and other private owners who allow snowmobiling. Public snowmobile access to these lands via the SSTS was allowed by Champion International Corporation prior to the sale of the land. Snowmobile travel remains available via the SSTS on lands surrounding the Refuge, but SSTS routes through the Refuge enable direct snowmobile access, and in some instances, the only snowmobile access, to much of the former Champion lands and other ownerships. The adjacent Wenlock and West Mountain Wildlife Management Areas also permit snowmobile access, some of which is served by SSTS trails on the Refuge.

Local citizens, adjoining land owners, and state government officials were very concerned about the future of snowmobile access to, and winter uses of, the former Champion lands and other lands in the vicinity that were linked by the SSTS. Prior to supporting Service ownership of lands in the Nulhegan Basin, citizens and partners wanted assurances of what access and uses likely would be allowed, due in part to the great economic importance of snowmobiling to the Northeast Kingdom, and the associated role of the SSTS on the former Champion lands.

The Service signaled its intention to continue certain uses, including snowmobile access, if compatible, in the document "A Conservation Partnership for the Nulhegan Basin and Paul Stream Area - Public Ownership by the Vermont Agency of Natural Resources and the United States Fish and Wildlife Service - January 28, 1999" (Conservation Partnership) (see Appendix 3 of the Nulhegan EA). Language in the Conservation Partnership document also explicitly stated the Service's commitment " . . . to provide access to wildlife-dependent and other <u>compatible</u> recreation purposes" [emphasis added]. The Service's position in this Conservation Partnership was explicitly based on the fact that snowmobile access and use on the Refuge must be determined to be a compatible use (*603 FW 3*), and if indeed determined as compatible, the use must be managed to ensure continued compatibility. The Nulhegan EA analyzed the impacts of the uses outlined in the Conservation Partnership document as anticipated being allowed and included an Interim Compatibility Determination for snowmobile access on the Refuge.

Allowing snowmobile access on the Refuge provides the visiting public with an efficient means of winter transport onto and through the Refuge and the *opportunity* to engage in wildlife-dependent recreation activities. A comprehensive, quantitative evaluation of the ratio of snowmobilers that are only passing through the Refuge bound for surrounding lands versus those who have made the Refuge their destination has yet to be performed. The ratio of Refuge winter visitors that are engaged in wildlife-dependent recreation versus those that are not also is undocumented. However, Refuge staff have observed visitors on snowmobiles that were engaged in wildlife observation (sight and sign), photography (wildlife and scenery), snowshoe hare hunting, trapping, interpretation (Mollie Beattie Bog boardwalk), and environmental education (e.g., experiencing viewsheds of conserved habitats and Basin topography from scenic vistas). In addition, some visitors were observed to have traveled to certain locations on the Refuge via snowmobile and then continued their travel on snowshoes or cross-country skis. Preliminary analysis of visitor survey card data (J. B. Davis, Southern Vermont College, unpublished data) described the activities of 109 winter visitors to the Refuge in 2001 ($n = 47$) and 2002 ($n = 68$) and revealed that in addition to snowmobiling, 42 (approximately 37%) engaged in wildlife observation and photography during their Refuge visits.

AVAILABILITY OF RESOURCES:

The resources necessary to provide and administer this use are available within current and anticipated Refuge budgets. Staff time associated with administration of this use is primarily related to issuing annual Permits to VAST and the two local snowmobile clubs, general oversight of trail maintenance activities, monitoring compliance with Permit conditions, law enforcement, monitoring use patterns, monitoring potential impacts of the use on Refuge resources and visitors, and providing information to the public about the use. With the exception of Permit issuance and compliance checks, these activities also would occur if conditions on the Refuge during the winter permitted automobile access. Currently the program is administered by the Refuge Manager, with assistance from the Wildlife Biologist and seasonal Law Enforcement Officer, who perform important roles in monitoring and managing the use. The program eventually will be administered by a Deputy Refuge Manager. Resource impacts will be monitored by the Wildlife Biologist, and law enforcement will be provided by a seasonal Park Ranger, both of whom already are assigned to the Refuge. An Outdoor Recreation Planner will monitor visitor impacts and manage public use programs. The Deputy Manager and Outdoor Recreation Planner positions are in the approved staffing plan for the Refuge, but are as yet unfunded.

Annualized costs associated with the administration of snowmobile access on the Refuge are estimated below:

Issue-administer SUPs/Coordinate with VAST -- GS-11 Deputy Refuge Manager = $1,000

Law enforcement - patrol/visitor-resource protection/public use

monitoring/enforcement/outreach -- GS-7 Park Ranger = $8,000

Resource impacts/monitoring/evaluation -- GS-11 Wildlife Biologist = $2,500

Visitor impacts/monitoring/evaluation/provide information to public -- GS-9 Outdoor Recreation Planner = $2,000

Traffic counter maintenance/data collection/analyses -- GS-9 Outdoor Recreation Planner = $ 500

Snowmobile gas/maintenance = $500

Miscellaneous supplies = $200

Total = $14,700

The estimated costs listed above are primarily salary costs. Monitoring visitation and the impacts of public uses on resources, and providing law enforcement are required for properly administering public use programs; therefore, these operations already are accounted for in budget and staffing. In addition to Service Park Rangers, law enforcement coverage on the Refuge occasionally is provided (at no cost to the Service) by officers from the Vermont State Police, Vermont Fish and Wildlife Department, and the Essex County Sheriff's Department.

No special facilities or resources are needed to administer this use. Snowmobiles are needed to effectively monitor this use and to enable law enforcement operations during the winter; however, they also are needed by Refuge staff to effectively travel on the Refuge in the performance of their duties, so they are already owned and in use. Maintenance of the SSTS on the Refuge is conducted as needed by the snowmobile clubs; the Refuge incurs no expense from these activities. Any road maintenance activities financed by the Refuge during the summer or fall are performed to properly maintain roads for automobile travel, and with the exception of bridge or large culvert work, have, at most, an indirect benefit for snowmobile travel. Therefore, costs for road maintenance are not relevant for analyzing costs incurred due to snowmobile use of the Refuge.

ANTICIPATED IMPACTS OF THE USE:

Potential direct negative impacts resulting from this use on the Refuge include habitat loss/damage, pollution, and disturbance to wildlife and pedestrian visitors. Potential impacts are discussed below.

Habitat loss/damage – The current SSTS network on the Refuge, which was superimposed on previously existing gravel vehicular roads (94%) and logging paths (4%), encompasses about 51 acres (0.2% of total Refuge area). Continuing to maintain this acreage in roads and snowmobile

trails from the habitat base of the 26,000-acre Refuge is not considered a significant loss of wildlife habitat. Potential surface damage to roads is considered inconsequential because snowmobile travel occurs on snow pack up to several feet in depth. There is no vegetation to damage on gravel roads that underlie the SSTS. On logging paths ("winter roads"), which underlie 4% of the snowmobile trails, damage to vegetation is not evident. No trails run through streams; all stream crossings occur on bridges placed for the purposes of vehicular travel. When snowmelt exposes road surfaces, trails are closed and Refuge roads are gated and locked for the duration of mud season. Trail grooming also occurs only on a snow-covered surface; therefore, under normal circumstances, groomers are not making direct contact with the ground.

Trail maintenance activities in the late summer and early fall involving roadside debrushing destroys some vegetation the but woody and perennial herbaceous species generally are not killed, vegetation is not fully removed, and soil surfaces are not exposed. Debrushing at the same site occurs on an approximate 3-5 year rotation, depending on vegetative conditions. Debrushing is performed in late summer and early fall; therefore, potential negative impacts to any birds that might be nesting along roadsides are avoided. Likewise, roadside ditches that may have supported breeding amphibians earlier in the year typically are dry and devoid of any amphibians. Vegetation is not totally removed from the roadsides when debrushing occurs, so significant destruction of invertebrate habitat is unlikely. Except for the approximately two miles of snowmobile trails that occur on winter roads, this type of treatment occurs anyway in order to properly maintain gravel roads for automobile travel, and is performed primarily for that use. No federally-listed plant species are known to occur on the Refuge. Any state-listed (i.e., auricled twayblade, *Listera auriculata*) or rare plants are not known to be impacted by the use (actual snowmobile travel or debrushing) because they do not occur on trails or trail borders. Any potential impact associated with habitat loss/damage on the 51 acres encompassed by the SSTS is not considered significant in the short- or long-term on the 26,000-acre Refuge, nor would it materially interfere with or detract from the purposes for which the Refuge was established.

Pollution – Snowmobiles emit pollutants, mainly through exhaust emissions. According to information cited by the U.S. General Accounting Office (*Federal Lands: Agencies Need to Assess the Impact of Personal Watercraft and Snowmobile Use*, GAO/RCED-00-243, September 2000) (GAO Report), the National Park Service has concluded, primarily through analyses of studies of the impacts of snowmobiles on the resources of Yellowstone and Grand Teton National Parks (Parks), that use of snowmobiles caused increased levels of air pollution. Snowmobiles reportedly produced 68-90% of the hydrocarbons and 35-69% of carbon monoxide emissions during the winter. A study cited in the Final Comprehensive Conservation Plan and Environmental Impact Statement [and Appendix] (U.S. Fish and Wildlife Service, April 2000) (CCP) for the Little Pend Orielle National Wildlife Refuge (LPONWR) in northeastern Washington claimed that average snowmobile emission per hour is 216 grams of hydrocarbons and nitrous oxide and 564 grams of carbon monoxide per horsepower. Reportedly, a 54-horsepower snowmobile engine was estimated to emit approximately 360 times as much pollution per hour as an automobile. Other studies cited in the CCP claimed that such air pollutants can result in foliar injury, reduced productivity, tree mortality, decreased growth, altered plant population, modifications in species diversity, increased susceptibility to pests and

diseases, and pollutant depositions that melt into streams during spring snow melt. The levels of pollutants necessary to cause these effects were not stated. Additionally, whether these perturbations actually were evident on LPONWR, and if so, were linked to snowmobile use, was not stated. The amount and disposition of snowmobile emissions on the Nulhegan Basin Division have not been studied. The effects of snowmobile exhaust emissions on Refuge habitat or wildlife also have not been studied, but habitat maladies as listed in the LPONWR CCP cited above are not apparent on the Refuge. Likewise, there have been no indication of air or water pollution problems that have been linked to snowmobile use as it occurs on the Refuge.

Disturbance to wildlife – According to the GAO Report cited above, studies reportedly indicated that the rapid movement (undefined) of snowmobile use disturbed wildlife and caused stress during the season of highest wildlife mortality in the Parks. In the CCP for LPONWR cited above, it was noted that various studies differed in their conclusions about whether snowmobiles actually caused physiological stress in deer or displacement from winter shelter. The CCP mentioned studies from Ontario, Canada and Maine that concluded that snowmobile use did not cause significant negative impacts on wintering deer. Other studies mentioned in the CCP for LPONWR indicated that packed snowmobile trails might affect predation rates of coyotes on snowshoe hares and thereby affect the prey base of the federally-threatened Canada lynx (*Lynx canadensis*).

Although the general notions regarding snowmobile use and potential disturbance to wildlife in the reports cited above may be valid for the Parks and LPONWR, there is little direct implication for the Nulhegan Basin Division. Lynx are not known to occur on the Refuge or in Vermont; western species such as bison, elk, or pronghorn antelope also are absent. The characteristics of wildlife concentrations and wintering habitat in the Parks differ from those on the Refuge (e.g., open range versus deep woods). Many trust species (e.g., neotropical migrants, waterfowl, woodcock) have departed Refuge habitats for southern wintering grounds prior to the start of snowmobile use. Although the layout of the SSTS network (on what are now Refuge lands) was designed to make use of existing roads and trails, it does not happen to traverse specific locations of any known significant concentrations of trust species or other wildlife.

Snowmobile travel on the Refuge is restricted to designated corridors and maximum speed is limited to 35 mph. Restricting snowmobile travel to designated trails confines any potential aural or visual disturbance to wildlife to specific corridors and therefore limits the area of exposure on a refuge-wide basis (51 linear acres versus 26,000 acres). The timing, location, and occurrence of snowmobile use is fairly predictable. Snowmobile use of trails is primarily a daytime activity based on data recorded on traffic counters, observations of Refuge staff, and discussions with users. Nighttime grooming activities also are fairly predictable in time and space -- about one round trip per trail per night for about one to three nights/week. Groomers are relatively quiet, and speeds are not in excess of about seven mph. There have been no known collisions between snowmobiles or groomers and wildlife on the Refuge.

Such spatial and temporal predictability of use likely results in acclimatization by wildlife to disturbance in the vicinity. Approximately 94% of the SSTS on the Refuge is superimposed on

gravel roads open to vehicular travel; therefore, resident (i.e., still present during the winter) wildlife using habitats within proximity to those road corridors are presumed to already be acclimated to motor vehicle traffic. Even if wildlife were to actually avoid trails while the use is in progress, the area encompassed by the trails system is approximately 51 acres (0.2%). In a more extreme, yet purely hypothetical scenario, if wildlife avoided an area of 200 feet (totally arbitrary figure) on either side of the SSTS network on the Refuge, the habitat loss would be approximately 1,697 acres or 6.5% of the total area of the Refuge. Given our current understanding of this use, habitat availability, wildlife habitat use, and wildlife requirements on the Refuge, we do not consider that a similar level of disturbance, (which, if indeed existed, would not be characterized as continuous, prolonged, or extensive in area), causes significant impacts to wildlife populations on the Refuge to such an extent that it constitutes a material interference with or detraction from the accomplishment of Refuge purposes or the mission of the National Wildlife Refuge System.

Physiological or behavioral research that would evaluate snowmobile-induced stress in wildlife has not been performed on the Refuge. Whether wildlife species on the Refuge that might potentially be affected by snowmobile use indeed adjust their activities or habitat use patterns in response to this use is untested. However, Refuge staff engaged in administering and monitoring the use observe birds and mammals and their spoor within, directly adjacent to, or within sight of the SSTS on the Refuge. Various species, including ruffed grouse, snowshoe hare, moose, white-tailed deer, coyote, red squirrel, fisher, bobcat, and porcupine cross, parallel, and/or travel within snowmobile trails as evidenced by their sightings, tracks and other sign. Groomed trails actually may serve to reduce energy expenditure of animals that use them for travelways. Animals traveling within or directly adjacent to snowmobile trails that encounter snowmobile traffic generally flee (typically for short distances), as they would when encountering an automobile, bicycle, or pedestrian. Birds observed in trees (e.g., ruffed grouse, woodpeckers, pine grosbeaks) generally appear undisturbed by passing snowmobiles.

Any disturbance to wildlife that results in evasive locomotion entails an energy expenditure on the part of the individual(s) involved. However, whether that energy expenditure decreases the probability of survival depends on numerous factors, including timing, frequency, duration, and extent of the disturbance, physical condition of the individual(s) involved, weather, habitat, and forage conditions, and snow conditions. Disturbance of individuals does not equate to disturbance to populations. Studies of disturbance responses and their implications for wildlife populations on and around the Refuge have not been performed, but a funding request for such a study has been submitted.

The 10,000-acre Nulhegan Deer Wintering Area (NDWA) occurs on the Refuge. The Refuge portion of the SSTS superimposed on Eagles Nest Road (approximately 2.1 miles) and Lewis Pond Road (about 0.7 mile) form part of the boundaries of the NDWA. The trail overlying Stone Dam and Canal Roads (approximately 6.8 miles) is located within the NDWA. Nevertheless, very little, if any, functional winter deer shelter currently exists directly adjacent to the SSTS occurring on the Refuge. However, the spruce/fir habitat that surrounds about three miles of the trail that occurs on the Canal Road and upper portion of Stone Dam Road will become functional

winter shelter within about 10 to 15 years; any potential negative impacts of snowmobile trail location and use in this area will then need to be reevaluated based on deer wintering use. Because only a portion (about 27%) of the SSTS on the Refuge is within or on the periphery the NDWA, and wintering deer generally restrict most of their movements within or adjacent to the softwood cover, potential disturbance to wintering deer on the Refuge resulting from noise or visual stimulation from snowmobiles likely is not widespread. Deer that have been observed within sight of the SSTS by Refuge staff did not display any outward response of aversion to snowmobile traffic, unless they were encountered directly in the trail (in which case they would run off the trail). Bedded deer occasionally have been observed from the SSTS; some never moved from their beds as snowmobiles passed by. Although untested on the Refuge, winter weather conditions and the availability and distribution of suitable functional deer shelter presumably have more effect on the occurrence, distribution, and activity patterns of wintering deer on the Refuge than the location and use of snowmobile trails.

Denning black bears, other mammals that exhibit winter dormancy or hibernation, reptiles and amphibians, fish, and overwintering invertebrates are not directly impacted by snowmobile travel. Beavers are typically under ice while snowmobile access is ongoing, but on one occasion they were observed by Refuge staff in February 2001 felling and cutting trees directly adjacent to the SSTS trail that crosses the Black Branch bridge on Stone Dam Road. The subnivean movements of certain small mammals might be impacted by the compaction of snow on groomed trails, but it is unlikely that the reduction in insulative values of compacted snow or the inability to cross underneath groomed trails that total only 51 acres of Refuge habitat reduces survival of these species on a population scale.

Impacts to visitors – Snowmobile noise is unnatural and the noise increases with the amount of traffic and the proximity of traffic to the listener. According to the GAO report cited above, officials believed that snowmobile use, as it occurred in the Parks, conflicted with the solitude of Park visitors, and that noise from snowmobiles had a major impact on the natural quiet of the Parks. Noise levels of snowmobiles on the Refuge, individually or in aggregate, have not been documented; however, Vermont regulations prohibit the operation of snowmobiles with noise levels in excess of 73 decibels on the A scale at 50 feet in a normal operating environment. Snowmobile noise on the Refuge, although frequently heard, is neither constant nor omnipresent. Depending on site characteristics, weather conditions, and location of the visitor, snowmobiles generally are audible on the Refuge from an estimated several hundred yards to perhaps several miles or more distant from the listener. Often, snowmobile noise heard on the Refuge actually emanates from adjacent lands, i.e., the sound of snowmobiles seems to travel onto the Refuge from greater distances than sound produced within the Refuge travels, perhaps because of the Basin topography of much of the Refuge. Although snowmobile use on and around the Refuge greatly adds to the amount of noise winter visitors might experience, even in the absence of snowmobiles, the Refuge is not an area totally free of anthropogenic noise sources, such as occasional commercial truck and train traffic along Vermont Route 105 on the south end of the Refuge, chainsaws from neighboring lands, and aircraft overflights.

Although the ratio of winter pedestrian to snowmobile visits on the Refuge is not known, based

on a lack of observations by Refuge staff of winter pedestrians, such visitation appears to be minor. However, some visitors on cross-country skis or snowshoes complain that the quality of their outdoor experience (on the Refuge or elsewhere) is diminished by the presence of snowmobiles. Such concern by those who seek a quiet, backcountry experience on the former Champion lands also has been expressed in recent public meetings attended by Refuge staff.

Summary of anticipated impacts -- In summary, the GAO report, LPONWR CCP, and associated studies referenced therein are relevant, but of limited use, in examining the impacts that snowmobile access has on the Refuge because they primarily focus on different ecosystems, habitats, plant and wildlife species, and sensitivity of those species, different site conditions, and a degree and pattern of recreational use that are different from what is found at the Nulhegan Basin Division. No research has been conducted on the Nulhegan Basin Division specific to the impacts of snowmobile use. However, based on our current level of knowledge about the use and the Refuge, current use patterns, experience in observing this use over the past three years, current (and future adaptive management) management of the use, general wildlife management principles, and sound professional judgment, the potential impacts to the Nulhegan Basin Division discussed herein are not considered in the short- or long-term, directly or indirectly, separately or cumulatively, to constitute a material interference with or detraction from the purposes for which the Refuge was established or the mission of the National Wildlife Refuge System. Snowmobile access provides an enhanced opportunity for the public to access the Refuge to enjoy and experience the winter landscape and scenery and enhanced opportunity to engage in wildlife-oriented recreation, including Priority Public Uses, in support of Refuge Purpose #6. The current use as managed is viewed as an effective, justifiable, and compatible method of winter access to the 26,000-acre Refuge. The use also provides important connective links via the SSTS to surrounding private and public lands.

PUBLIC REVIEW AND COMMENT:

Press releases were sent to six newspapers with wide local distribution in northeastern Vermont and northern New Hampshire notifying the public that the Service was requesting comment on the draft Visitor Services Plan/EA (VSP/EA) and associated draft Compatibility Determinations for the Refuge. Additionally, correspondence from the Silvio O. Conte National Fish and Wildlife Refuge (Conte NFWR) to approximately 1,600 people on their refuge mailing list and from VANR to approximately 1,000 on the Champion Lands planning mailing list provided written notice that public review and comment was being requested for the draft VSP/EA and associated documents in conjunction with receipt of comments for draft planning documents for the West Mountain Wildlife Management Area (WMA) and Essex Timber Company. The draft VSP/EA and associated draft Compatibility Determinations also were available for review and comment via the Internet through the Conte NFWR website and were made available at Refuge offices in Island Pond, Vermont and Turners Falls, Massachusetts. The West Mountain WMA website of VANR also provided a link to the Conte NFWR website. These public notices

conformed to the "Final Compatibility Regulations Pursuant to the National Wildlife Refuge System Improvement Act of 1997 " published in the *Federal Register* Volume 65, Number 202, pages 62458-62483. The public was given the opportunity to provide comment via traditional mail service, fax, or email, and oral and written comment could be delivered during six public meetings held in Island Pond, Lyndonville, Springfield, Rutland, Waterbury, and Essex Junction. The period for comment (October 9 to November 19, 2001) exceeded the required 14-day minimum. The draft Compatibility Determination indicated that we had determined the proposed use to be compatible.

We received responses from three commentors on the draft Compatibility Determination. Two of the three indicated that we had not provided sufficient information to warrant a determination of compatibility. In response to this opinion, we modified the final Compatibility Determination accordingly in order to more clearly: describe the use, describe our administration and management of the use, explain our rationale regarding anticipated impacts, describe the relationship of the use to Refuge Purposes, and explain our findings. Substantial clarification therefore was added to the sections "(d) How would the use be conducted?" "(e) Why is this use being proposed," and "Anticipated Impacts of the Use." In the "Availability of Resources"section, cost of administering the use was modified (increased approximately $2,500) based on additional experience during a third year of administering the use. A section was added under "Stipulations to Ensure Compatibility" that more clearly defined, compared to the draft version, our compliance with provisions of Executive Orders 11644 and 11989. However, none of these modifications changed the substance of our opinion on compatibility of this use, but rather, more fully, explicitly, and clearly explain the basis for it. Specific responses to comments are listed below.

Commentor #1 proposed that: **(1)** the draft Compatibility Determination was not supported by sufficient information; **(2)** snowmobile access was inconsistent with statutorily defined refuge purposes and was not compatible; and **(3)** the draft determination of compatibility was arbitrary and capricious.

> Response: **(1)** On the basis of available information presented herein from three years of administration and management of the use on the Refuge, our current knowledge of the use and current and anticipated use levels and patterns, public review and comment, and sound professional judgement, we have determined that the proposed use is compatible and believe we have clearly addressed our findings in this Compatibility Determination. **(2)** Based on our analysis of the use, consideration of the associated impacts, our management of the use, and sound professional judgement, we do not believe that the proposed use is inconsistent with Refuge purposes; i.e., it does not materially interfere with or detract from:
>
> - (Purposes #1 and #2) -- the conservation, protection, and enhancement of native species of plants, fish, and wildlife, their natural diversity and abundance, and their ecosystems -- most animals, especially Service trust species of migratory birds, are absent from the Refuge in the winter and others hibernate or remain under the deep snow cover; plants and ecosystems are protected from impacts by snow cover and the location of trails; no significant negative impacts directly

attributable to snowmobiling have been observed or documented on the Refuge.

- (Purpose #3) -- the protection of federally listed or candidate species -- none of these species occur on the Refuge.
- (Purpose #4) -- the restoration or maintenance of the integrity of Refuge wetland and aquatic habitats -- snowmobile crossings of water bodies are on bridges; no significant negative impacts directly attributable to snowmobiling have been observed or documented on the Refuge.
- (Purpose #5) -- fulfillment of international treaty obligations relating to fish, wildlife, or wetlands -- Service trust species of migratory birds are largely absent from the Refuge in the winter, of those that occur, no significant negative impacts directly attributable to snowmobiling have been observed or documented on the Refuge.
- (Purpose #6) -- providing compatible opportunities for scientific research, environmental education, and fish and wildlife-oriented recreation and access -- Snowmobile access actually provides an enhanced opportunity for the public to access the Refuge to enjoy and experience the winter landscape and scenery and engage in wildlife-oriented recreation, including Priority Public Uses.

(3) Our approach, while perhaps not clearly explained and justified in the draft version, was neither arbitrary nor capricious.

Commentor #2 remarked **(1)** snowmobile access on the Refuge is not compatible with Refuge purposes; **(2)** current information does not support the draft determination of compatibility; **(3)** wildlife generally avoid snowmobile trails, which is why "no significant concentrations of wildlife occur . . . near snowmobile trails"; **(4)** animals "generally flee" from snowmobiles, yet the compatibility determination avoids the obvious question of how additional flight affects the health and survival of the animals who spend precious energy fleeing snowmobiles; **(5)** the presence of snowmobiles is both unnatural and unnecessary; **(6)** the adverse impacts of noise, air, and water pollution to the Refuge's ecological integrity warrant prohibition of snowmobiles; **(7)** the presence of external anthropogenic noises does not justify the addition of such noises within the Refuge; **(8)** given the lack of conclusive evidence that snowmobiles will not have an adverse impact on wildlife and wildlife-dependent recreation and dismissal of information showing such impacts elsewhere, the determination of compatibility is "utterly without support"; **(9)** lack of staff and resources to adequately manage use including providing law enforcement and resource monitoring warrant restricting snowmobile access to bare minimum to allow passage through Refuge to other parts of the SSTS; **(10)** disagreement that "the only reasonable means of access for three to four months per year to this 26,000-acre Refuge (and to the lands beyond) to facilitate Priority Public Uses is travel by snowmobile."

Response: **(1)** See Response (2) listed under Commentor #1, above. **(2)** See Response (1) under Commentor#1, above; **(3)** We modified the language in question in the final version of the Compatibility Determination to more correctly state that "Although the layout of the SSTS network (on what are now Refuge lands) was designed to make use of existing roads and trails, it does not happen to traverse specific locations of any known significant concentrations of trust species or other wildlife." This modification perhaps

better reflects our meaning that the placement of the existing SSTS on the Refuge (and the underlying system of existing gravel roads and winter roads, which were strategically located for past logging use) does not traverse any known, significant high-use areas of wildlife habitat. An example of a road traversing a "significant, high-use area of wildlife" might be a road running next to a waterfowl impoundment where wintering ducks were attempting to roost or concentrate their foraging and were being repulsed from that critical habitat by human activity occurring on the road such that the disturbed habitat eventually became entirely unavailable to the ducks. Our preliminary observations of wildlife and their sign on the Refuge indicate that wildlife do not necessarily avoid the snowmobile trails and are not excluded from trailside habitats by the use in any significant way. **(4)** Our preliminary observations indicate that wildlife generally flee from snowmobiles when wildlife/snowmobile encounters occur on the trails or in close proximity to them, and that animals occurring within sight of trails may or may not flee. It is true that any disturbance to wildlife that results in evasive locomotion entails an energy expenditure on the part of the individual(s) involved. However, whether that energy expenditure decreases the probability of survival depends on numerous factors, including timing, frequency, duration, and extent of the disturbance, physical condition of the individual(s) involved, weather, habitat, and forage conditions, and snow conditions. Disturbance of individuals does not necessarily equate to disturbance to populations. Even if wildlife were to actually avoid trails while the use is in progress, the area encompassed by the trails system is approximately 51 acres (approximately 0.2%) out of 26,000. In a more extreme, but purely hypothetical scenario, if wildlife avoided an area of 200 feet (totally arbitrary figure) on either side of the SSTS network on the Refuge, the habitat loss would be approximately 1,697 acres or 6.5% of the total area of the Refuge. Given our current understanding of this use, habitat availability, wildlife habitat use and wildlife requirements on the Refuge, we do not consider that such a level of disturbance, (which, if indeed existed, would not be continuous, prolonged, or extensive in area), would create significant impacts to wildlife populations on the Refuge to an extent that it would constitute a material interference with or detraction from the accomplishment of Refuge purposes or the mission of the National Wildlife Refuge System. This opinion notwithstanding, we will strive to monitor and evaluate this use and its impacts on Refuge resources to better understand and responsibly administer this use, including modifications to the use, if necessary, in an adaptive management fashion to ensure continued compatibility. A request for funding a research project designed to address the issue of potential wildlife disturbance from snowmobiling has been submitted through our Refuge Operations Needs System. **(5)** We agree the presence of snowmobiles is "unnatural." Although snowmobiles are not "necessary" to access the Refuge, they undoubtedly provide an enhanced means of public access and what we currently consider to be the most effective means of providing access that gives the public the *opportunity* to engage in wildlife-oriented recreation, which actually supports accomplishment of Refuge Purpose #6. **(6)** The adverse impacts mentioned are undocumented on the Refuge, but even if they were existent, based on the amount of acreage impacted, they currently are not considered significant enough to constitute material interference with or detraction from the accomplishment of Refuge

purposes. **(7)** The noise resultant from snowmobile access and the area of the Refuge impacted by that noise currently is considered justifiable on the basis of providing enhanced access to the 26,000-acre Refuge. **(8)** See responses (1) and (2) immediately above. **(9)** The use at current levels and patterns presently is administered in a responsible manner by the Refuge Manager, Wildlife Biologist, and a Seasonal Law Enforcement Officer (Park Ranger); as the Refuge staff increases in size, administrative and management capabilities will no doubt increase. **(10)** The language in question used in the draft Compatibility Determination by the Commentor was modified in the final version to more correctly state " . . . the most effective means of access . . ."

Commentor #3 proposed that **(1)** we add a statement about commercial snowmobiling in the "Description of the Use" section, and **(2)** that state-significant natural communities be added to the list of characters that must be protected from considerable adverse effects as specified in Executive Order 11644 in Item (9) of "Stipulations Necessary to Ensure Compatibility."

Response: **(1)** In the final version we relocated the statement in question from under "(d)" to "(a)" in the "Description of the Use" section and modified the statement to read: "This Compatibility Determination pertains only to non-commercial snowmobile access and use on the Refuge by the public; commercial snowmobile tours are a different use and would need to be considered separately. **(2)** Item "(9)" under "Stipulations Necessary to Ensure Compatibility" is derived from the requirements of Executive Order11644 - it is not a list that we can edit. However, satisfying the intent of Order, by extension, also would protect state-significant natural communities.

DETERMINATION: **THIS USE IS COMPATIBLE** **__X__**
THIS USE IS NOT COMPATIBLE _____ (Check one)

STIPULATIONS NECESSARY TO ENSURE COMPATIBILITY:

The administration of snowmobile access and use on the Refuge will comply with *50 CFR 27* and Title 23 of the Vermont Statutes.

The administration and management of the use as described within Section "(d)," above, and consideration, evaluation, and assessment of the impacts of the use as described in the "Anticipated Impacts of the Use" above, document our compliance with Executive Orders 11644 (*Use of Off-Road Vehicles on the Public Lands*, February 8, 1972) and 11989 (*Off-Road Vehicles on Public Lands*, May 24, 1977) as summarized below.

(1) Specific areas and trails shall be designated where off-road vehicle (ORV) use is either permitted or prohibited – Public snowmobile travel is restricted to designated corridors within the SSTS that are depicted on statewide and Essex County VAST trail maps available to the public, in the Refuge Visitor Services Plan, and clearly marked with trail signs on the Refuge. Roads, trails or other areas that are closed to snowmobile travel, but could reasonably be mistaken for areas open for travel, are clearly marked with closure signs. Guidelines governing use are available in the Refuge *Visitor Services Plan* and will be incorporated into future Refuge brochures, and Refuge staff are available to the public in the office and on the Refuge to answer questions and provide information about the use. Vermont regulations are available to the public in the *Vermont Snowmobile Operators Manual*.

(2) Designated areas and trails shall be located to minimize damage to soil, watershed, vegetation, or other resources of the public lands – The corridors open for public snowmobile travel are located primarily (94%) on existing gravel roads; the remainder are located on existing winter roads. Damage to soils and vegetation is minimized due to snow cover while use is occurring; damage to waters are minimized by trail location and stream crossings on bridges; damage to other resources (including cultural) is minimized due to trail location, snow cover, and management of the use.

(3) Areas and trails shall be located to minimize harassment of wildlife or significant disruption of wildlife habitats – Such harassment is minimized because: a) trust species are largely absent from the Refuge during the winter; b) many resident species are dormant or sequestered under ice or snow; c) trails (encompassing a total of approximately 51 acres) happen not to traverse any significant concentrations of wildlife; d) no functional winter deer shelter currently exists adjacent to approximately 6.8 miles of trails that occur within, or 2.7 miles of trails that occur on the border, of the Nulhegan Deer Wintering Area, and e) wildlife are presumed to have acclimated to motor vehicle travel on gravel roads underlying the SSTS for the past 40 years and to the spatial, temporal, behavioral predictability of snowmobile use as managed on the SSTS.

(4) Trails shall not adversely affect the natural, aesthetic, or scenic values of the lands – Such values are not significantly affected because: a) snowmobile trails encompass only 51 acres of a 26,000-acre refuge in linear openings already in existence as road corridors, b) due to topography, forest cover, and relatively narrow width, trails are not visible, or are indistinguishable, within most viewsheds of the Refuge; c) these lands have a 300-year history of human uses and the appearance of these trails is not inconsistent with the rugged character of the land and its cultural heritage, d) surface impacts evidently are not occurring that would affect scenic values in the non-snow season, e) summer/fall trail maintenance activities do not significantly or permanently damage vegetation, and on the 94% of the trail system that occurs on

vehicular roads, it is necessary for public safety and proper maintenance, f) trail signs are temporary and generally non-obtrusive, and any litter resulting from the use is removed from the Refuge by the snowmobile clubs.

(5) Operating conditions shall be directed at protecting resource values, preserving public health, safety, and welfare, and minimizing use conflicts – a) Resource values are protected because dates are established within which snowmobile use can occur, site conditions must be suitable for operation of snowmobiles and groomers without causing damage and if conditions become unsuitable trails are closed and use is discontinued; b) public safety, health, and welfare are preserved and use conflicts are minimized due to: enforcement of applicable provisions of 50 *CFR* 27.31, Vermont Title 23, and Refuge requirements including designated trail system, imposition of speed limits, placement of safety and informational signs, noise level limits, vehicles must be in safe operating condition, reasonable and prudent operation is required, trail closures will occur based on unsafe conditions, pedestrian and snowmobile use of the same trails is not permitted (snowmobiles are confined to a designated 51 linear-acre trail system, pedestrians are unrestricted elsewhere on the 26,000-acre refuge).

(6) Areas and trails where ORV use is permitted are well-marked and information about location and conditions for use are made available to the public – Public snowmobile travel is restricted to designated corridors within the SSTS that are depicted on statewide and Essex County VAST trail maps available to the public, in the Refuge Visitor Services Plan, and clearly marked with trail signs on the Refuge. Entrances to the Refuge occurring on the SSTS are clearly marked with Refuge boundary signs. Regulations governing use are available in the Visitor Services Plan and will be incorporated into future Refuge brochures and other informational displays, and Refuge staff are available to the public in the office and on the Refuge to answer questions and provide information about the use, Vermont regulations are available to the public in the Snowmobile Operators Manual. Special Use Permits issued to VAST and local snowmobile clubs contain specific special conditions that govern their operation and use of the SSTS on the Refuge. Any Special Use Permits issued for access to private camps that are located on the Refuge that are not situated on the SSTS define a specified route of travel minimizing off-trail travel and are for direct ingress/egress only.

(7) Provisions are made for law enforcement – A seasonal Federal law enforcement officer (Park Ranger) enforces applicable laws and regulations, provides visitor and resource protection, performs public outreach, monitors activity patterns, collects information on the use, and provides appropriate feedback to Refuge management staff concerning snowmobile and other public uses. Assistance is provided by State and County enforcement officers.

(8) Effects of ORV use must be monitored – Snowmobile use and its effects are monitored through direct observations by Refuge staff of trail use and user activity patterns and conduct, law enforcement patrols including speed monitoring and enforcement using radar detection devices, direct counts of snowmobiles, use of infrared traffic counters, observations of wildlife occurrence, behavior, and habitat use in the vicinity of the SSTS, monitoring of trail conditions and site impacts, detection of off-trail travel, and through awareness and evaluation of potential

conflicts with other uses, Refuge purposes, or management goals. A study of visitor use, including snowmobiling, by Southern Vermont College is in progress.

(9) If it is determined that ORV use is causing considerable adverse effects on soil, vegetation, wildlife, wildlife habitat or cultural or historic resources of particular areas or trails, those areas must be closed until adverse effects are eliminated or preventative measures have been implemented to prevent recurrence – This obligation is inherent in our "Stipulations to Ensure Compatibility" of this Compatibility Determination, Final Environmental Assessment for the Nulhegan Basin Division (cited above), Conservation Partnership (cited above), prescribed within the Visitor Services Plan, and specified within Special Conditions of Special Use Permits that govern the use issued to VAST and the local clubs. Baseline inventories of plant, aquatic, and animal communities, and cultural resources that were performed in 2000 and 2001 can serve as a benchmark for changes over time. Wildlife and habitat surveys that will aid in providing feedback for adaptive management are being developed and implemented. Surveys already being conducted include those for: breeding landbirds, waterfowl, woodcock, frogs and toads, ruffed and spruce grouse, owls, beavers, winter deer mortality, fishes and other aquatic life, rare plants, stream temperature, invasive/exotic plants, and cultural resource identification. A Forester, who will begin conducting forest habitat inventories and condition evaluations, is scheduled to be hired for the Refuge in FY 2003. A funding request has been submitted for research to study impacts of snowmobile use on Refuge wildlife and resources. Ongoing assessments of visitor satisfaction and public sentiment regarding snowmobile use and other uses on the Refuge also will aid in guiding future management decisions.

As called for in Executive Orders 11644 and 11989 and the GAO Report cited above, and to ensure compatibility, it will be necessary to conduct ongoing monitoring and study of snowmobile use and its impacts on Refuge habitats, wildlife, and visitors in order to better identify and understand the ramifications of this use, and to develop satisfactory solutions to any problems that may be discovered. Special consideration must be given to managing this use to ensure that impacts of the use, user numbers, and user activity patterns remain within acceptable thresholds for resource protection and visitor safety (i.e., the use does not materially interfere with or detract from Refuge purposes or the accomplishment of National Wildlife Refuge System mission), as evidenced by evaluation of resource status through monitoring and results of studies. Should circumstances indicate that these thresholds are or will be exceeded, appropriate action, including, but not limited to, implementing snowmobile exhaust emission or engine noise limitations, requiring specialized equipment (e.g., four-stroke engines), modifying snowmobile use patterns, limiting snowmobile users and visits, and/or trail relocation or closure must be considered to ensure compatibility. Compatibility could be reconsidered when conditions under which this use is permitted change significantly, or if there is significant new information regarding the effects of the use.

Providing for a safe use through proper administration and regulation, public education, and law enforcement will be essential. Snowshoeing and cross-country skiing will not be permitted on active snowmobile trails to minimize safety concerns for winter pedestrians and snowmobilers alike. Refuge staff will continue to work with VAST and the local snowmobile clubs to develop

the best system of signage for safety and regulatory information, minimizing the effects of trail maintenance activities, and reducing conflicts with other uses. Potential conflicts of snowmobile use with public safety, trust resources, wintering deer habitat, and other Refuge resources, and management or public use programs will be appropriately mitigated in consultation with VAST, VANR, and the public.

Special conditions for the Special Use Permit (below) are designed to help ensure the compatibility of this use, reduce negative impacts to Refuge resources, provide for visitor safety, and minimize conflicts with Refuge management and other uses of the Refuge.

Special Conditions for Special Use Permit Issued to VAST and Local Snowmobile Clubs

1. The Vermont Association of Snowmobile Travelers (VAST) and associated local clubs (Brighton Snowmobile Club and Canaan Border Riders, Inc.), and their officers, agents, members, and assigns (hereinafter collectively referred to as "Permitee"), are authorized to use, provide for use, and maintain only those trails on the Nulhegan Basin Division of the Silvio O. Conte NFWR identified and agreed upon during annual coordination meetings and identified on a map of the SSTS on the Refuge. Snowmobile use is limited to the period from December 15 to April 30, contingent on suitable snow conditions. Use of snowmobiles outside of the identified trails and time period is strictly prohibited. The Permitee shall notify all of its members of this condition. Permitee shall actively promote and encourage among users of the SSTS, compliance with all laws, regulations, and policies governing snowmobiles and their use.

2. In consideration of being permitted to engage in the activity authorized under this Special Use Permit at the Nulhegan Basin Division of the Silvio O. Conte National Fish and Wildlife Refuge, Permitee, for themselves and their personal representatives, heirs, and next of kin, hereby releases, waives, and forever discharges the United States of America, its agents and employees, all for the purposes herein referred to as, Releasees, from any and every claim, demand, action or right of action, of whatsoever kind or nature, either in law or in equity, arising from or by reason of any bodily injury or personal injuries known or unknown, death and/or property damage resulting or to result from any injury, which may occur while engaged in the permitted activity, and covenants not to sue the Releasees, for any loss or damages, and any claim or damage therefor, on account of injury to the person or property or resulting in death of the Permitee, whether caused by the negligence of Releasees or otherwise. Permitee agrees to indemnify, defend, save and hold harmless the Releasees and each of them from any loss, liability, damage or cost Releasees may incur due to the presence of Permitee in or upon the said property of the United States. Releasor agrees that this release and waiver is intended to be as broad and inclusive as permitted by the laws of the State of Vermont and that if any portion thereof is held invalid, it is agreed that the balance shall notwithstanding, continue in full legal force and effect. Permitee and its employees, designees, or associates shall indemnify against, and hold the United States of America, its agents and employees harmless from any and all claims, actions, suits, proceedings, costs, expenses, damages, and liabilities arising out of, connected with, or resulting

from, the use by the Permitee and its employees, designees, or associates, or the privileges described, provided by this Special Use Permit.

3. Permitee shall maintain said trails in safe, good, and useable condition and shall be responsible for placing and maintaining necessary signs, including speed limit and other safety-related signs as necessary to ensure adequate communication of safety information, trail conditions and features, speed limits, and trail restrictions to trail users. The speed limit shall be 35 miles per hour. Signs may not be placed before November 1 and must be removed before the Memorial Day weekend.

4. Permitee agrees to patrol all of the Refuge trails throughout the season of snowmobile use and at least once after snowmelt, and to pick up all trash and debris from trails and road shoulders and properly dispose of it off-Refuge at an approved facility. The final collection and disposal of such litter shall occur prior to the Memorial Day Weekend.

5. This Special Use Permit does not authorize the construction of new trails. Approved trails may be maintained by the Permitee, which includes signing trails, grooming snow-covered trails, replacing/repairing road culverts, replacing bridges, and the cutting and removal of trees, brush, and other obstacles from trails to a width of 15 feet. All trail maintenance activities must be coordinated with, and approved by, the Refuge Manager. All trees and brush leaning into the trail may be cut. Modifications to locations of existing trails is not permitted without prior written approval of the Refuge Manager. Brush cutting, tree removal, and mowing activities will be performed only after August 1, 2001 unless otherwise approved by the Refuge Manager. Permitee may cut and remove standing trees for bridge construction where needed, but only with prior approval by Refuge Manager. Permitee agrees to pay standard prevailing rate for value of any merchantable timber removed.

6. Permitee agrees to use pick-up trucks for trail maintenance whenever possible. The use of all terrain vehicles (ATV) for trail maintenance will be allowed only under the conditions of the Special Use Permit and only when and where the use of trucks is not feasible. Permitee will use every feasible precaution against causing surface damage to Refuge roads, lands, and waters. Permitee will report any damages as soon as possible and will effect any needed repairs at the discretion of the Refuge Manager. Permitee shall assist the U.S. Fish and Wildlife Service to control illegal use of ATVs by informing ATV users they encounter that ATV use on the Refuge is not allowed. Permitee shall not litter, or start or use open fires while engaged in the activities connected with this permit.

7. Use of said property by Permitee shall be limited to noncommercial and nonprofessional recreational purposes and is further limited to such uses as are not in conflict with any applicable Local ordinances or State laws including zoning ordinances and regulations. It shall be the sole responsibility of Permitee to obtain all necessary permits from any governmental authority or any instrumentality, agency or commission thereof to maintain or repair any trails and associated structures on the permitted property. Copies of any applications for such permits and approved permits shall be sent to the U.S. Fish and Wildlife Service. The U.S. Fish and Wildlife Service

reserves the right to terminate this Special Use Permit in the event Permitee fails to obtain requisite permits or in the event Permitee maintains, modifies, or repairs trails that do not conform to the conditions contained on such permits. In addition, Permitee will at all times during the term of this permit or any extension thereof, observe and conform to all laws, ordinances, rules, and regulations now or hereafter made by any governmental authority for the time being applicable to said property and trails thereon or use thereof.

8. The Refuge Manager reserves the right to close any or all trails or sections of trails when use of said trails by snowmobiles is determined to be not compatible or otherwise inconsistent or in conflict with the needs of the Refuge or the National Wildlife Refuge System including, but not limited to, wildlife, habitat, and public use management by the U.S. Fish and Wildlife Service, its successors, assigns, administrators, licensees, and contractors; or because of inadequate snow, environmental damage, vandalism, or public safety considerations. The U.S. Fish and Wildlife Service will notify and discuss any problems with Permitee, and will consider establishment of alternative trails prior to closure of any trails.

9. VAST, prior to the effective date of this agreement, shall provide the Refuge Manager with a Certificate of Insurance evidencing that it has obtained and will maintain during the term of the Agreement Comprehensive General Liability insurance against claims occasioned by the actions or omissions of the Permitee, its members, agents and employees in carrying out the activities and operations authorized hereunder. Such insurance shall be in an amount commensurate with the degree of risk and the scope and size of such activities authorized hereunder, but in any event, the limits of liability shall not be less than $2,000,000.00 per occurrence. All liability policies shall name the United States of America as a named insured and shall provide that the insurance company shall have no recourse against the Government for payment of any deductible, premium, or assessment.

10. Permitee will have in their possession a copy of this Special Use Permit and List of Special Conditions while engaged in the activities described therein and will present it to Refuge officials or law enforcement agents of United States or Vermont upon their request.

11. The U.S. Fish and Wildlife Service reserves the right to replace or rescind this permit at any time.

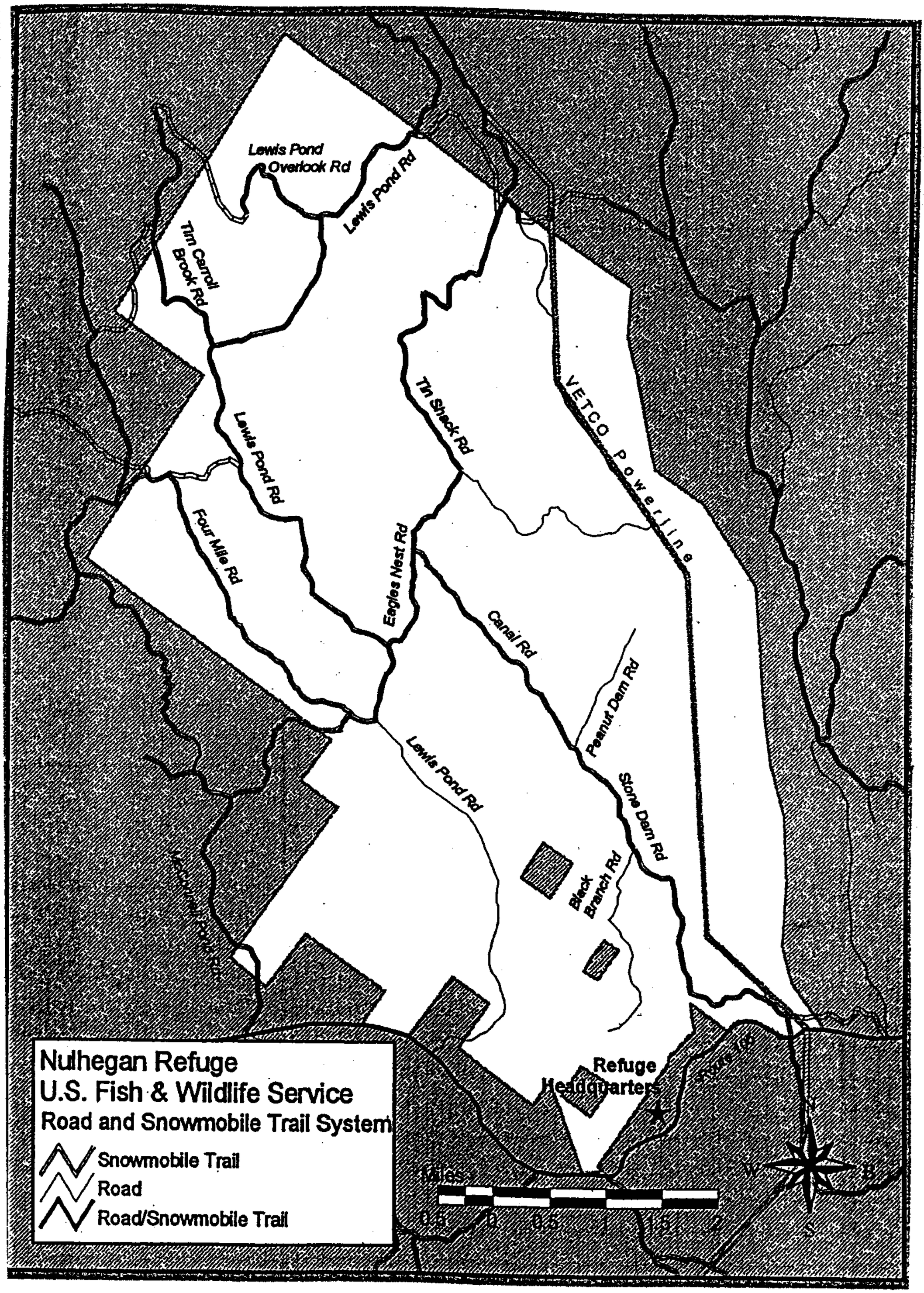
JUSTIFICATION:
This use has been determined to be compatible provided the provisions of *50 CFR 27.31*, Title 23 of the Vermont statutes, Executive Orders 11644 and 11989, the recommendations of the GAO report, and Special Use Permit Conditions are implemented. This use is not expected to materially interfere with or detract from the mission of the National Wildlife Refuge System nor the purposes for which the Refuge was established. It does not materially interfere with or detract from: Purposes #1 and #2 -- the conservation, protection, and enhancement of native species of plants, fish, and wildlife, their natural diversity and abundance, and their ecosystems -- most animals, especially Service trust species of migratory birds, are absent from the Refuge in the winter and others hibernate or remain under the deep snow cover; plants and ecosystems are protected from impacts by snow cover and the location of trails; no significant negative impacts directly attributable to snowmobiling have been observed or documented on the Refuge. Purpose #3 -- the protection of federally listed or candidate species -- none of these species occur on the Refuge. Purpose #4 -- the restoration or maintenance of the integrity of Refuge wetland and aquatic habitats -- snowmobile crossings of water bodies are on bridges; no significant negative impacts directly attributable to snowmobiling have been observed or documented on the Refuge. Purpose #5 -- fulfillment of international treaty obligations relating to fish, wildlife, or wetlands -- Service trust species of migratory birds are largely absent from the Refuge in the winter, of those that occur, no significant negative impacts directly attributable to snowmobiling have been observed or documented on the Refuge. Purpose #6 -- providing compatible opportunities for scientific research, environmental education, and fish and wildlife-oriented recreation and access-- Snowmobile access provides an enhanced opportunity for the public to access the Refuge to enjoy and experience the winter landscape and scenery and engage in wildlife-oriented recreation, including Priority Public Uses, in support of this Purpose. This use will not pose significant short-term or long-term or cumulative adverse effects on trust species or other Refuge resources, will not substantially interfere with public use of the Refuge, nor cause an undue administrative burden.

Signature: Refuge Manager: Kevin M. Wehrs 5/22/02
(Signature and Date)

Concurrence: Regional Chief: Acting S. McMahon 7/18/02
(Signature and Date)

Mandatory 10-year re-evaluation date: June 1, 2012

Figure 1. Nulhegan Refuge snowmobile routes and road network.



Information outside refuge boundary is not meant to be complete.