2.0 Alternatives

Chapter 2 describes three alternatives (potential actions) that the park may take to address the proposal to construct a bike trail connecting the existing path on Highway 11 to the Rainy Lake Visitor Center.

This includes the No Action Alternative, which defines conditions in the project area now, and provides a baseline against which other alternatives may be compared. Alternatives B and C both describe reasonable approaches to meeting the need for a bicycle route connecting the existing Highway 11 bicycle trail to the Rainy Lake Visitor Center and consolidating land ownership in the project area.

A summary of the environmental consequences for the three primary alternatives is located at the end of this chapter.

2.1 <u>Alternative A: No Action Alternative</u> – Do not construct a new bicycle path, do not consolidate land ownership along the entrance road to the Rainy Lake Visitor Center.

2.1.1 **Visitor Access** under this alternative would continue as it is presently. There would be no connecting trail from the Highway 11 bike path to the Rainy Lake Visitor Center. Automobile drivers, bicyclists, and pedestrians would enter the park using the same narrow and winding road corridor. No bike lanes or separate bike path would be constructed.

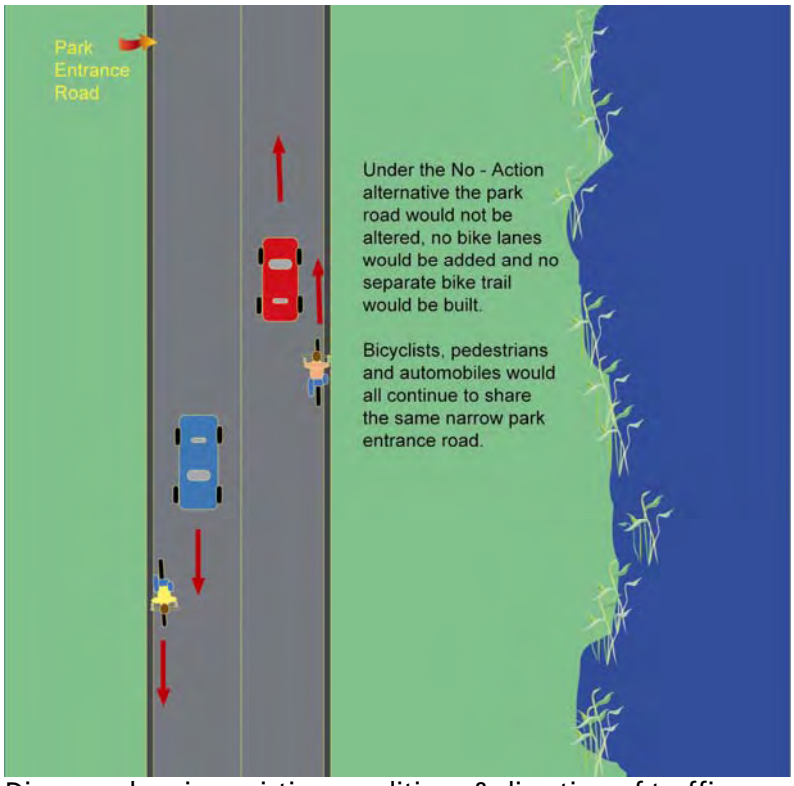


Diagram showing existing conditions & direction of traffic on entrance road (not to scale).

2.1.2 **Land Ownership** along the park entrance road would continue to be a mixture of federal land managed by the National Park Service and state land managed by Koochiching County.

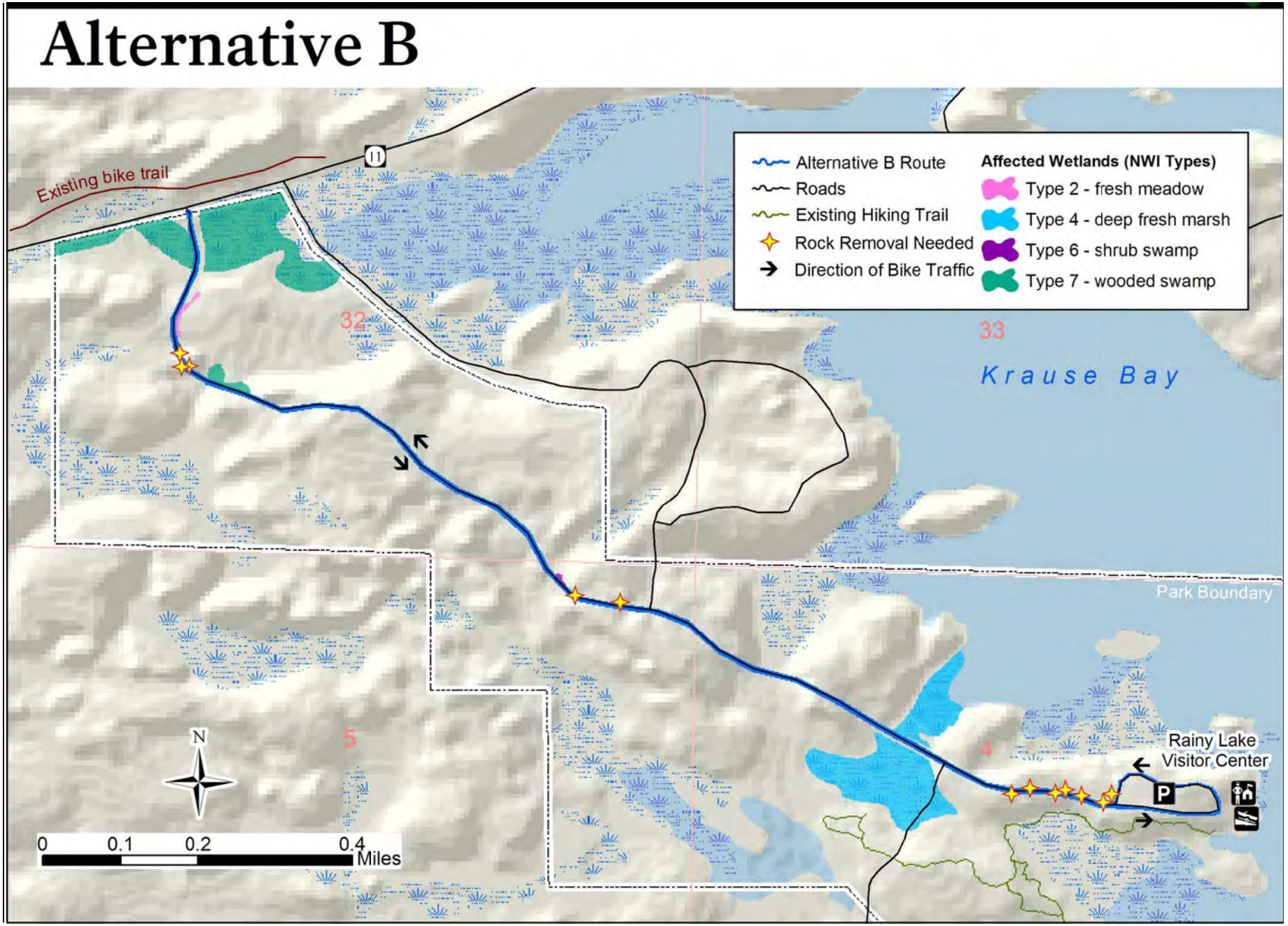
This would allow for non- federal land along the park entrance to be managed in ways that are potentially inconsistent with adjacent park-managed land. Potential incompatible land uses include active timber management (logging) of state land along the park entrance road, and hunting and trapping within the state tracts that are adjacent to park lands where hunting and trapping are prohibited.

2.1.3 **New Construction** would not occur under this alternative. No bike lanes or separate bike trail would be built.

2.1.4 **Maintenance Requirements** would be unaltered under this alternative. No new trail would be built.

2.1.5 **Mitigation Requirements** would not take place, because no new actions would occur.

Alternative B



2.2 <u>Alternative B: Bike Lane Alternative</u> – **The park would construct six- foot wide bike lanes on both sides of the road connecting Highway 11 east with the park's Rainy Lake Visitor Center if this alternative is selected. This route would be approximately 1.9 miles long.**

Under this alternative the park would seek to avoid incompatible land use adjacent to the proposed bike lanes by acquiring state lands in the park entrance corridor. A tract of non- contiguous federal land located along Highway 11 may be transferred to the state to facilitate acquisition of the desired land parcels in the proposed project area.

2.2.1 **Visitor Access** under this alternative would provide bicyclists and pedestrians with a substantially wider, paved route along the existing entrance road coming from, and returning to, the Highway 11 bike trail. Bike lanes would be constructed on both sides of the park entrance road to allow bicyclists and pedestrians to travel with the flow of automobile traffic. Automobile access would remain the same, although motorists would no longer share the same lane as bicyclists and pedestrians, and should not feel the need to cross into oncoming traffic to avoid bicyclists or pedestrians. Bike lanes would be open to pedestrians (including people walking dogs), bicyclists, and other non- motorized forms of travel (i.e. roller blades).

2.2.2 **Land Ownership** would be consolidated along the park entrance road should the bike lane alternative be selected. The park would acquire state owned land currently managed by Koochiching County. The park would potentially acquire the desired tracts through a land exchange.

The land tracts that the park would acquire are numbers 69- 134 and 69- 130. Both parcels are currently state owned and administered by Koochiching County. The parcel currently owned by the National Park Service that may be exchanged is tract number 68- 120.

The park's enabling legislation does not currently allow for the United States to acquire state lands through any method other than donation. If the bike lane alternative is selected, the park would move forward with the county to pursue a legislative change that would allow for the park to acquire lands within the present park boundary (including tracts 69- 130 and 69- 134) through a land exchange, rather than solely through outright donation by the state.

Tract 69- 130 includes approximately 1200 feet of the park entrance road to the Rainy Lake Visitor Center. This tract divides the park lands adjacent to the road. If these lands remain in state ownership it is likely that hunting would occur and also that the land would be available for timber

harvesting. Tract 69- 134 is a smaller tract in the entrance area not visible from the road.

Tract 69- 120 is currently owned by the National Park Service, but is separated from the main park boundary. This tract straddles Highway 11. If this park land tract is exchanged for state lands along the entrance road it would no longer be managed by the National Park Service, potentially opening this area to hunting or timber management in accordance with the laws and regulations that govern state lands.

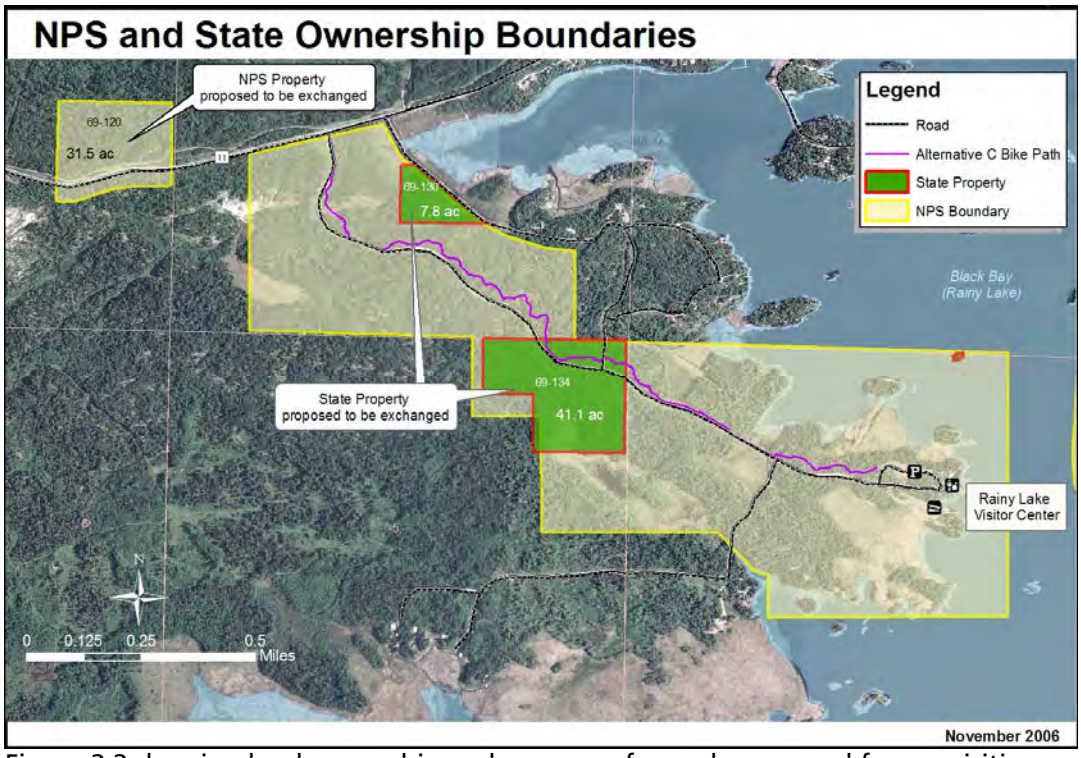


Figure 2.2 showing land ownership and acreage of parcels proposed for acquisition and exchange in the project area

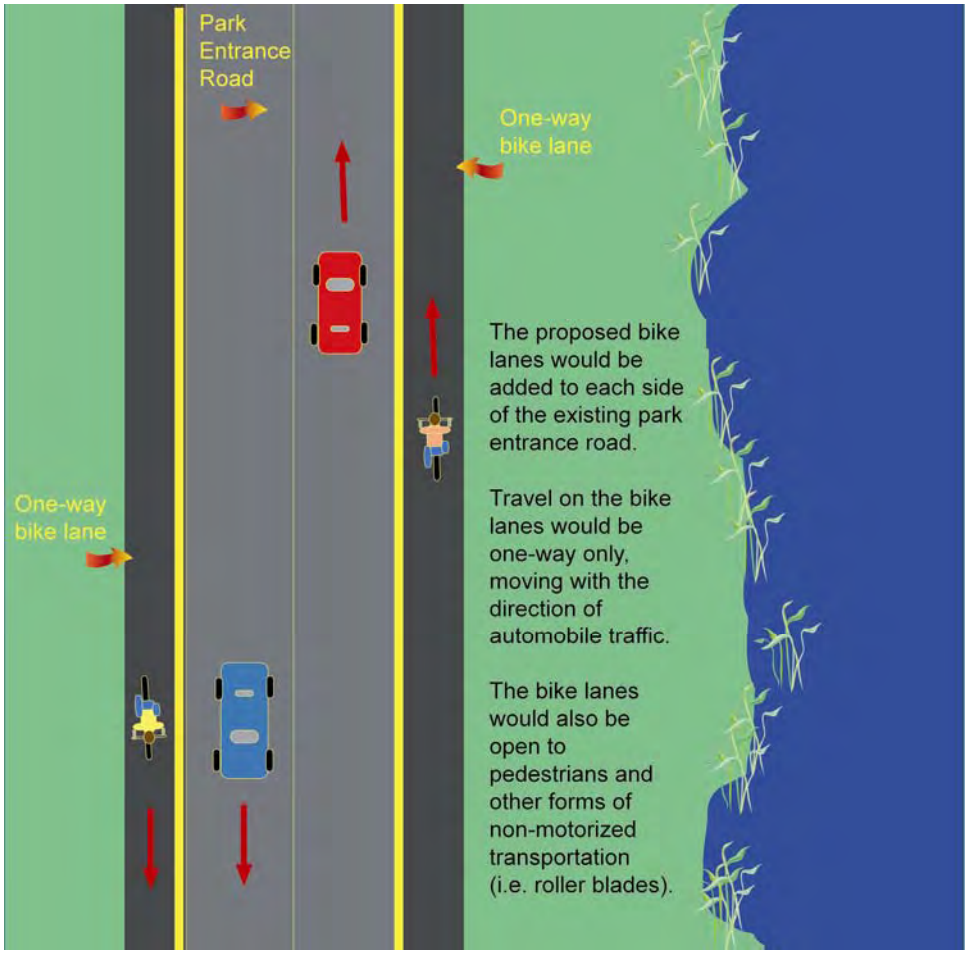
2.2.3 **New Construction** would occur in the current entrance road corridor if the Bike Lane Alternative is selected. The design would address Minnesota Department of Transportation (MNDOT) - Bicycle Transportation Planning and Design Guidelines. Variations to the standards would be pursued that reduce impacts to the park environment and maintain safety. The park would present these variations to MNDOT for review and approval.

Construction would include widening the current road corridor, including the removal of vegetation within the proposed bike lane area, and also the removal of several outcrops of Precambrian bedrock through the use of blasting or heavy equipment.

This would be necessary in areas where there is not currently sufficient space to provide a six- foot wide paved bike lane with an additional one-

foot wide gravel shoulder. Additional rock removal would be necessary beyond the bike lane on each roadside to provide additional space for visibility and safety requirements. Construction would also require filling and cutting to maintain the required bike lane elevations.

Bike lanes would be built on both sides of the road along the primary travel corridor, but would only be built on the right- side of the one- way loop that allows access to the Rainy Lake Visitor Center parking lot. A bike lane is not proposed for the road leading to the Rainy Lake boat launch ramp.



Bike Lane diagram showing direction of traffic on entrance road and on 6 foot wide, one-way bike lanes (not to scale).

To maintain adequate drainage and slope stability the road way would be widened in many areas. In some cases this may require disturbing areas that have been previously undisturbed. Additional drainage measures would be required throughout the project including culverts and drainage swales to maintain surface hydrology.

Construction of bike lanes would necessitate the filling of roadside wetland areas, particularly in places where the trail base is below the

current water level. Fill would be used in low- lying areas. Fill would come from areas in the immediate project area where rock removal was required, and also from approved sources in the local area.

If the Bike Lane Alternative is selected the park would acquire all necessary permits from the Army Corps of Engineers and other regulatory agencies with permitting authority related to the modification of wetlands.

Six feet of new road surface would be paved on each side of the current entrance road. The newly paved surface would be delineated and signs would be installed to designate the newly constructed bike lane areas.

2.2.4 **Maintenance Requirements** would be minimally expanded under the Bike Lane Alternative. Mowing requirements would be the same during the warm season, but there would be additional snow plowing required if the park decided to keep the bike lanes open during the winter and/or early Spring months.

2.2.5 **Mitigation Requirements**

The park would conduct mitigation measures to compensate for all impacted wetland areas. Mitigation measures would include adherence to NPS Best Management Practices as defined in *Procedural Manual #77- 1: Wetland Protection*. This includes the following:

1) **Effects on hydrology**: Action must have only negligible effects on site hydrology, including flow, circulation, velocities, hydroperiods, water level fluctuations, and so on.
2) **Water quality protection and certification**: Action is conducted so as to avoid degrading water quality to the maximum extent practicable. Measures must be employed to prevent or control spills of fuels, lubricants, or other contaminants from entering the waterway or wetland. Action is consistent with state water quality standards and Clean Water Act Section 401 certification requirements.
3) **Erosion and siltation controls**: Appropriate erosion and siltation controls must be maintained during construction, and all exposed soil or fill material must be permanently stabilized at the earliest practicable date.
4) **Effects on fauna**: Action must have only negligible effects on normal movement, migration, reproduction, or health of aquatic or terrestrial fauna, including at low flow conditions.
5) **Proper maintenance**: Structure or fill must be properly maintained so as to avoid adverse impacts on aquatic environments or public safety.
6) **Heavy equipment use**: Heavy equipment use in wetlands must be avoided if at all possible. Heavy equipment used in

wetlands must be placed on mats, or other measures must be taken to minimize soil and plant root disturbance and to preserve preconstruction elevations.

7) **Stockpiling material**: Whenever possible, excavated material must be placed on an upland site. However, when this is not feasible, temporary stockpiling of excavated material in wetlands must be placed on filter cloth, mats, or some other semi- permeable surface, or comparable measures must be taken to ensure that underlying wetland habitat is protected. The material must be stabilized with straw bales, filter cloth, or other appropriate means to prevent reentry into the waterway or wetland.
8) **Removal of stockpiles and other temporary disturbances during construction**: Temporary stockpiles in wetlands must be removed in their entirety as soon as practicable. Wetland areas temporarily disturbed by stockpiling or other activities during construction must be returned to their pre- existing elevations, and soil, hydrology, and native vegetation communities must be restored as soon as practicable.
9) **Topsoil storage and reuse**: Revegetation of disturbed soil areas should be facilitated by salvaging and storing existing topsoil and reusing it in restoration efforts in accordance with NPS policies and guidance. Topsoil storage must be for as short a time as possible to prevent loss of seed and root viability, loss of organic matter, and degradation of the soil microbial community.
10) **Native Plants**: Where plantings or seeding are required, native plant material must be obtained and used in accordance with NPS policies and guidance. Management techniques must be implemented to foster rapid development of target native plant communities and to eliminate invasion by exotic or other undesirable species.
11) **Boardwalk elevations**: Minimizing shade impacts, to the extent practicable, should be a consideration in designing boardwalks and similar structures (if such structures are included in the final trail design). Placing a boardwalk at an elevation above the vegetation surface at least equal to the width of the boardwalk is one way to minimize shading.
12) **Endangered Species**: Action must not jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, including degradation of critical habitat.
13) **Historic properties**: Action must not have adverse effects on historic properties listed or eligible for listing in the National Register of Historic Places.

The park would seek to avoid impacts to wetlands first, would minimize unavoidable impacts to the extent practicable, and would compensate on a 1:1 basis for wetlands modified as a result of constructing bike lanes. Compensation would be accomplished by rehabilitating impacted wetlands in the park through the removal of purple loosestrife and Canada thistle in these areas. Annual maintenance of targeted wetlands would occur for a period of no less than three years.

Additionally, all bike trail construction activities would be conducted in accordance with the park's Exotic Plant Best Management Practices. This includes requiring contractors and park staff to clean all tools and equipment prior to conducting work in the project area to ensure that noxious weed seeds are not accidentally introduced to the project site.

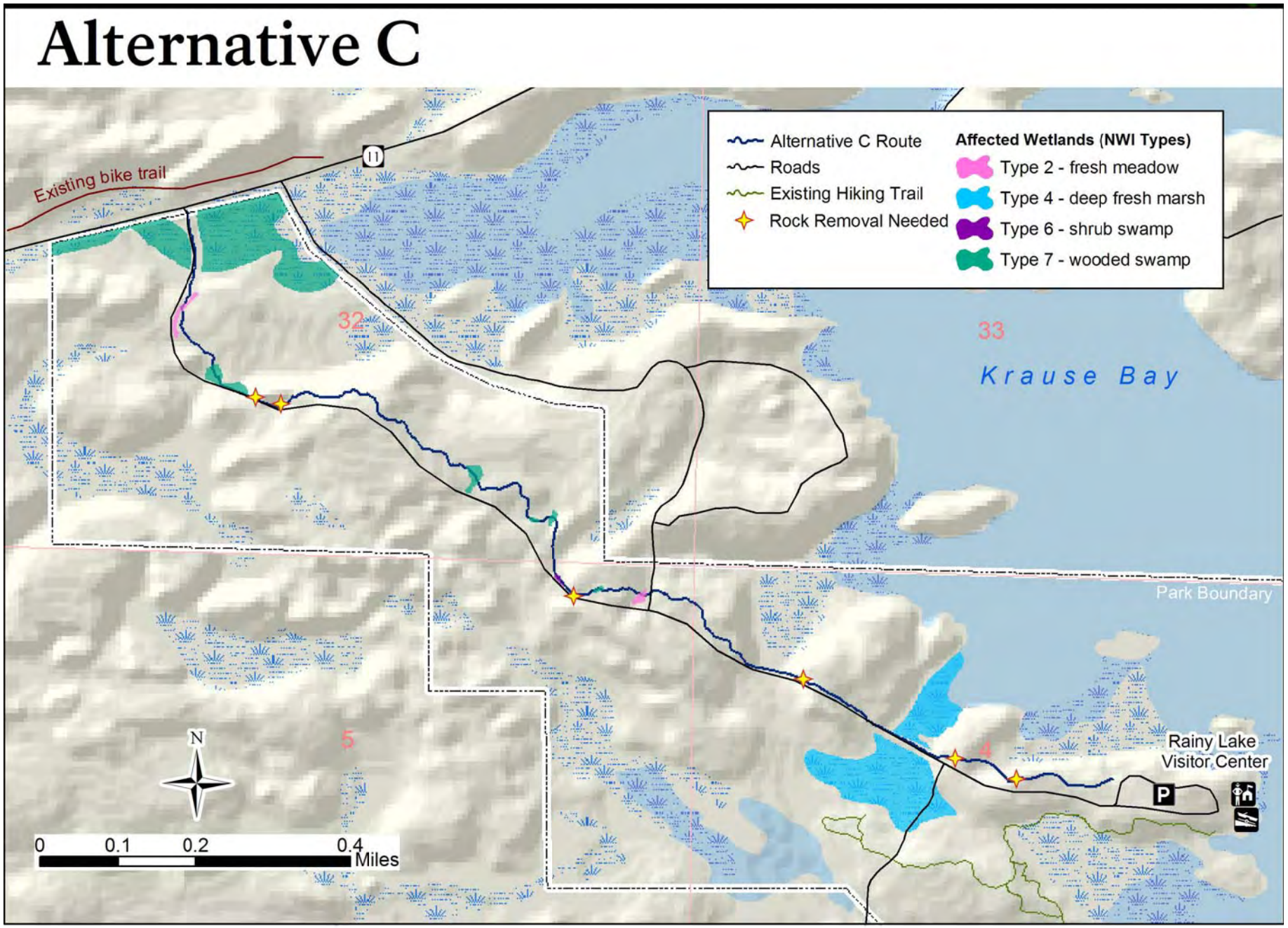
Disturbed areas would be re- seeded using an approved native plant seed mix or by using native vegetation from the surrounding project area. Minnesota Department of Transportation seed mixes would not be used. They have been found to contain undesirable species of non- native grasses and other invasive plants.

Adherence to Exotic Plant Best Management Practices reduces the risk of new infestations, but there would remain an increased need to treat the area for roadside exotic plant species. Fill materials used to construct the new bike lanes are likely to contain noxious weed seeds. Additionally, the newly disturbed ground in the project area would be susceptible to exotic plant invasions until native plants have successfully established in the area.

The park maintenance and resource management staff would coordinate a roadside mowing schedule and herbicide treatment plan to prevent new exotic plant infestations and to minimize the spread of existing noxious weed populations.

Monitoring construction for archeological resources and educating work crews about the need to protect any archeological or historic resources encountered during construction would take place to prevent impacts to previously unidentified cultural resources.

Alternative C



2.3 **<u>Alternative C: Construct Combined Bike Trail (NPS Preferred Alternative).</u>– This alternative describes the construction of a combination bike trail on the north side of the current park entrance road.**

The proposed trail would include a 10- 12 feet wide paved bike trail that would parallel the existing entrance road in some areas to avoid steep grades and large bedrock outcrops, and would otherwise be routed through the presently undeveloped land on the north side of the road. The paved surface area required under this alternative is wider than what is proposed for bike lanes because bicycle travel would be moving in both directions on this one path.

Additional shoulder, drainage and safety separation distances of 12- 38 feet would also be constructed adjacent to the proposed bike trail, both adjacent to the entrance road and also to the north (*see map of Alternative C, page 20*).

Although constructing a combined bike trail on the south side of the current park road is also an option, with similar impacts as the proposed route on the north side of the road, the park has chosen to evaluate trail construction on the north side due to the area's greater aesthetic values in terms of natural light, open forest and opportunities for views of Krause Bay.

As in Alternative B, the park would seek to avoid incompatible land use adjacent to the proposed bike trail by acquiring state lands that currently bisect the road leading to the Rainy Lake Visitor Center. A tract of non- contiguous park land located along Highway 11 may be removed from federal ownership to facilitate transfer of the desired land parcel along the park's primary northern entrance route.

2.3.1 **Visitor Access** under this alternative would provide bicyclists and pedestrians with a two- way paved route that would travel along the existing entrance road and into the forested area on the north side of the road. The new bike trail would be connected to the Highway 11 bike trail.

Automobile access would remain the same as under the no- action alternative. This is due to the fact that some cyclists and pedestrians prefer to travel along primary road corridors rather than use designated bike trails. This use has been frequently observed on Highway 11 although a separate bike path parallels most of this route.

It is likely most cyclists and pedestrians would choose to use the newly constructed separate trail, but those that did not would face the same safety concerns as currently exist since no bike lane or road shoulder exists along the park entrance road, and none would be constructed under this alternative.

Under this alternative the bike trail would begin at the Highway 11 intersection with the park entrance road. The bike trail would end at the northwest side of the Rainy Lake Visitor Center parking lot where the current cross- country ski trail connecting to the Tilson Bay trail network begins.

A small area would be developed with bike racks to allow visitors to lock up their bicycles before continuing to the visitor center on foot. Existing bike racks would be maintained near the entrance doors to the visitor center for people who choose to ride their bicycles through the current parking lot to the front doors of the visitor center.

Snowmobiles would not be permitted on the new bike path. Most non-motorized forms of transportation that are currently used on the existing Highway 11 bicycle trail would be allowed (i.e. roller blades). People would be allowed to walk leashed dogs on the trail. It is expected that pet owners would clean- up after pets.

2.3.2 **Land Ownership** would be consolidated along the park entrance road should the combination bike trail alternative be selected. Just as in Alternative B, the park would seek to avoid incompatible land uses adjacent to the proposed bike trail by acquiring state owned lands currently managed by Koochiching County in the project area. The park would potentially acquire the desired tracts through a land exchange.

The land tracts that the park would acquire are numbers 69- 134 and 69-130. Both parcels are currently state owned and administered by Koochiching County (figure 2.1). The parcel currently owned by the National Park Service that may be exchanged is tract number 68- 120.

The park's enabling legislation does not currently allow for the United States to acquire state lands through any method other than donation. If the combination bike trail alternative is selected, the park would move forward with the state to pursue a legislative change that would allow for the park to acquire lands within the present park boundary (including tracts 69- 130 and 69- 134) through a land exchange, rather than solely through outright donation by the state.

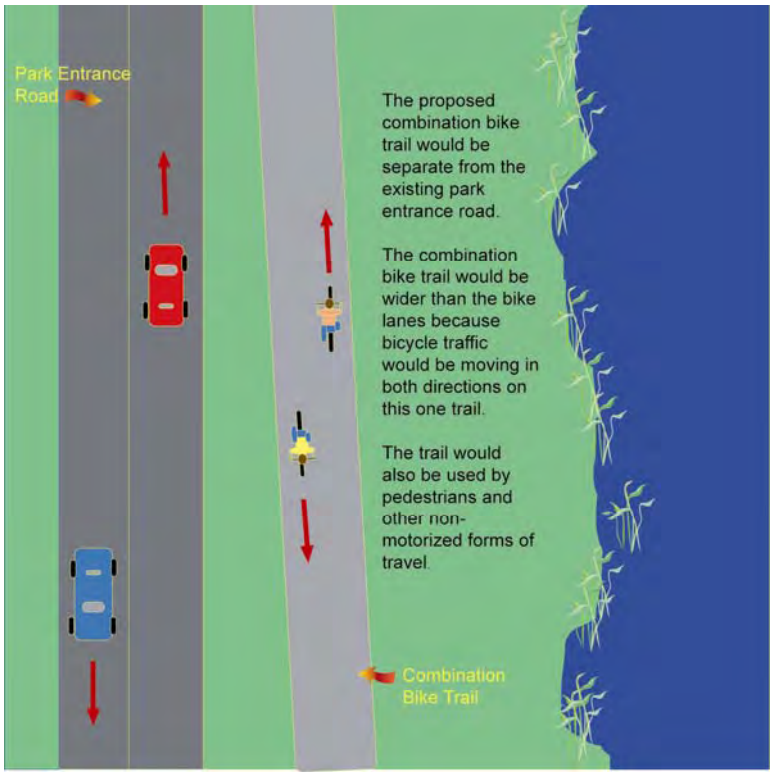
Tract 69- 130 includes approximately 1200 feet of the park entrance road to the Rainy Lake Visitor Center. This tract divides the park lands adjacent to the road. If these lands remain in state ownership it is likely that hunting would occur and also that the land would be available for timber harvesting. National Park Service regulations would not apply. Tract 69-134 is a smaller tract in the entrance area not visible from the road.

Tract 69- 120 is currently owned by the National Park Service, but is separated from the main park boundary. This tract straddles Highway 11. If this park land tract is exchanged for state lands along the entrance road it would no longer be managed by the National Park Service, potentially opening this area to hunting or timber management in accordance with the laws and regulations that govern state lands.

2.3.3 **New Construction** would occur in portions of the current entrance road corridor and in the presently undeveloped lands to the north of the road if the Combination Bike Trail Alternative is selected. The design would address Minnesota Department of Transportation - Bicycle Transportation Planning and Design Guidelines.

Construction would include widening the current road corridor in several locations, including the removal of vegetation and also the removal of several outcrops of Precambrian bedrock through the use of blasting or heavy equipment. The roadside cleared area would be from 22 to 50 feet wide.

This would be necessary to avoid more extensive blasting, cuts, and fills in areas of extreme elevation changes located further away from the existing highway. Additional rock removal may be necessary beyond this to provide additional space for roadside visibility and safety requirements.



Combination Bike Trail diagram showing direction of traffic on entrance road and on 10 – 12 ft. wide, two-way trail (not to scale).

The Combination Bike Trail option would also require the removal of rocks, trees and other vegetation in the undeveloped forest north of the park entrance road to allow for the construction of a separate paved bike trail in this area. The cleared area would be approximately 24 feet wide and would impact approximately 5.3 – 5.7 acres. This alternative requires a wider paved surface than the bike lane alternative because travel on the combination bike trail would be two- way, as opposed to the bike lanes which would provide one- way travel on both sides of the road. Additional cleared areas adjacent to the paved bike trail are required to provide appropriate sight distances for visitors using the trail.

Wetlands would be filled in places where the proposed trail base is below the current water level. Gravel fill would be used to fill low- lying areas. Gravel would come from areas in the immediate project area where rock removal was required and also from approved gravel sources in the local area.

Construction would also require filling and cutting to maintain required bike trail elevations. Additional drainage measures would also be required throughout the project, including culverts and drainage swales.

If the Combination Bike Trail Alternative is selected the park would acquire all necessary permits from the Army Corps of Engineers and other regulatory agencies with permitting authority related to the modification of wetlands.

Safety related measures would include signing and the maintenance of adequate separation distances to ensure bike rider safety.

Additional bicycle parking is planned near the end of the trail at the edge of the existing parking lot. From there, bicyclists would walk along new and existing pathways to the Rainy Lake Visitor Center.

2.3.4 **Maintenance Requirements** would be expanded under the Combination Bike Trail Alternative. Mowing requirements would increase in the newly developed sections of trail away from the park road. This would be added to the existing seasonal trail clearing and maintenance schedule.

The new bike trail would not be maintained during the winter months. It would be open to visitors for snowshoeing and skiing, but would not be tracked or groomed. If new funding becomes available in the future the newly constructed trail would be re- evaluated for winter maintenance and management for winter sports.

2.3.5 Mitigation Requirements

The park would conduct mitigation measures to compensate for all impacted wetland areas. Mitigation measures would include adherence to NPS Best Management Practices as defined in *Procedural Manual #77- 1: Wetland Protection*. This includes the following:

14) **Effects on hydrology**: Action must have only negligible effects on site hydrology, including flow, circulation, velocities, hydroperiods, water level fluctuations, and so on. (Culverts would be placed, as appropriate to maintain surface hydrology).
15) **Water quality protection and certification**: Action is conducted so as to avoid degrading water quality to the maximum extent practicable. Measures must be employed to prevent or control spills of fuels, lubricants, or other contaminants from entering the waterway or wetland. Action is consistent with state water quality standards and Clean Water Act Section 401 certification requirements.
16) **Erosion and siltation controls**: Appropriate erosion and siltation controls must be maintained during construction, and all exposed soil or fill material must be permanently stabilized at the earliest practicable date.
17) **Effects on fauna**: Action must have only negligible effects on normal movement, migration, reproduction, or health of aquatic or terrestrial fauna, including at low flow conditions.
18) **Proper maintenance**: Structure or fill must be properly maintained so as to avoid adverse impacts on aquatic environments or public safety.
19) **Heavy equipment use**: Heavy equipment use in wetlands must be avoided if at all possible. Heavy equipment used in wetlands must be placed on mats, or other measures must be taken to minimize soil and plant root disturbance and to preserve preconstruction elevations.
20) **Stockpiling material**: Whenever possible, excavated material must be placed on an upland site. However, when this is not feasible, temporary stockpiling of excavated material in wetlands must be placed on filter cloth, mats, or some other semi- permeable surface, or comparable measures must be taken to ensure that underlying wetland habitat is protected. The material must be stabilized with straw bales, filter cloth, or other appropriate means to prevent reentry into the waterway or wetland.
21) **Removal of stockpiles and other temporary disturbances during construction**: Temporary stockpiles in wetlands must be removed in their entirety as soon as practicable. Wetland areas temporarily disturbed by stockpiling or other activities

during construction must be returned to their pre- existing elevations, and soil, hydrology, and native vegetation communities must be restored as soon as practicable.

22) **Topsoil storage and reuse**: Revegetation of disturbed soil areas should be facilitated by salvaging and storing existing topsoil and reusing it in restoration efforts in accordance with NPS policies and guidance. Topsoil storage must be for as short a time as possible to prevent loss of seed and root viability, loss of organic matter, and degradation of the soil microbial community.
23) **Native Plants**: Where plantings or seeding are required, native plant material must be obtained and used in accordance with NPS policies and guidance. Management techniques must be implemented to foster rapid development of target native plant communities and to eliminate invasion by exotic or other undesirable species.
24) **Boardwalk elevations**: Minimizing shade impacts, to the extent practicable, should be a consideration in designing boardwalks and similar structures (is such structures are included in the final trail design). Placing a boardwalk at an elevation above the vegetation surface at least equal to the width of the boardwalk is one way to minimize shading.
25) **Endangered Species**: Action must not jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, including degradation of critical habitat.
26) **Historic properties**: Action must not have adverse effects on historic properties listed or eligible for listing in the National Register of Historic Places.

The park would seek to avoid impacts to wetlands first and would minimize unavoidable impacts to the extent practicable, and would compensate on a 1:1 basis for wetlands modified as a result of constructing bike lanes. Compensation would be accomplished by rehabilitating impacted wetlands in the park through the removal of purple loosestrife and Canada thistle in these areas. Annual maintenance of targeted wetlands would occur for a period of no less than three years.

Additionally, all bike trail construction activities would be conducted in accordance with the park's Exotic Plant Best Management Practices. This includes requiring contractors and park staff to clean all tools and equipment prior to conducting work in the project area to ensure that noxious weed seeds are not accidentally introduced to the project site.

Vegetation would not be cleared beyond the footprint of the fill in any wetland. Disturbed areas would be re- seeded using an approved native

plant seed mix or by using native vegetation from the surrounding project area. Minnesota Department of Transportation seed mixes would not be used. They have been found to contain undesirable species of non- native grasses and other invasive plants.

Adherence to Exotic Plant Best Management Practices reduces the risk of new infestations, but there would remain an increased need to treat the area for roadside exotic plant species. Fill materials used to construct the new bike trail are likely to contain noxious weed seeds. Additionally, the newly disturbed ground in the project area would be susceptible to exotic plant invasions until native plants have successfully established in the area.

The park maintenance and resource management staff would coordinate a trail mowing schedule and herbicide treatment plan to prevent new exotic plant infestations and to minimize the spread of existing noxious weed populations.

Monitoring construction for archeological resources and educating work crews about the need to protect any archeological or historic resources encountered during construction would take place to prevent impacts to previously unidentified cultural resources.

2.4 Environmentally Preferred Alternative

The environmentally preferred alternative is the alternative that would best promote the national environmental policy expressed in the National Environmental Policy Act (NEPA) (Sec. 101 (b)). This includes alternatives that:

- Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.
- Ensure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings.
- Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences.
- Preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice.
- Achieve a balance between population and resource use that will permit high standards of living and wide sharing of life's amenities.
- Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

Simply put, the environmentally preferred alternative is defined by the Council on Environmental Quality as:

> "…the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources" (CEQ 1981)

Alternative B: Construct Bike Lanes is the environmentally preferred alternative. This option addresses visitor access and safety needs while minimizing the impact to park resources by focusing impacts adjacent to the existing road corridor. The project footprint for this alternative is less than half that of Alternative C, which would require construction in previously undeveloped forests to the north of the current entrance road.

Although Alternative A: the no- action alternative would result in no new impacts to the environment, the existing negative impacts to visitor safety prevent this alternative from best meeting the criteria defined above.

Although Alternative B is the environmentally preferred alternative, it is not the NPS preferred alternative. In considering visitor safety and experience, the management team at Voyageurs National Park has determined that Alternative C would provide the greatest benefit to park visitors while having acceptable impacts to a small portion of the park environment.

Specifically, Alternative C would decrease the likelihood of an accident occurring between multiple automobiles and between automobiles and bicycles by providing a physically separate trail for each mode of transportation. Additionally, the visitor experience would be expected to provide greater recreational opportunities for bicyclists and pedestrians, particularly families traveling with young children who would not be comfortable traveling in the same road corridor as automobiles (as would occur under Alternative B).

2.5 Summary Comparison of Alternatives (Project Objectives)

	Alternative A: No Action	Alternative B: Bike Lanes	Alternative C: Combination Bike Trail
Project Objectives			
Provide safe access for automobile drivers, bicyclists and pedestrians	Automobile drivers, bicyclists and pedestrians share same narrow and winding road. No separate bike lane or trail.	A six foot wide, one-way paved bike lane is added to both sides of the park road, providing increased space for automobile drivers, bicyclists and pedestrians	Bicyclists and pedestrians would have the choice of using a separate bike trail (with travel both into and out of the visitor center area sharing the same paved trail on the north side of the road) or may continue to use the existing road shoulder. Not all safety concerns would be alleviated. A separate trail would provide enhanced recreation opportunities for families walking or bicycling with young children.
Avoid incompatible land uses adjacent to the proposed bike route and along the existing park entrance road.	A mixture of federal and state ownership of lands would potentially allow logging, hunting and trapping to occur on state lands located in the midst of park-owned land at the Rainy Lake Visitor Center entrance road	The National Park Service would pursue legislative change to allow acquisition of state-owned lands in the project area through a mutually agreeable land exchange to avoid incompatible land use near the bike lanes	The National Park Service would pursue legislative change to allow acquisition of state-owned lands in the project area through a mutually agreeable land exchange to avoid incompatible land uses near the bike trail

2.6 Summary Comparison of Alternatives (Environmental Consequences)

	Alternative A: No Action	Alternative B: Bike Lanes	Alternative C: Combination Bike Trail
Environmental Consequences			
Geologic Resources	No new disturbance or modification of geologic resources	**Direct Impact:** Modification and removal of Precambrian bedrock outcrops in the previously disturbed road corridor area **Indirect Impact:** removal of bedrock outcrops would alter the visual experience for people traveling along the road.	**Direct Impact:** Modification and removal of Precambrian bedrock outcrops in the previously disturbed road corridor area and in previously undisturbed lands on the north side of the entrance road **Indirect Impact:** removal of bedrock outcrops would alter the

Geologic Resources (continued)		**Cumulative Impact:** Rock outcrops in the project area were previously modified during construction of the entrance road. Some outcrops would be further modified under this alternative. A small number of previously unaltered outcrops near the road may also be affected.	visual experience for people traveling along the road. This alternative would not have as many locations along the road that required rock removal, but in many cases a substantially larger volume of rock would be affected due to increased setback requirements. **Cumulative Impact:** Rock outcrops in the project area were previously modified during construction of the entrance road. Some outcrops would be further modified under this alternative. Some previously unaltered outcrops near the road and in the forest to the north would also be affected.
	Alternative A: No Action	**Alternative B: Bike Lanes**	**Alternative C: Combination Bike Trail**
Native Plant Communities / impacts from Exotic Plant Species	No project related changes to native plant communities	**Direct Impact:** Removal of native plants in approximately 2.3 acres of roadside area where bike lanes would be constructed **Indirect Impact:** Likely increase in non-native invasive plants in the newly disturbed areas adjacent to the new bike lanes Land removed from NPS ownership to facilitate a land exchange with the state may be at increased risk of exotic plants depending on the new land management practices implemented (i.e. logging) **Cumulative Impact:** Minimal cumulative impact related to addition of disturbed area and likely increase in	**Direct Impact:** Removal of approximately 5.7 + acres of native plants, including roadside areas & previously undeveloped forest to the north of the road **Indirect Impact:** Likely increase in non-native, invasive plants in the newly disturbed areas adjacent to the new bike trail, near the road & in the forest Land removed from NPS ownership to facilitate a land exchange with the state may be at increased risk of exotic plants depending on the new land management practices implemented (i.e. logging) **Cumulative Impact:** Cumulative impacts would occur due to the

		exotic plant species. Mitigation measures would be implemented to minimize impact.	increase in newly disturbed land and the increase in areas requiring additional management and mitigation efforts to avoid impacts to native plant communities.
	Alternative A: No Action	**Alternative B: Bike Lanes**	**Alternative C: Combination Bike Trail**
Wetlands	No new modification or filling of wetlands	**Direct Impact:** Modification and filling of approximately .76 acres of wetlands adjacent to the current road corridor **Indirect Impact:** Loss of plant and animal habitat in modified wetland areas. **Cumulative Impact:** No cumulative impacts expected due to small footprint and implementation of wetland mitigation measures.	**Direct Impact:** Modification and filling of approximately 1.2 acres of wetlands, including roadside wetlands & wetlands in previously undisturbed areas **Indirect Impact:** Loss of plant and animal habitat in modified wetland areas. **Cumulative Impact:** No cumulative impacts expected due to small footprint and implementation of wetland mitigation measures.
Wildlife	No project related changes to wildlife or wildlife habitat	**Direct Impact:** No direct impacts expected. **Indirect Impacts:** Temporary disturbance of wildlife due to construction activity **Cumulative Impact:** Modification or loss of approximately 2 acres of roadside wildlife habitat	**Direct Impact:** No direct impacts expected. **Indirect Impacts:** Temporary disturbance of wildlife due to construction activity **Cumulative Impact:** Modification or loss of approximately 5 acres of roadside & forested wildlife habitat
Federally listed Threatened & Endangered Species	No project related changes to wildlife or wildlife habitat	**Direct Impact:** No direct impacts expected. **Indirect Impacts:** Temporary disturbance of wildlife due to construction activity **Cumulative Impact:** Modification or loss of approximately 2 acres of roadside wildlife habitat	**Direct Impact:** No direct impacts expected. **Indirect Impacts:** Temporary disturbance of wildlife due to construction activity **Cumulative Impact:** Modification or loss of approximately 5 acres of roadside & forested wildlife habitat

	Alternative A: No Action	Alternative B: Bike Lanes	Alternative C: Combination Bike Trail
Visitor Safety	No change Continuing negative impact to visitor safety due to potential for accidents resulting from shared use of narrow and winding road by automobile drivers, bicyclists and pedestrians.	**Direct Impact:** Construction of bike lanes would provide a route specifically for safe use by bicyclists. **Indirect Impacts:** Increased safety for automobile drivers who would no longer have to share the road with bicyclists and pedestrians. **Cumulative Impact:** Decreased likelihood of accidents between automobiles and bicyclists or between multiple automobiles traveling in opposite directions.	**Direct Impact:** Construction of combination bike trail would provide a route specifically for safe use by bicyclists and pedestrians, although some may continue to use the existing road corridor. **Indirect Impacts:** Increased safety for automobile drivers who would not have to share the same road corridor with bicyclists and pedestrians as often. **Cumulative Impact:** Decreased likelihood of accidents between automobiles and bicyclists or between multiple automobiles traveling in opposite directions.
Recreation Resources	No change	**Direct Impact:** Construction of bike lanes would provide improved access for bicyclists & pedestrians entering the park from the Highway 11 Bike Trail **Indirect Impacts:** Increased access for people traveling to the park from International Falls and surrounding area by bicycle. **Cumulative Impact:** Improvements to visitor access result in increased visitor enjoyment of park resources and recreation opportunities.	**Direct Impact:** Construction of combination bike trail would provide improved access for bicyclists and pedestrians entering from the Highway 11 bike trail Trail would not be managed for winter recreation, but would be open for use by people on snowshoes & cross-country skis **Indirect Impacts:** Increased access for people traveling to the park from International Falls and surrounding area by bicycle. **Cumulative Impact:** Improvements to visitor access result in increased visitor enjoyment of park resources and recreation opportunities.

	Alternative A: No Action	Alternative B: Bike Lanes	Alternative C: Combination Bike Trail
Visitor Experience	**Indirect Impacts:** Logging and hunting on state owned lands adjacent to the current park entrance road may result in a negative visitor experience for people accessing the park through the Rainy Lake Visitor Center and boat launch ramp	**Direct Impact:** Construction of bike lanes would require widening of the entire road corridor to allow construction of six-foot wide paved bike lanes on each side of the road. This would involve modification and removal of bedrock outcrops in some areas. **Indirect Impacts:** Increased sight distances would be achieved, making the road safer, but potentially altering the current aesthetic of the narrow and winding park road. Incompatible land use on state owned lands would be avoided if these parcels are acquired by the NPS, resulting in an improved visitor experience for people driving on the park entrance road or bicycling or walking along the proposed bike lanes **Cumulative Impact:** Improvements to visitor experience due to improved safe access for bicyclists and pedestrians.	**Direct Impact:** Construction of combination bike trail would require widening portions of the road corridor to provide for the construction of a ten to 14-foot wide paved bike trail that was visible from the road in several locations. This would involve substantial modification and removal of bedrock outcrops in some areas. **Indirect Impacts:** Increased sight distances would be achieved, making the road safer, but potentially altering the current aesthetic of the narrow and winding park road. Incompatible land use on state owned lands would be avoided if these parcels are acquired by the NPS, resulting in an improved visitor experience for people driving on the park entrance road or bicycling or walking on the proposed bike trail **Cumulative Impact:** Improvements to visitor experience due to improved safe access for bicyclists and pedestrians.